Wetland Verification Report

Thorndyke Resource Jefferson County, Washington

for Jefferson County Department of Community Development

December 11, 2013





Earth Science + Technology

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December 11, 2013

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INTRODUCTION

GeoEngineers, Inc. (GeoEngineers) was authorized to conduct wetland verification services at the Thorndyke Resource property in Jefferson County, Washington (Figure 1 – Vicinity Map) in conjunction with preparation of the Thorndyke Resource (TR) Draft Environmental Impact Statement. The proposed project is to build a Central Conveyor and Pier to move sand and gravel from the new TR Meridian Extraction area to an Operations Hub via the Little Wahl Conveyor, then on to Hood Canal via a new Central Conveyor and pier, for marine transport by barges and ships.

This report has been prepared to document and update existing baseline conditions within the proposed area of the Central Conveyor, Little Wahl Conveyor and the Meridian Extraction Area. A full wetland and stream delineation over the entire site was not conducted as part of this scope of work. GeoEngineers has prepared this Critical Areas Assessment Report in accordance with the requirements of Jefferson County Code (JCC) Chapter 18.22 (Critical Areas) but this project is vested under the previous wetland regulations (JCC 18.15) as more fully described below.

Wetland Verification Purpose

The project site has been investigated several times with the most recent wetland delineation occurring in 2001 (Krazan and Associates, 2003). Regulatory agencies accept wetland delineations as valid for 5 years and require that the wetland boundaries be re-verified if a project is still under permit review 5 years after the original delineation. Therefore the purpose of this wetland verification was to verify that wetland boundaries have not changed since the original 2001 wetland delineations. In addition, both the State of Washington Department of Ecology system for rating wetlands and the Jefferson County wetland regulations have changed since the 2003 wetland report was written. These changes resulted from including Best Available Science (BAS) in wetland analysis. Although the Thorndyke Resource project is vested under the Jefferson County regulations as of April 23, 2003 (date the application was determined to be "substantially complete"), the applicant has agreed to update the analysis based on new information from BAS. the new Ecology rating system (2008), and the new Jefferson County regulations. Thus, data for the wetlands addressed in this report includes both the original (2003) rating and buffer requirements (per the previous JCC 18.15.340), as well as the current (2013) rating and buffer requirements (JCC 18.22). Jefferson County Code 18.15.340 established wetland buffer widths based on only the category of a wetland. The newer JCC 18.22.330 establishes wetland buffer widths based on the category of a wetland, habitat function points, and the proposed land use.

Scope of Work

As described in the June 18, 2013 signed agreement memorandum between Lisa Berntsen and Dan Baskins, GeoEngineers was authorized to perform wetland reconnaissance activities on the Thorndyke Resource property. The wetland reconnaissance was not conducted over the entire site; only certain areas potentially disturbed by the proposed project were evaluated during the investigation. These areas included: Little Wahl Conveyor, Meridian Extraction Area and the Central Conveyor.

GeoEngineers did not re-delineate boundaries, rather only investigated previously identified wetlands within 300 feet of the specified work areas. Wetlands within 300 feet of the work areas

were identified based on a CAD file submitted to GeoEngineers on behalf of Dan Baskins. Figures 1 through 13 of this Report depict the wetland areas that have been verified by other consultants and wetland areas verified by GeoEngineers. A total of 29 wetlands were identified from the 2003 delineation report, in multiple Forest Practice Application (FPA) permits and in the field. GeoEngineers was tasked with verifying wetland boundaries and/or re-categorizing a total of 17 wetlands. Table 1 below lists the 29 wetlands previously identified, including the 17 wetlands GeoEngineers was tasked to evaluate. The wetlands evaluated by GeoEngineers are bolded in the table below.

Wetland Name	Previously Delineated	Approximate Location	GeoEngineers Tasks
Meridian Extraction	n Area		
Wetland O	No	Southwest Corner	Delineate east edge and categorize
Wetland P	No	Southwest Corner	Delineate wetland and categorize
Wetland Q (Lost Lake)	No	Eastern area	Categorize wetland
W3	ldentified in the Triploid FPA	Southeast of the corridor	Verify boundaries and categorize
W2	ldentified in the Triploid FPA	Southeast of the corridor	Categorize wetland
W1	Identified in the Triploid FPA	Southeast of the corridor	Categorize wetland
Wetland GG	Yes (Reclamation Map)	Southwest of the corridor	More than 300 feet from Little Wahl Conveyor- no tasks proposed
Wetland G	Yes (Reclamation Map)	Southwest of the corridor	More than 300 feet from Little Wahl Conveyor – no tasks proposed
Wetland H	Yes (Reclamation Map)	Southwest of the corridor	Categorize wetland
Wetland D	Yes (Reclamation Map)	Southwest of the corridor	More than 300 feet from Little Wahl Conveyor- no tasks proposed
Central Conveyor (f	rom north to south alon	g the corridor)	
Wetland E (Twin Lakes)	Yes (Reclamation Map)	North of Wahl Conveyor	More than 300 feet from Central Conveyor- no tasks proposed
Wetland J	Yes (2003 Report)	North end of Central Conveyor	Verify wetland boundaries
Wetland F	Yes (2003 Report)	North end of Central Conveyor	More than 300 feet from Central Conveyor- no tasks proposed
Wetland H	Yes (2003 Report)	North end of Central Conveyor	Verify wetland boundaries
Wetland G	Yes (2003 Report)	North end of Central Conveyor	More than 300 feet from Central Conveyor- no tasks proposed

TABLE 1. AREA OF WETLAND VERIFICATION

Wetland Name	Previously Delineated	Approximate Location	GeoEngineers Tasks
Wetland E (Pheasant Lake)	Yes (2003 Report)	Near central part of Central Conveyor	Verify wetland boundaries
Wetland I	Yes (2003 Report)	Near central part of Central Conveyor	Verify wetland boundaries
Wetland D (W1 from FPA)	2003 Report and Grand Central FPA	Near central part of Central Conveyor	More than 300 feet from Central Conveyor- no tasks proposed
W2	Identified in the Grand Central FPA	Near central part of Central Conveyor	More than 300 feet from Central Conveyor– no tasks proposed
W3	Identified in the Grand Central FPA	Near central part of Central Conveyor	More than 300 feet from Central Conveyor– no tasks proposed
W4	Identified in the Grand Central FPA	Near central part of Central Conveyor	More than 300 feet from Central Conveyor– no tasks proposed
W5	Identified in the Grand Central FPA	Near central part of Central Conveyor	More than 300 feet from Central Conveyor– no tasks proposed
Wetland C	Yes (2003 Report)	Near central part of Central Conveyor	Verify wetland boundaries
Wetland M	Yes (2003 Report)	Near south part of Central Conveyor	Verify wetland boundaries
Wetland L	Yes (2003 Report)	Near south part of Central Conveyor	More than 300 feet from Central Conveyor- no tasks proposed.
Wetland K	Yes (2003 Report)	Near south part of Central Conveyor	Verify wetland boundaries
Wetland A	Yes (2003 Report)	Along shoreline	Verify wetland boundaries
Wetland B	Yes (2003 Report)	Along shoreline	Verify wetland boundaries
Wetland R	Νο	Along Shoreline, South of conveyor	Categorize wetland. More than 300 feet from Central Conveyor. However, identified for wetland mitigation

Total Number of Wetlands to Categorize, Delineate or Verify Wetland Boundaries

17

PROJECT LOCATION AND SITE DESCRIPTION

The site is located in the eastern portion of Jefferson County, Washington (Figure 1) between Squamish Harbor and Thorndyke Bay on, and upland of, the shores of Hood Canal. The project area is located within long-term forest production lands owned by Pope Resources and managed by Olympic Resource Management, and also includes one privately owned waterfront parcel. The project area is located in the Thorndyke Block of the Hood Canal Tree Farm, which occupies approximately 21,000 acres along Highway 104. The areas investigated are located in

Sections 12 and 01 of Township 27 north and Range 1 west and Sections 06, 07, 08, 17 and 18 of Township 27 north and Range 1 east of the Willamette Meridian.

The Thorndyke Block land use is long-term timber production. Logging of all areas is imminent over time. Logged since the early to mid-1900s, the predominant character is second-growth timber. Many portions of the site have been logged within the past 20 years and are either clear of vegetation or covered with forest brush and shrubs. Forested areas are dominated by either a Douglas fir (*Pseudotsuga menziesii*) canopy with an understory dominated by California huckleberry (*Vaccinium ovatum*) or a red alder (*Alnus rubra*) canopy with an understory dominated by salmonberry (*Rubus spectabilis*) and sword fern (*Polystichum munitum*). A network of logging roads extends throughout the site providing access. Several mining operations are also located within the Thorndyke Block. Figure 14 contains the May 2013 Google Earth aerial photograph of the site and depicts areas of recent logging and existing forested habitat.

PROJECT DESCRIPTION

Thorndyke Resource is proposing to construct a Central Conveyor and Pier to move sand and gravel from upland mining operations (i.e., the Meridian Extraction Area) to a shoreline load-out facility for marine transport of sand and gravel to local, regional, intra-state, and inter-state markets.

Meridian Extraction Area

The 525-acre Meridian Extraction Area is located generally south of Wahl Lake. The exact timing of a prospective application for the Meridian Extraction Area will be a function of future market demand and successful development of the Central Conveyor and Pier.

Central Conveyor and Pier

The proposed 4-mile Central Conveyor originates at the southwest corner of the Operations Hub, travels south within an approximately 34-acre easement, bridges over Thorndyke Road, crosses a 14.7-acre parcel of waterfront property and terminates at the end of the proposed 1,000-foot pier extending into Hood Canal.

The Pier will originate at the waterfront parcel and will be located approximately 5 miles southwest of the Hood Canal Bridge, one mile northeast of Thorndyke Bay and 1.25 miles southwest of South Point. The Pier is designed for ships and barges of various sizes and displacements to transport sand and gravel.

WETLAND VERIFICATION

Paper Inventory

Environmental maps of the project area were collected and reviewed as part of a paper inventory.

Mapped Soil Information

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey indicates several soil types throughout the project area. Figure 15

(NRCS Soils Map) depicts soils within the project area. The following soil types are mapped within the investigated wetland areas (USDA-NRCS, 2013a):

Wetland Name	Mapped Soil Type
Wetland O	Swantown gravelly sandy loam, 0 – 8 percent slopes
Wetland P	Swantown gravelly sandy loam, 0 – 8 percent slopes
Wetland W3	Dabob very gravelly sandy loam, 0 – 15 percent slopes
Wetland W2	Dabob very gravelly sandy loam, 0 – 15 percent slopes
Wetland W1	Dabob very gravelly sandy loam, 0 – 15 percent slopes
Wetland H	Dabob very gravelly sandy loam, 0 – 15 percent slopes
Wetland J	Dabob very gravelly sandy loam, 0 – 15 percent slopes
Wetland H	Dabob very gravelly sandy loam, 0 – 15 percent slopes
Pheasant Lake (Wetland E)	Sinclair gravelly sandy loam, 0 – 15 percent slopes
Wetland I	Sinclair gravelly sandy loam, 0 – 15 percent slopes
Wetland C	Semiahmoo muck, shallow variant
Wetland K	Everett gravelly sandy loam, 0 – 15 percent slopes
Wetland M	Everett gravelly sandy loam, 0 – 15 percent slopes
Wetland A	Cassolary sandy loam, 0 – 15 percent slopes
Wetland B	Coastal Beaches
Wetland R	Coastal Beaches

TABLE 2.	MAPPED SOIL	L TYPE BY INVESTIGATED WETLAND
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Swantown gravelly sandy loam soils and semiahmoo muck, shallow variant soils are hydric soils (USDA-NRCS, 2012). Dabob very gravelly sandy loam soils, Sinclair gravelly sandy loam soils, Everett gravelly sandy loam soils, Cassolary sandy loam soils and Coastal Beaches are not hydric and do not contain hydric inclusions (USDA-NRCS, 2012).

Mapped NWI Information

The United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) online mapper (USFWS, 2013) shows multiple wetland areas within the project boundary. Most of the identified wetlands are palustrine systems that are permanently and seasonally flooded. However, the Hood Canal shoreline is mapped as Estuarine Subtidal Unconsolidated Bottom with a subtidal water regime (E1UBL). Figure 16 (NWI Map) depicts the mapped wetland systems on and adjacent to the project areas.

Mapped Natural Heritage Program Information

As part of the wetland verification work, the Washington State Department of Natural Resources (DNR) Natural Heritage Program (NHP) was checked to see if rare or endangered plants or plant communities have been identified within the project area. Several areas adjacent to the project site are identified by DNR as NHP systems (Figure 17). However, all but three are more than

300 feet from the project area and should not be affected by the project. Wetlands W1, W2 and W3 are located along the northeast boundary of the Meridian Extraction Area and the buffer extends into the Meridian Extraction Area. They are mapped as low elevation freshwater wetlands that contain a plant community of Douglas spirea, western inflated sedge and yellow pond lily. These plant species are not listed as rare according to the DNR list of Rare Plant Occurrences in Jefferson County (DNR, 2013). There should be no impacts to these wetlands or the associated buffers as work will likely not extend into the buffers.

Mapped Stream Information

Additional information was obtained from the Washington State Department of Natural Resources (DNR) Forest Practices Application Review System (FPARS) and Washington State Department of Fish and Wildlife (WDFW) SalmonScape mapping application (DNR, 2007; WDFW, 2012). Numerous streams are mapped throughout the project area and are depicted on Figure 16. The following wetlands that were investigated have associated mapped streams associated.

Wetland Name	Stream Description	Fishbearing Status
Wetland O	Tributary to Thorndyke Creek, flowing south through the wetland. Flowing water was heard (not observed) in the south portion of the wetland, just off the Meridian Extraction Area.	Non-fishbearing
Wetland W3, W2, W1 and Lost Lake	A stream is mapped extending through all four wetland systems but not connecting to anything north or south of the stream. This stream was not observed and likely does not exist.	Non-fishbearing
Wetland Q (Lost Lake)	Lost lake is mapped as a fishbearing pond. WDFW does not map any salmonids within the lake.	Fishbearing
Wetland E (Pheasant Lake)	A stream is mapped as flowing north through the wetland	Non-fishbearing
Wetland E (Pheasant Lake)	Pheasant Lake is mapped as a fishbearing pond. WDFW does not map any salmonids within the lake.	Fishbearing
Wetland C	Eight tributaries are mapped as crossing the existing access road and flowing into Wetland C. These tributaries likely do not currently exist as the investigation looked for these areas and did not identify them.	Non-fishbearing
Wetland C	A tributary to an unnamed stream is mapped flowing north through Wetland C. This stream is visible from aerial photographs and is assumed to be present. WDFW maps coho as being presumed within the stream.	Fishbearing
Wetlands M and K	A stream is mapped between Wetlands K and M. While a defined channel was not observed, there was evidence of standing water and culverts connecting the two systems. Therefore water may flow through the areas during heavy rain events.	Non-fishbearing
Wetlands A and B	A stream is mapped as flowing south under Thorndyke Road and flowing through Wetlands A and B and discharging into Hood Canal. This stream was observed from Thorndyke Road and from Wetland B.	Non-fishbearing

TABLE 3. MAPPED STREAMS ASSOCIATED WITH INVESTIGATED WETLANDS

Field Investigation

GeoEngineers biologists conducted a field investigation over two days (July 25 and 26, 2013) to verify previously delineated wetland boundaries and characterize identified wetland habitat on the subject property. The project area south of Thorndyke Road was visited a second time on October 30, 2013 to identify habitat along the shoreline area on property currently owned by Thorndyke Resource. A total of 17 wetlands were reviewed as part of this project. Figures 1 through 13 contain the wetland locations. Other wetland systems that have been previously delineated are depicted on Figures 1 through 13, but were not investigated because they are more than 300 feet from the project areas (and are, therefore, not discussed below).

Methods

Krazan and Associates. According to the Krazan and Associates 2003 report, delineation of aquatic critical areas (wetlands and streams) was conducted in accordance with guidelines presented in JCC Chapter 18.15 (Critical Areas), which included the use of the Washington State Wetlands Identification and Delineation Manual (Ecology, 1997).

GeoEngineers. GeoEngineers used the most current JCC (18.22) which included the use of the Washington State Wetlands Identification and Delineation Manual (Ecology, 1997) and the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory, 1987) as well as the wetland delineation methodology as provided in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Regions (USACE, 2010) to review and verify the project wetland boundaries. GeoEngineers identified and characterized a total of 17 wetlands. We did not observe unmapped features that would be impacted during development of the Central Conveyor or Little Wahl Conveyor. However, Wetlands O and P located in the southwest corner of the Meridian Extraction Area and Wetland R located along the shoreline, were not previously identified or delineated in previous reports. These wetlands were newly identified by GeoEngineers.

GeoEngineers biologists verified wetland boundaries and located sample plots using a hand-held Trimble® GeoXTtm global positioning system (GPS) device. To make wetland determinations, we established formal data sample plots. The previously delineated wetland boundaries were loaded onto the GPS device to compare current wetland boundaries with the previously delineated boundaries. In addition, GeoEngineers biologists also rated each delineated wetland using the Washington State Wetland Rating System for Western Washington (Hruby, 2008) as specified in JCC Chapter 18.22 Article VII (Wetlands) Section 18.22.300 (classification/designation). Appendices B and C include sample plot data forms and wetland rating forms, respectively.

Determination of buffer width for the wetlands was conducted in accordance with current Jefferson County regulations – JCC 18.22.330. This project is considered a high intensity land use because project components are associated with industrial uses (i.e. sand and gravel mining). Based on the JCC, wetlands can have the same category but require different buffer widths based on habitat function points. For instance, two category III wetland systems, one with less than 20 habitat functions points and one with more than 20 habitat functions points will have an 80-foot buffer and a 150-foot buffer, respectively.

Tables 4 through 18 below summarize information regarding the individual wetland critical area features as noted during the GeoEngineers field investigation. Table 19 provides a summary comparison of the individual wetland ratings (categories) based on both the previous and current (2008) Department of Ecology Rating Forms, and a comparison of required wetland buffer widths based on the previous and current Jefferson County regulations.

TABLE 4. WETLAND 0

Wetland O – Information				
Location		west corner of Meridian ction Area		
WRIA	17 -	Quilcene – Snow		
Local Jurisdiction	Jeffer	son County		
Previous Rating ¹	N/A -	not previously delineated		
Previous Buffer Width ²	N/A -	not previously delineated		
2008 Rating	III (42	2 points) ³		
2013 Buffer Width	150 F	Feet ⁴		
Size		etermined, extends off site nly east side delineated.		
Cowardin Class	Palus	trine Forested		
HGM Class	Slopir	ng		
Description Su	ummar	у		
Sample Plot		SP-2		
Vegetation		Herbaceous: Skunk cabbage (<i>Lysichiton americanus</i>), lady fern (<i>Athyrium filix-femina</i>) and field horsetail (<i>Equisetum arvense</i>). Shrub: Salmonberry (<i>Rubus spectabilis</i>) Forested : Red alder (<i>Alnus rubra</i>)		
Soils			licator for hydrogen sulfide (A4).	
Hydrology		Indicators: Water at 10 incl	nes in the soil pit with saturation to the surface. , surface runoff, high groundwater table.	
Notes			iated with a non-fishbearing stream. The stream is a tributary to	
Western Wash	ningtor	Wetland Rating Functions	Summary (42 points total)	
Water Quality			coverage, having an un-constricted outlet and no development or 50 feet upslope of the wetland	
Hydrologic <u>16 points:</u> due to having an un-constricted outlet and vegetation stream that has flooding problems (opportunity for hydrologic functio				
Habitat	21 points: due to having one vegetation class, moderate amount of habitat interHabitatwith special habitat features. The system has relatively large buffers and und connections to other upland and wetland areas.		es. The system has relatively large buffers and undisturbed	
Buffer ConditionA logging road is located along a portion of the eastern buffer and separates this from a seep wetland to the north. However, the road does not appear to be used doesn't seem to be a buffer disruption. The wetland is immediately surrounded forested habitat that is dominated by Douglas fir (<i>Pseudotsuga menziesii</i>) w amounts of western red cedar (<i>Thuja plicata</i>), big leaf maple (<i>Acer macrophyllum</i> alder (<i>Alnus rubra</i>) with an understory that consists of California huckleberry (<i>S racemosa</i>), bracken fern (<i>Pteridium aquilinum</i>) and sword fern (<i>Polystichum munitu</i>)		north. However, the road does not appear to be used often and er disruption. The wetland is immediately surrounded by young ominated by Douglas fir (<i>Pseudotsuga menziesii</i>) with lesser dar (<i>Thuja plicata</i>), big leaf maple (<i>Acer macrophyllum</i>) and red in understory that consists of California huckleberry (<i>Vaccinium</i> from (<i>Rhododendron macrophyllum</i>), red elderberry (<i>Sambucus</i>		
Notoc:	Notes:			

Notes:

¹ Wetland rating from the 2003 Krazan report. ² Jefferson County Code (JCC) 18.15.340 – Protection Standards.

³ Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).
 ⁴ Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the



TABLE 5. W	EILAND F	,
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Wetland P - In	nformat	tion	
Location		west corner of Meridian tion Area	
WRIA	17 - 0	Quilcene – Snow	
Local Jurisdiction	Jeffers	son County	
Previous Rating ¹	N/A -	not previously delineated	
Previous Buffer Width ²	N/A -	not previously delineated	
2008 Rating	IV (23	points) ³	
2013 Buffer Width	50 Fe	et ⁴	
Size	• •	ximately 300 square feet nated from site visit)	
Cowardin Class	Palust	trine Emergent	
HGM Class	Slopin	lg	
Description Su	ummary	y	
Sample Plot		SP-1	
Shrub: None		horsetail (<i>Equisetum arvense</i>). Shrub: None	hyrium filix-femina), velvetgrass (Holcus lanatus) and field bra) saplings had been cut from within the ditch.
Soils		Soils met the hydric soils indic	
Hydrology			s in the soil pit with saturation to the surface. urface runoff, high groundwater table.
Notes		Groundwater was observed in	the ditch and water was flowing off site to the west.
Western Wash	ington	Wetland Rating Functions S	ummary (23 points total)
Water Quality		5 points: due to vegetation co sources of pollution within 150	overage, having an un-constricted outlet and no development or D feet upslope of the wetland
2 points: due to having an un-constricted outlet and vegetation coverage; and haHydrologicopportunity for hydrologic functions because the seep is located in the bottom of a r ditch.			
Habitat	16 points: due to having one vegetation class, low amount of habitat interspersionHabitatspecial habitat features. The system has relatively large buffers and undi connections to other upland and wetland areas.		The system has relatively large buffers and undisturbed
Buffer ConditionA logging road is located along the southern edge of the ditch and separates this w from the alder forested wetland. However, the road does not appear to be used oft doesn't seem to be a buffer disruption. The wetland is immediately surrounded by forested habitat that is dominated by Douglas fir (<i>Pseudotsuga menziesii</i>) with amounts of western red cedar (<i>Thuja plicata</i>), big leaf maple (Acer macrophyllum) a alder (<i>Alnus rubra</i>) with an understory that consists of California huckleberry (Vac ovatum), Pacific rhododendron (<i>Rhododendron macrophyllum</i>), red elderberry (Sam racemosa), bracken fern (<i>Pteridium aquilinum</i>) and sword fern (<i>Polystichum munitum</i>)		nd. However, the road does not appear to be used often and disruption. The wetland is immediately surrounded by young minated by Douglas fir (<i>Pseudotsuga menziesii</i>) with lesser ar (<i>Thuja plicata</i>), big leaf maple (<i>Acer macrophyllum</i>) and red understory that consists of California huckleberry (<i>Vaccinium</i> on (<i>Rhododendron macrophyllum</i>), red elderberry (<i>Sambucus</i>	

Notes:

 ¹ Wetland rating from the 2003 Krazan report.
 ² Jefferson County Code (JCC) 18.15.340 – Protection Standards.
 ³ Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).
 ⁴ Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the jurisdictional authority.

TABLE 6. WETLAND Q (LOST LAKE)

Wetland Q - Lo	ost Lak	ce – Information		
Location		rn edge of Meridian stion Area	state water	
WRIA	17 - 0	Quilcene – Snow		
Local Jurisdiction	Jeffers	son County		
Previous Rating ¹	N/A -	not in Krazan Report		
Previous Buffer Width ²	N/A -	not in Krazan Report		
2008 Rating	II (57	points) ³		
2013 Buffer Width	150 F	eet ⁴		
Size		etermined, extends off site as not previously delineated		
Cowardin Class		trine Forested, scrub/shrub, gent and aquatic bed		
HGM Class	Depre	ssional		
Description Su	ummary	y		
Sample Plot		Sample Plot was not conduct investigation.	sted because the wetland was not delineated during the field	
Vegetation		Herbaceous: Lady fern (Ath bulrush (Schoenplectus acutu Shrub: Salmonberry (Rubus s	weed (<i>Lemna minor</i>) and yellow pond lily (<i>Nuphar lutea</i>) hyrium filix-femina), slough sedge (<i>Carex obnupta</i>), Hardstem us), and field horsetail (<i>Equisetum arvense</i>). spectabilis) and willow species (<i>Salix spp</i> .) ubra) and willow species (<i>Salix spp</i> .)	
Soils		N/A sample plot not conducte		
Hydrology		Indicators: Standing water within the wetland and water marks on vegetation. Source: direct precipitation, surface runoff, high groundwater table.		
Notes		Depressional wetland system that was not delineated (only categorized).		
Western Wash	ington	Wetland Rating Functions	Summary (57 points total)	
Water Quality		<u>6 points</u> : due to vegetation coverage, not having an outlet and no development or sources of pollution within 150 feet upslope of the wetland		
			an outlet and vegetation coverage; and there being man-made be damaged by flooding (opportunity for hydrologic functions).	
Habitat with special h			ultiple vegetation classes, high amount of habitat interspersion s. The system has relatively large buffers and undisturbed and wetland areas.	
Surrounded by you menziesii) with less macrophyllum) and huckleberry (Vaccir elderberry (Sambu		surrounded by young forest menziesii) with lesser amoun macrophyllum) and red alde huckleberry (Vaccinium ovati	nd have been clear cut; however, the wetland is immediately ted habitat that is dominated by Douglas fir (<i>Pseudotsuga</i> nts of western red cedar (<i>Thuja plicata</i>), big leaf maple (<i>Acer</i> <i>er</i> (<i>Alnus rubra</i>) with an understory that consists of California <i>um</i>), Pacific rhododendron (<i>Rhododendron macrophyllum</i>), red <i>mosa</i>), bracken fern (<i>Pteridium aquilinum</i>) and sword fern	

Notes:

¹ Wetland rating from the 2003 Krazan report. ² Jefferson County Code (JCC) 18.15.340 – Protection Standards.

 ³ Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).
 ⁴ Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the jurisdictional authority.



Wetland H – Information				
Location		tern edge of Meridian raction Area		
WRIA	17 -	- Quilcene - Snow		
Local Jurisdiction	Jeffer	erson County		
Previous Rating ¹	N/A -	- Not in Krazan Report	and the	
Previous Buffer Width ²	N/A -	- Not in Krazan Report		
2008 Rating	III (40	40 points) ³		
2013 Buffer Width	150 F) Feet ⁴	MP	
Size	Appro	roximately 5,597 square feet		
Cowardin Class		ustrine scrub/shrub and ergent		
HGM Class	Depre	pressional		
Description Summary				
Sample Plot Sample Plot was not cond investigation.		Sample Plot was not conducted because the wetland was not delin investigation.	eated during the field	
Vegetation		Herbaceous: Slough sedge (Carex obnupta) Shrub: Rose spirea (Spiraea douglasii)		
Soils		N/A sample plot not conducted within this wetland.		
Hydrology Indic		Indicators: Water marks on vegetation and algal mat. Source: Direct precipitation, surface runoff, high groundwater table.		
Notes		Depressional wetland system that was not delineated (only categorize appears to have been done more than 5 years ago and is considered n	, .	
Western Wash	ningtor	on Wetland Rating Functions Summary (40 points total)		
Water Quality 12 points: due to vegetation coverage, not having an outlet and no development of pollution within 150 feet upslope of the wetland		evelopment or sources		
Hydrologic <u>7 points:</u> due to not having an outlet, vegetation coverage; and there a resources that could be damaged from flooding (opportunity for hydrologic fu				
21 points: due to having two vegetation classes, moderate amount of habitaHabitatwith special habitat features. The system has relatively large buffers an connections to other upland and wetland areas.		-		
Areas adjacent to the wetland have been clear cut; however, the wetland is i surrounded by forested habitat that is dominated by Douglas fir (<i>Pseudotsuga me</i> an understory that consists of California huckleberry (<i>Vaccinium ovatur</i>) rhododendron (<i>Rhododendron macrophyllum</i>), and sword fern (<i>Polystichum munit</i>)		lotsuga menziesii) with um ovatum), Pacific		
Notes:				

TABLE 7. MERIDIAN EXTRACTION WETLAND H

¹ Wetland rating from the 2003 Krazan report. ² Jefferson County Code (JCC) 18.15.340 – Protection Standards.

³ Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008). ⁴ Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the

TABLE 8. WETLANDS W1, W2, AND W3

Wetlands W1, W2 and W3 – Information				
Location		east corner of the Meridian tion Area		
WRIA	17 – Ç	uilcene – Snow		
Local Jurisdiction	Jeffers	son County		
Previous Rating ¹	N/A -	Not in Krazan Report		
Previous Buffer Width ²	N/A -	Not in Krazan Report		
2008 Rating	• •	ooints) ³ al Heritage Wetlands		
2013 Buffer Width	250 Fe	eet ⁴		
Size	Approximately (in square feet):W3 - 39,781; W2 - 13,731; W1 - 75,000			
Cowardin Class	Palust	rine Scrub/shrub		
HGM Class	Depres	ssional		
Description Su	ummary	/		
Sample Plot		SP-3 (Conducted in Wetland	W3, but is representative of Wetlands W1, W2 and W3)	
Vegetation			douglasii) and Oregon crab apple (Malus fusca) r (Thuja plicata) – not enough for a vegetation class	
Soils		Soils met the hydric soils ind	icator for hydrogen sulfide (A4).	
Hydrology		Indicators: Water at the surface in the soil pit with saturation to the surface. Source: Direct precipitation, surface runoff, high groundwater table.		
Notes depression These wet		depressional wetlands with I	cribed together because they were similar systems. They are no outlets dominated by a very thick shrub layer of rose spirea. heritage wetlands and are automatically considered Category I	
Western Wash	hington	Wetland Rating Functions	Summary (46 points total – each wetland rated the same)	
			on coverage, having organic soils, not having an outlet and no ollution within 150 feet upslope of the wetland	
			g an outlet and vegetation coverage; and there are no adjacent aged from flooding (opportunity for hydrologic functions).	
Habitat with special habitat feature			ne vegetation class, moderate amount of habitat interspersion es. The system has relatively large buffers and undisturbed and wetland areas.	
Buffer Condition surrounded by forested habit an understory that consi		surrounded by forested habit an understory that consist	and have been clear cut; however, the wetland is immediately tat that is dominated by Douglas fir (<i>Pseudotsuga menziesii</i>) with sts of California huckleberry (<i>Vaccinium ovatum</i>), Pacific on macrophyllum), and sword fern (<i>Polystichum munitum</i>).	
Notes:				

¹ Wetland rating from the 2003 Krazan report. ² Jefferson County Code (JCC) 18.15.340 – Protection Standards.

³ Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).
 ⁴ Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the

TABLE 9. WETLAND J

Wetland J – Information		
Location	h end of the Central Conveyor	
WRIA	Quilcene – Snow	
Local Jurisdiction	on County	
Previous Rating ¹	III Approximate location of Wetland J	
Previous Buffer Width ²	50	
Rating	III (33 points) ³	
Buffer Width	80 Feet ⁴	
Size	Approximately 1,000 square feet	
Cowardin Class	Palustrine Forested	
HGM Class	Depressional control to a contr	
Description Su	ımmary	
Sample Plot	SP-4	
Vegetation	Emergent: Slough sedge (Carex obnupta) and field horsetail (Equisetum arvense) Shrub: Rose spirea (Spiraea douglasii) and salmonberry (Rubus spectabilis) Forested : Western red cedar (Thuja plicata) and red alder (Alnus rubra)	
Soils	Soils met the hydric soils indicator for Redox Dark Surface (F6).	
Hydrology	Indicators: No hydrology at the time of the field visit but has geomorphic position ar passed the FAC-Neutral test. Source: direct precipitation, surface runoff, high groundwater table.	
Notes	The wetland is situated in the bottom of a topographic depression adjacent to the existing gravel road. Water drains through a culvert under the road to the west. No defined channe were observed west of the road.	
Western Wash	ington Wetland Rating Functions Summary (33 points total)	
Water Quality	<u>11 points</u> : due to vegetation coverage, having an outlet and no development or sources pollution within 150 feet upslope of the wetland	
Hydrologic	<u>5 points</u> : due to having an outlet and vegetation coverage; and there are no adjace resources that could be damaged from flooding (opportunity for hydrologic functions).	
Habitat	<u>17 points</u> : due to having one vegetation class, moderate amount of habitat interspersion with special habitat features. The system has relatively large buffers and undisturbe connections to other upland and wetland areas.	
Buffer Condition	Areas adjacent to the wetland have been clear cut; however, the wetland is surrounded young forested habitat that is dominated by Douglas fir (<i>Pseudotsuga menziesii</i>) with a understory that consists of California huckleberry (<i>Vaccinium ovatum</i>), Pacific rhododendro (<i>Rhododendron macrophyllum</i>), and sword fern (<i>Polystichum munitum</i>).	
Notes:		

¹ Wetland rating from the 2003 Krazan report. ² Jefferson County Code (JCC) 18.15.340 – Protection Standards.

³ Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008). ⁴ Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the

TABLE 10. CENTRAL CONVEYOR WETLAND H

Wetland H – Information		
Location	North end of the Central Conveyor	
WRIA	17 - Quilcene - Snow	A CAR
Local Jurisdiction	Jefferson County	
Previous Rating ¹	ш	
Previous Buffer Width ²	50	
2008 Rating	III (35 points) ³	
2013 Buffer Width	80 Feet ⁴	
Size	Approximately 3,400 square feet	
Cowardin Class	Palustrine Emergent	
HGM Class	Depressional	

Description Summary

Decemption Guimman	,
Sample Plot	SP-5
Vegetation	Emergent: Slough sedge (Carex obnupta) Shrub: Salmonberry (Rubus spectabilis) – not enough for a vegetation class
Soils	Soils met the hydric soils indicator for Redox Dark Surface (F6).
Hydrology	Indicators: No hydrology at the time of the field visit but algal mat observed Source: direct precipitation, surface runoff, high groundwater table.
Notes	Slough sedge appeared dead and tansy (an upland species) was starting to invade wetland. However, evidence of wetland hydrology was observed and hydric soil indicators were found at the site. The wetland may be receiving less hydrology after the surrounding area was logged.
Western Washington Wetland Rating Functions Summary (35 points total)	
Water Quality	12 points: due to vegetation coverage, not having an outlet and no sources of pollution within 150 feet upslope of the wetland (clear cut is considered normal conditions).
Hydrologic	<u>7 points</u> : due to not having an outlet and vegetation coverage; and there are no adjacent resources that could be damaged from flooding (opportunity for hydrologic functions).
Habitat	<u>16 points</u> : due to having one vegetation class, moderate amount of habitat interspersion with special habitat features. The system has relatively large buffers and undisturbed connections to other upland and wetland areas.
Buffer Condition	Areas adjacent to the wetland have been clear cut and current dominant vegetation consists of common tansy (<i>Tanacetum vulgare</i>) and scattered Pacific rhododendron (<i>Rhododendron macrophyllum</i>), and young saplings of Douglas fir (<i>Pseudotsuga menziesii</i>).
Notoo	

Notes:

¹ Wetland rating from the 2003 Krazan report.

² Jefferson County Code (JCC) 18.15.340 – Protection Standards.

³. Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).

⁴ Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the jurisdictional authority.



TABLE 11. WETLAND E (PHEASANT LAKE)

Wetland E (Pheasant Lake) – Information		
Location	Central part of Central Conveyor	
WRIA	17 - Quilcene - Snow	
Local Jurisdiction	Jefferson County	the antistation and the second second
Previous Rating ¹	1	
Previous Buffer Width ²	150	
2008 Rating	III (45 points) ³	
2013 Buffer Width	150 Feet ⁴	
Size	Approximately 642,940 square feet	
Cowardin Class	Palustrine Forested scrub/shrub emergent and aquatic bed	
HGM Class	Depressional	

Description Summary

Sample Plot	SP-6
Vegetation	Aquatic Bed: Common duckweed (<i>Lemna minor</i>) and yellow pond lily (<i>Nuphar lutea</i>) Emergent: Common rush (<i>Juncus effusus</i>), unidentified aquatic grasses, creeping buttercup (<i>Ranunculus repens</i>) Shrub: Salmonberry (<i>Rubus spectabilis</i>), rose spireae (<i>Spiraea douglasii</i>) and willow species
(cgetation	(Salix spp). Forested: Western red cedar (<i>Thuja plicata</i>), red alder (<i>Alnus rubra</i>) and willow species (Salix spp.)
Soils	Soils met the hydric soils indicator for Redox Dark Surface (F6).
Hydrology	Indicators: Standing water within the wetland and water marks on vegetation. Source: direct precipitation, surface runoff, high groundwater table.
Notes	Depressional system with no apparent outlet but a stream is mapped as associated with the wetland.
Western Washington	Wetland Rating Functions Summary (45 points total)
Water Quality	<u>6 points</u> : due to vegetation coverage, not having an outlet and no sources of pollution within 150 feet upslope of the wetland (clear cut is considered normal conditions).
Hydrologic	<u>12 points</u> : due to not having an outlet and vegetation coverage; and there are no adjacent resources that could be damaged from flooding (opportunity for hydrologic functions).
Habitat	<u>27 points</u> : due to having multiple vegetation classes, high amount of habitat interspersion with special habitat features. The system has relatively large buffers and undisturbed connections to other upland and wetland areas.

Areas adjacent to the wetland have been clear cut; however, the wetland is surrounded by young forested habitat that is dominated by Douglas fir (*Pseudotsuga menziesii*) with an understory that consists of California huckleberry (*Vaccinium ovatum*), Pacific rhododendron (*Rhododendron macrophyllum*), and sword fern (*Polystichum munitum*).

Notes:

¹ Wetland rating from the 2003 Krazan report.

² Jefferson County Code (JCC) 18.15.340 – Protection Standards.

³. Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).

⁴ Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the jurisdictional authority.

TABLE 12. WETLAND I

Wetland I – In	formation	
Location	North end of the Central Conveyor	
WRIA	17 - Quilcene - Snow	
Local Jurisdiction	Jefferson County	
Previous Rating ¹		
Previous Buffer Width ²	50	State Print of the Int
2008 Rating	III (34 points) ³	
2013 Buffer Width	80 Feet ⁴	
Size	Approximately 9,500 square feet	A CONTRACTOR OF THE
Cowardin Class	Palustrine Scrub/shrub	
HGM Class	Depressional	
Description S	ummary	
Sample Plot	SP-7	
	Fmergent: Slough sedge ((Carex obnunta) water parsley (Oenanthe sarmentosa) and lady

Sample Plot	SP-7
Vegetation	Emergent: Slough sedge (Carex obnupta), water parsley (Oenanthe sarmentosa) and lady fern (Athyrium filix-femina)
	Scouler's willow (Salix scouleriana)
Soils	Soils met the hydric soils indicator for Redox Dark Surface (F6).
Hydrology	Indicators: No hydrology at the time of the field visit but algal mat observed Source: direct precipitation, surface runoff, high groundwater table.
Notes	Slough sedge appeared dead and tansy (an upland species) was starting to invade wetland. However, evidence of wetland hydrology was observed and hydric soil indicators were found at the site. The wetland may be receiving less hydrology after the surrounding area was logged.
Western Washington Wetland Rating Functions Summary (34 points total)	
Water Quality	<u>10 points</u> : due to vegetation coverage, not having an outlet and no sources of pollution within 150 feet upslope of the wetland (clear cut is considered normal conditions).
Hydrologic	<u>7 points</u> : due to not having an outlet and vegetation coverage; and there are no adjacent resources that could be damaged from flooding (opportunity for hydrologic functions).
Hydrologic Habitat	
, ,	resources that could be damaged from flooding (opportunity for hydrologic functions). <u>17 points:</u> due to having one vegetation class, moderate amount of habitat interspersion with special habitat features. The system has relatively large buffers and undisturbed

Notes:

¹ Wetland rating from the 2003 Krazan report.
 ² Jefferson County Code (JCC) 18.15.340 – Protection Standards.
 ³ Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).
 ⁴ Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the



TABLE 13. WETLAND C

TABLE 10: WEIERIND O			
Wetland C – Information			
Location	Centra	al part of Central Conveyor	/ 1 A
WRIA	17 - 0	Quilcene – Snow	AA
Local Jurisdiction	Jeffers	son County	Al
Previous Rating ¹	I		
Previous Buffer Width ²	150		
Rating	II (63	points) ³	
Buffer Width	300 F	eet ⁴	NO ALEXANDER ALEXA
Size	Appro: feet	ximately 858,000 square	NOT THE REAL PROPERTY OF
Cowardin Class		rine Forested scrub/shrub gent and aquatic bed	
HGM Class	Depre	ssional	
Description Su	immary	/	
Sample Plot		SP-9	
Vegetation		natans) <u>Emergent:</u> Common rush (Ju (Ranunculus repens) <u>Shrub:</u> Salmonberry (Rubu willow (Salix scouleriana).	ckweed (<i>Lemna minor</i>) and floating pondweed (<i>Potamogeton</i> uncus effusus), unidentified aquatic grasses, creeping buttercup as spectabilis), rose spireae (<i>Spiraea douglasii</i>) and Scouler's dar (<i>Thuja plicata</i>), red alder (<i>Alnus rubra</i>) and willow species
Soils			icator for Hydrogen Sulfide (A4).
Hydrology			nches in the soil pit and saturation was to the surface surface runoff, high groundwater table.
Notes		Depressional system with wa	ter discharging north into a stream.
Western Wash	ington	Wetland Rating Functions	Summary (63 points total)
Water Quality		9 points: due to vegetation 150 feet upslope of the wetla	n coverage, having an outlet and no sources of pollution within and.
Hydrologic			n outlet and vegetation coverage; and draining to a stream that rtunity for hydrologic functions).
Habitat			ultiple vegetation classes, high amount of habitat interspersion es. The system has relatively large buffers and undisturbed and wetland areas.
Buffer Conditior	٦	menziesii) and red alder (huckleberry (Vaccinium ovat	y forested habitat that is dominated by Douglas fir (<i>Pseudotsuga Alnus rubra</i>) with an understory that consists of California <i>um</i>), Pacific rhododendron (<i>Rhododendron macrophyllum</i>), salal rd fern (<i>Polystichum munitum</i>).

Notes: ¹ Wetland rating from the 2003 Krazan report.

² Vetland rating nom the 2003 Mazar report.
² Jefferson County Code (JCC) 18.15.340 – Protection Standards.
³. Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).
⁴ Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the

TABLE 14. WETLAND M

Wetland M - I	nforma	ation		
Location	South	hern part of Central Conveyor		
WRIA	17 -	- Quilcene - Snow		
Local Jurisdiction	Jeffer	erson County	N. H.	
Previous Rating ¹	ш			
Previous Buffer Width ²	50			
2008 Rating	III (37	7 points) ³		
2013 Buffer Width	80 Fe	eet ⁴		
Size	Appro	oximately 13,680 square feet		
Cowardin Class	Palustrine Forested			
HGM Class	Depre	ressional		
Description S	ummar	ry		
Sample Plot		SP-10		
Vegetation		Emergent: Slough sedge (Carex obnupta) Shrub: None Forested: Red alder (Alnus rubra)		
Soils		Soils met the hydric soils indicator for Redox Dark Surface (F6).		
Hydrology		Indicators: No hydrology at the time of the field visit but water stained leaves were observe and it has geomorphic position and passed the FAC-Neutral test. Source: Direct precipitation, surface runoff, high groundwater table.	эd	
Notes		Depressional wetland system with no outlet identified.		
Western Wash	ningtor	Western Washington Wetland Rating Functions Summary (37 points total)		
Water Quality				
Water Quality		<u>12 points</u> : due to vegetation coverage, not having an outlet and no sources of pollution within 150 feet upslope of the wetland.	on	
Hydrologic				
		within 150 feet upslope of the wetland. 7 points: due to not having an outlet and vegetation coverage; and there are no adjace.	nt th	
Hydrologic	n	 within 150 feet upslope of the wetland. <u>7 points:</u> due to not having an outlet and vegetation coverage; and there are no adjace resources that could be damaged from flooding (opportunity for hydrologic functions). <u>18 points:</u> due to having one vegetation class, low amount of habitat interspersion with special habitat features. The system has relatively large buffers and undisturbed to the system has relatively large buffers. 	nt th ed ga ia	

 ¹ Wetland rating from the 2003 Krazan report.
 ² Jefferson County Code (JCC) 18.15.340 – Protection Standards.
 ³ Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).
 ⁴ Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the jurisdictional authority.



TABLE 15. WETLAND K

Wetland K – Information		
Location	Southern part of Central Conveyor	
WRIA	17 - Quilcene - Snow	
Local Jurisdiction	Jefferson County	
Previous Rating ¹	II	
Previous Buffer Width ²	100	
2008 Rating	III (37 points) ³	
2013 Buffer Width	80 Feet ⁴	
Size	Approximately 80,150 square feet	
Cowardin Class	Palustrine Forested	
HGM Class	Depressional	
Decoription Su		

Description Summary

Sample Plot	SP-8
	Emergent: Slough sedge (Carex obnupta)
Vegetation	Shrub: Salmonberry (Rubus spectabilis)
	Forested: Red alder (Alnus rubra)
Soils	Soils did not meet hydric soil indicators but evidence of wetland hydrology was present and there was a dominance of hydrophytic vegetation. Therefore, hydric soils are assumed to be present.
II data a	Indicators: No hydrology at the time of the field visit but water stained leaves and algal mats
Hydrology	were observed and it has geomorphic position and passed the FAC-Neutral test. Source: Direct precipitation, surface runoff, high groundwater table.
	Northern area of wetland is within 300 feet of central conveyor and the northern boundary appeared to correspond with the previous delineation. The southern area of wetland (south
Notes	of an access road) did not appear to be consistent with the previous delineation. However,
	this area was more than 300 feet from the central conveyor and will not affect the proposed
	project. This southern area was NOT re-delineated.
Western Washington Wetland Rating Functions Summary (37 points total)	
	12 points: due to vegetation coverage not having an outlet and no sources of pollution

Water Quality	<u>12 points</u> : due to vegetation coverage, not having an outlet and no sources of pollution within 150 feet upslope of the wetland.
Hydrologic	<u>7 points</u> : due to not having an outlet and vegetation coverage; and there are no adjacent resources that could be damaged from flooding (opportunity for hydrologic functions).
Habitat	<u>18 points</u> : due to having one vegetation class, low amount of habitat interspersion with special habitat features. The system has relatively large buffers and undisturbed connections to other upland and wetland areas.
Buffer Condition	The wetland is surrounded by forested habitat that is dominated by Douglas fir (<i>Pseudotsuga menziesii</i>) and red alder (<i>Alnus rubra</i>) with an understory that consists of California huckleberry (<i>Vaccinium ovatum</i>), Pacific rhododendron (<i>Rhododendron macrophyllum</i>), salal (<i>Gaultheria shallon</i>) and sword fern (<i>Polystichum munitum</i>).

Notes:

 ¹ Wetland rating from the 2003 Krazan report.
 ² Jefferson County Code (JCC) 18.15.340 – Protection Standards.
 ³. Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).
 ⁴ Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the jurisdictional authority.

TABLE 16. WETLAND A

Wetland A – I	nforma	ition					
Location	Southern area of the central conveyor in the bottom of a ravine						
WRIA	17 -	Quilcene – Snow					
Local Jurisdiction	Jefferson County		Stream discharging				
Previous Rating ¹	Ш		from Wetland A				
Previous Buffer Width ²	100						
2008 Rating	III (37	7 points) ³					
2013 Buffer Width	80 Feet ⁴						
Size	Approximately 40,140 square feet						
Cowardin Class	Palus	trine Forested					
HGM Class	Slopi	ng	Stream discharging from ravine; Wetland A is above stream.				
Description Summary							
Sample Plot		Sample Plot was not conduc	ted because could not be accessed due to steep terrain.				
Vegetation		 <u>Herbaceous:</u> Lady fern (<i>Athyrium filix-femina</i>) and field horsetail (<i>Equisetum arvense</i>) – observed from the bottom of the ravine. <u>Shrub:</u> Salmonberry (<i>Rubus spectabilis</i>) – observed from the bottom of the ravine. <u>Forested</u>: Red alder (<i>Alnus rubra</i>) – observed from the bottom of the ravine. 					
Soils		Sample plot not conducted					
Hydrology		Indicators: Water was observed discharging from the ravine into Wetland B. Source: Direct precipitation, surface runoff, high groundwater table.					
Notes		The wetland is confined to the bottom of a ravine and boundaries are not likely to have changed. GeoEngineers observed at the bottom of the ravine, a stream that discharges from the ravine and the red alder forested canopy associated with the wetland. Therefore it is assumed that the wetland boundary for this wetland did not change.					
Western Wash	ningtor	n Wetland Rating Functions	Summary (37 points total)				
Water Quality		10 points: due to vegetation coverage, having a steep slope and having residential areas within 150 feet upslope (i.e. pollution source)					
Hydrologic		<u>8 points</u> : due to having an un-constricted outlet and vegetation coverage; and not having an opportunity for hydrologic functions because it flows directly into Hood Canal.					
Habitat w		<u>19 points:</u> due to having one vegetation class, moderate amount of habitat interspersion with special habitat features. The system has relatively large buffers and undisturbed connections to other upland and wetland areas.					
Buffer Condition		The wetland is immediately surrounded by young forested habitat that is dominated by Douglas fir (<i>Pseudotsuga menziesii</i>) with lesser amounts of western red cedar (<i>Thuja plicata</i>), big leaf maple (<i>Acer macrophyllum</i>) and red alder (<i>Alnus rubra</i>) with an understory that consists of California huckleberry (<i>Vaccinium ovatum</i>), Pacific rhododendron (<i>Rhododendron macrophyllum</i>), red elderberry (<i>Sambucus racemosa</i>), bracken fern (<i>Pteridium aquilinum</i>) and sword fern (<i>Polystichum munitum</i>).					
Notes:							

Wetland rating from the 2003 Krazan report.
 Jefferson County Code (JCC) 18.15.340 – Protection Standards.
 Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).
 Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the



TABLE 17. WETLAND B

Wetland B – Info	rmation					
Location	Southern part of Central Conveyor	eu -				
WRIA	17 - Quilcene - Snow					
Local Jurisdiction	Jefferson County	He was				
Previous Rating ¹						
Previous Buffer Width ²	100					
2008 Rating	Il ³ Estuarine Wetland	4				
2013 Buffer Width	150 Feet ⁴					
Size	Not determined, wetland extends off site to the NE and SW					
Cowardin Class	Palustrine Forested and Emergent	10				
HGM Class	Depressional and Estuarine					
Description Sum	nary					
Sample Plot	SP-11	SP-11				
Vegetation	Emergent: American dunegrass (<i>Leymus mollis</i>), common rush (<i>Juncus effusus</i>), lady fern (<i>Athyrium filix-femina</i>) and field horsetail (<i>Equisetum arvense</i>) Shrub: Salmonberry (<i>Rubus spectabilis</i>) and Scouler's willow (<i>Salix scouleriana</i>) Forested: Red alder (<i>Alnus rubra</i>) and Pacific willow (<i>Salix lasiandra</i>).					
Soils	Soils did not meet hydric soil indicators because it was sand but evidence of wetland hydrology was present and there was a dominance of hydrophytic vegetation. Therefore, hydric soils are assumed to be present.					
Hydrology	Indicators: No hydrology at the time of the field visit but the wetland is situated in a depression that regularly inundated by tidal waters. Water is trapped in depression during high tide events. Saturated to the surface with water to the surface in the north part of the wetland where the stream from Wetland A discharges into the wetland. Source: Direct precipitation, surface runoff, stream from Wetland A, and tidal waters.					
Notes	Narrow estuarine wetland along the shoreline of Hood Canal					
Western Washing	gton Wetland Rating Functions Summary					
Water Quality	Potential to perform this function: due to vegetation coverage, steep slope and residential areas within 150 feet upslope (i.e. pollution source)					
Hydrologic		Potential to perform this function: due to having an un-constricted outlet and vegetation coverage; and not having an opportunity for hydrologic functions because it flows directly into Hood Canal.				
	Detential to perform this function , due to beying two vegetation alonged, moderate amou					

Potential to perform this function:due to having two vegetation classes, moderate amountHabitatof habitat interspersion with special habitat features. The system has relatively large buffers
and undisturbed connections to other upland and wetland areas.

Wetland is surrounded by forest dominated by Douglas fir (*Pseudotsuga menziesii*) with lesser amounts of western red cedar (*Thuja plicata*), big leaf maple (*Acer macrophyllum*) and red alder (*Alnus rubra*) with an understory that consists of California huckleberry (*Vaccinium ovatum*), Pacific rhododendron (*Rhododendron macrophyllum*), red elderberry (*Sambucus racemosa*), bracken fern (*Pteridium aquilinum*) and sword fern (*Polystichum munitum*).

Notes:

Buffer Condition

¹ Wetland rating from the 2003 Krazan report.

- ² Jefferson County Code (JCC) 18.15.340 Protection Standards.
- ³. Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).

⁴ Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the jurisdictional authority.

TABLE 18. WETLAND R

Wetland R – Info	rmation	
Location	More than 300 feet south of the Central Conveyor, along the shoreline	
WRIA	17 - Quilcene - Snow	
Local Jurisdiction	Jefferson County	
Previous Rating ¹	N/A – not previously identified	
Previous Buffer Width ²	N/A – not previously identified	
2008 Rating	II ³ Estuarine Wetland	
2013 Buffer Width	150 Feet ⁴	
Size	Not determined, wetland extends off site	
Cowardin Class	Palustrine Forested and Emergent	
HGM Class	Depressional and Estuarine	
Description Sum	marv	

Description Summary				
Sample Plot	No Sample Plots were conducted because more than 300 feet from project area.			
Vegetation	Emergent: American dunegrass (<i>Leymus mollis</i>), common rush (<i>Juncus effusus</i>), lady fern (<i>Athyrium filix-femina</i>) and field horsetail (<i>Equisetum arvense</i>)			
Vegetation	Shrub: Salmonberry (Rubus spectabilis) and Scouler's willow (Salix scouleriana)			
	Forested: Red alder (Alnus rubra) and Pacific willow (Salix lasiandra).			
Soils	Although an official sample plot was not conducted a sulfidic odor was observed. Therefore the soils meet the A4 Hydric soil indicator.			
Hydrology	Indicators: Some portions of the wetland were ponded at time of the site and other portions were saturated to the surface. The wetland is situated in a depression that regularly inundated by tidal waters. Water is trapped in depression during high tide events. Source: Direct precipitation, surface runoff, seeps discharging from the cliffs, and tidal waters.			
N				
Notes	Narrow estuarine wetland along the shoreline of Hood Canal			
Western Washington W	etland Rating Functions Summary			
Water Quality	Potential to perform this function: due to vegetation coverage, steep slope and residential areas within 150 feet upslope (i.e. pollution source)			
Hydrologic	Potential to perform this function: due to having an un-constricted outlet and vegetation coverage; and not having an opportunity for hydrologic functions because it flows directly into Hood Canal.			
Habitat	Potential to perform this function: due to having two vegetation classes, moderate amount of habitat interspersion with special habitat features. The system has relatively large buffers and undisturbed connections to other upland and wetland areas.			
Buffer Condition	Wetland is surrounded by forest dominated by Douglas fir (<i>Pseudotsuga menziesii</i>) with lesser amounts of western red cedar (<i>Thuja plicata</i>), big leaf maple (<i>Acer macrophyllum</i>) and red alder (<i>Alnus rubra</i>) with an understory that consists of California huckleberry (<i>Vaccinium ovatum</i>), Pacific rhododendron (<i>Rhododendron macrophyllum</i>), red elderberry (<i>Sambucus racemosa</i>), bracken fern (<i>Pteridium aquilinum</i>) and sword fern (<i>Polystichum munitum</i>).			

Notes:

¹ Wetland rating from the 2003 Krazan report.
 ² Jefferson County Code (JCC) 18.15.340 – Protection Standards.

 Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).
 Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the jurisdictional authority.

Wetland Name	Approximate	GeoEngineers Tasks	Category		Required Buffer Width (feet)	
Wettanu Name	Location	Geoengineers rasks	Previous ¹	Current (2008) ³	Previous ²	2013 ⁴
Meridian Extraction Area						
Wetland O	Southwest Corner	Delineate east edge and categorize	N/A	111	N/A	150
Wetland P	Southwest Corner	Delineate wetland and categorize	N/A	IV	N/A	50
Wetland Q (Lost Lake)	Eastern area	Categorize wetland	N/A	Ш	N/A	150
W3	Eastern area	Verify wetland boundaries and categorize	N/A	I	N/A	250
W2	Eastern area	Categorize wetland	N/A	I	N/A	250
W1	Eastern area	Categorize wetland	N/A	I	N/A	250
Wetland H	North edge	Categorize wetland	N/A	Ш	N/A	150
Central Conveyor	(from north to south a	long the corridor)				
Wetland J	North end of conveyor	Verify wetland boundaries	Ш	Ш	50	80
Wetland H	North end of conveyor	Verify wetland boundaries	Ш	Ш	50	80
Wetland E (Pheasant Lake)	Central part of conveyor	Verify wetland boundaries	I	Ш	150	150
Wetland I	Central part of conveyor	Verify wetland boundaries	Ш	Ш	50	80
Wetland C	Central part of conveyor	Verify wetland boundaries	I	Ш	150	300
Wetland M	South end of conveyor	Verify wetland boundaries	Ш	Ш	50	80
Wetland K	South end of conveyor	Verify wetland boundaries	Ш	Ш	100	80
Wetland A	Along shoreline	Verify wetland boundaries	II	111	100	80

TABLE 19. WETLAND SUMMARY OF TASKS CATEGORY AND BUFFER WIDTH

Wetland Name	Approximate		Category		Required Buffer Width (feet)	
	Location	GeoEngineers Tasks	Previous	Current (2008)	Previous	2013
Wetland B	Along shoreline	Verify wetland boundaries	Ш	Ш	100	150
Wetland R	Along shoreline, south of conveyor	Categorize wetland	N/A	Ш	N/A	150

Notes:

¹ Wetland rating from the 2003 Krazan report.

² Jefferson County Code (JCC) 18.15.340 - Protection Standards.

Wetland rating in accordance with Washington State Wetlands Rating System for Western Washington (Hruby, revised 2008).
 Jefferson County Code (JCC) 18.22.330 – Protection Standards. The final buffer width is subject to approval by the iurisdictional authority.

SUMMARY

GeoEngineers performed wetland verification services within the Thorndyke Resource property for the proposed project. A total of 17 wetlands were verified and/or re-categorized during the field investigation. Table 19 provides a summary of the critical areas that were reviewed with the categories and associated buffers.

This project will be subject to review through an Environmental Impact Statement (EIS). Part of the process requires the analysis of potential project impacts and mitigation, as necessary. Any subsequent project approvals will need to include any required mitigation of identified impacts. Separate construction permits will be needed, and if any proposal includes additional wetland or stream impacts that were not analyzed as part of the EIS, further analysis may be required.

LIMITATIONS

GeoEngineers has prepared this Wetland Verification Report in general accordance with the scope and limitations of our proposal. Within the limitations of scope, schedule and budget, our services have been executed in accordance with the generally accepted practices for wetland and stream delineation in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

This report has been prepared for the exclusive use of Jefferson County and Thorndyke Resource, authorized agents and regulatory agencies following the described methods and information available at the time of the work. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. The information contained herein should not be applied for any purpose or project except the one originally contemplated.

The applicant is advised to contact all appropriate regulatory agencies (local, state and federal) prior to design or construction of any development to obtain necessary permits and approvals.

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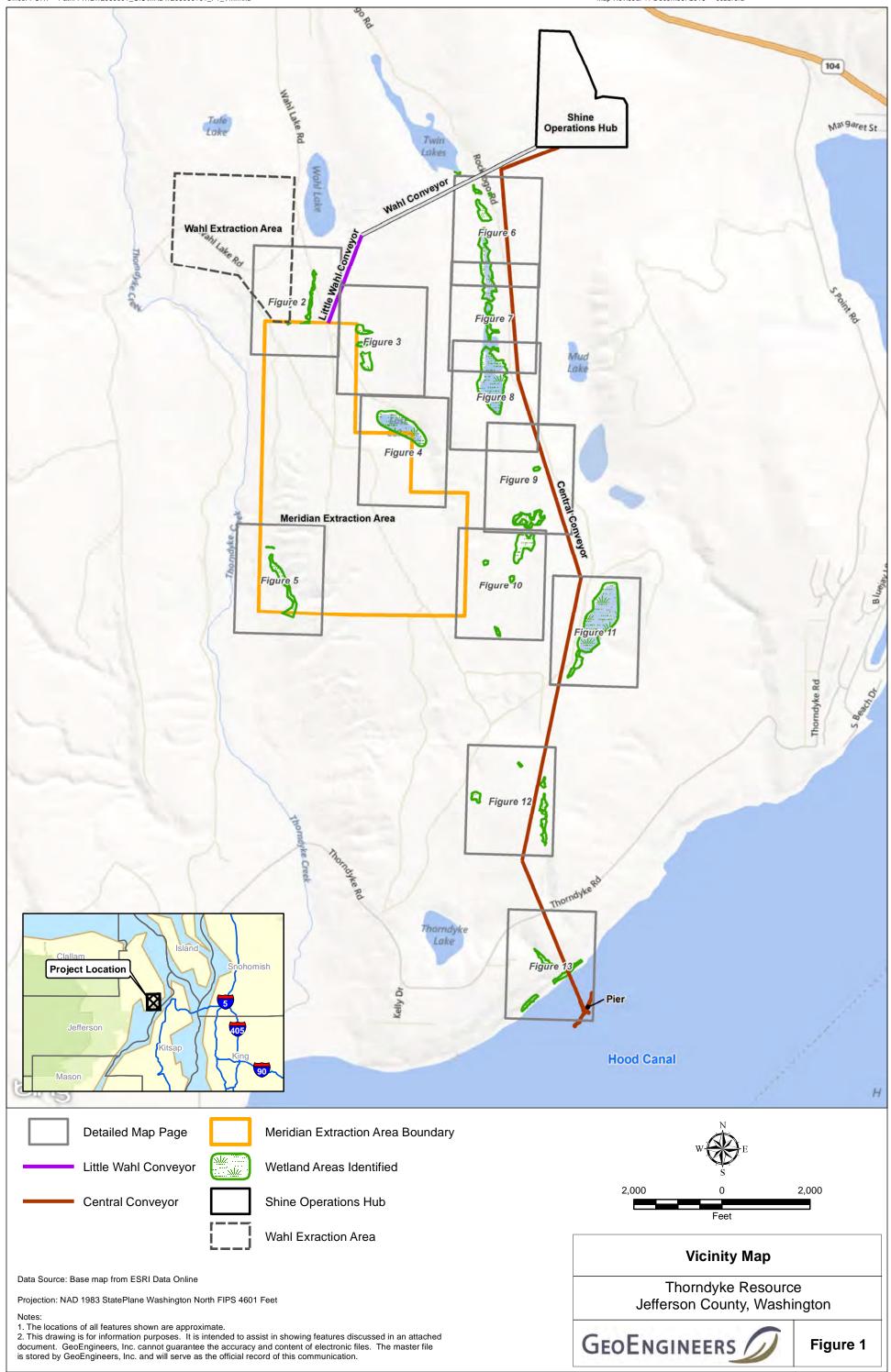
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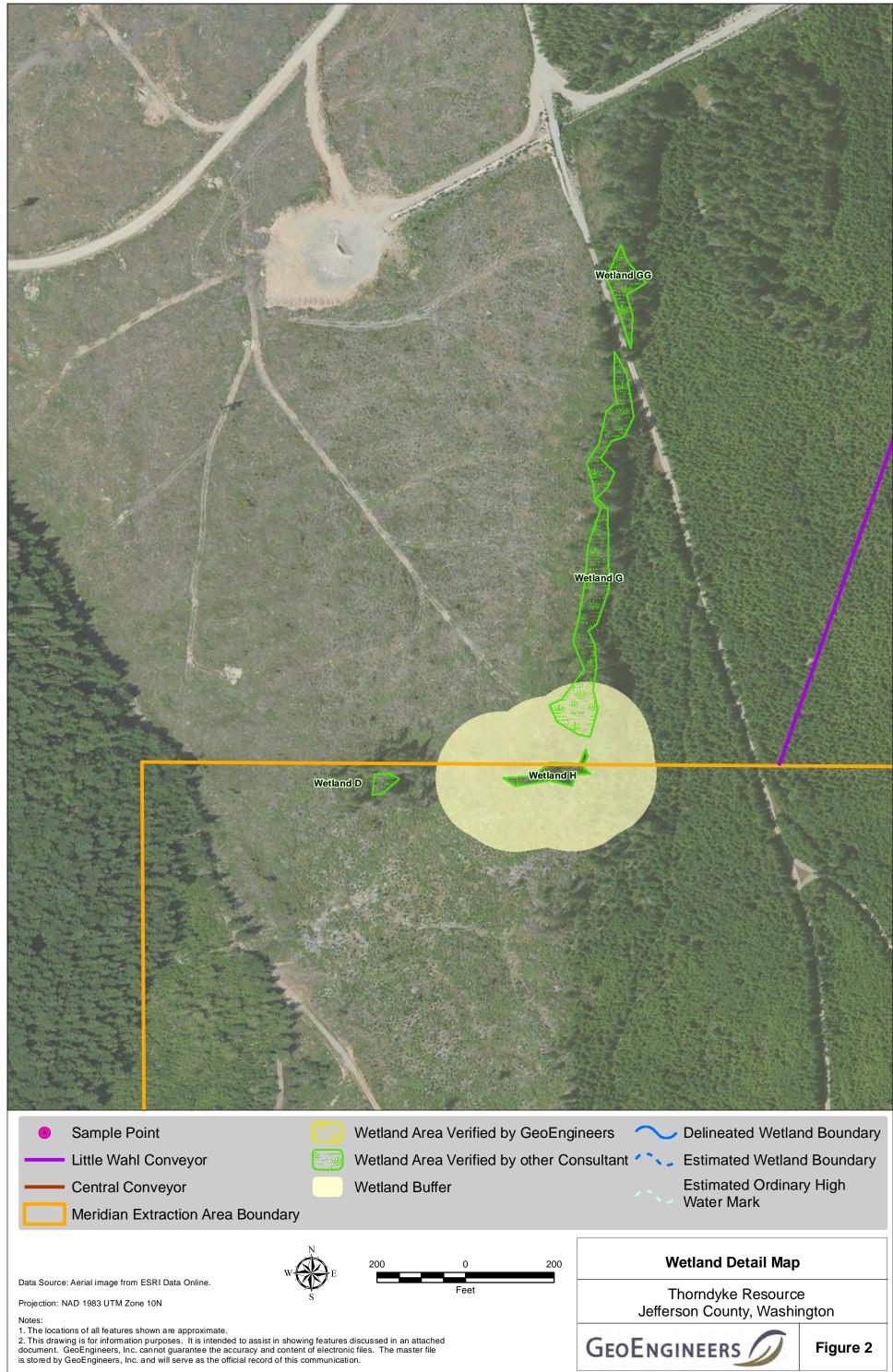


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Map Revised: 11 December 2013 ccabrera

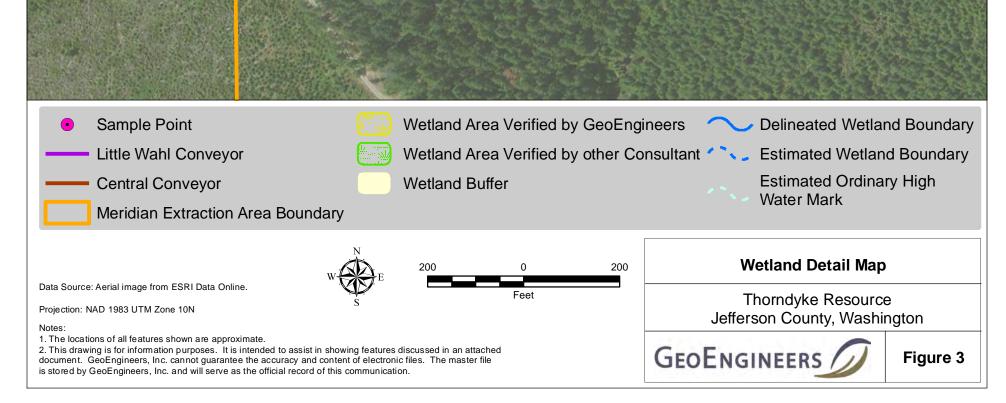


Map Revised: 11 December 2013 maugust



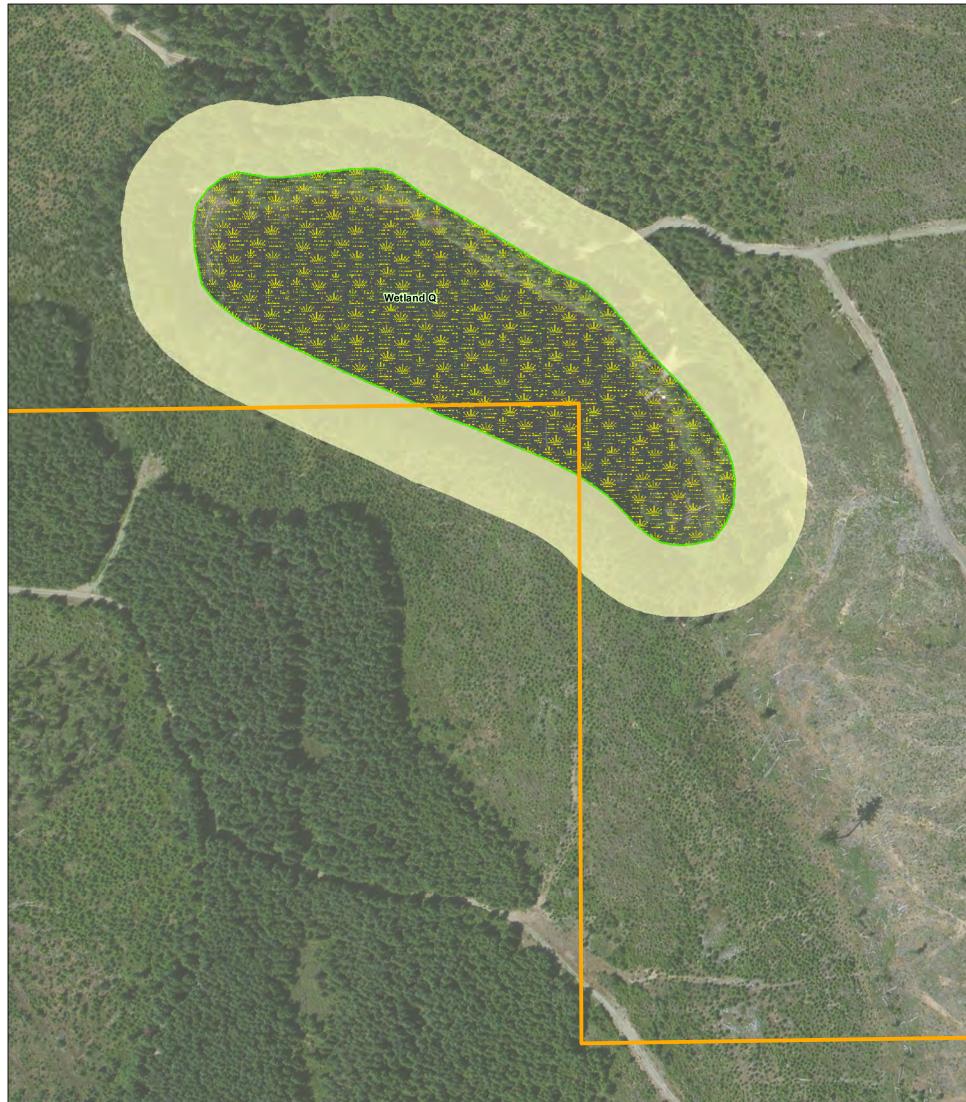
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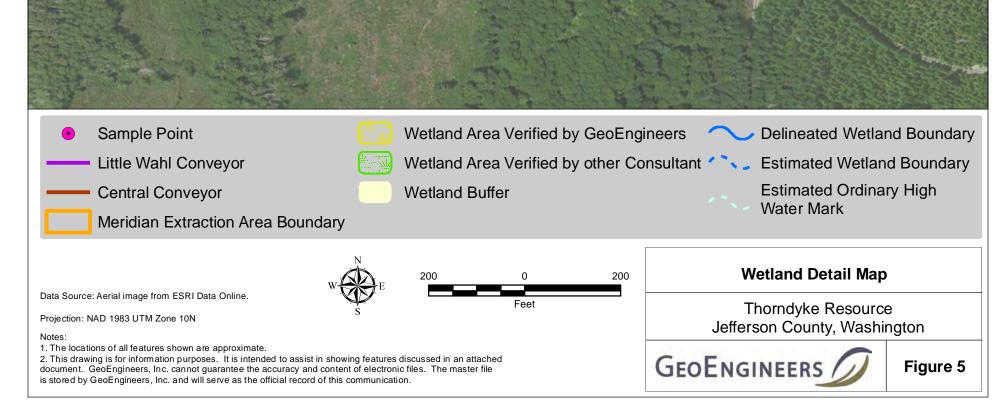
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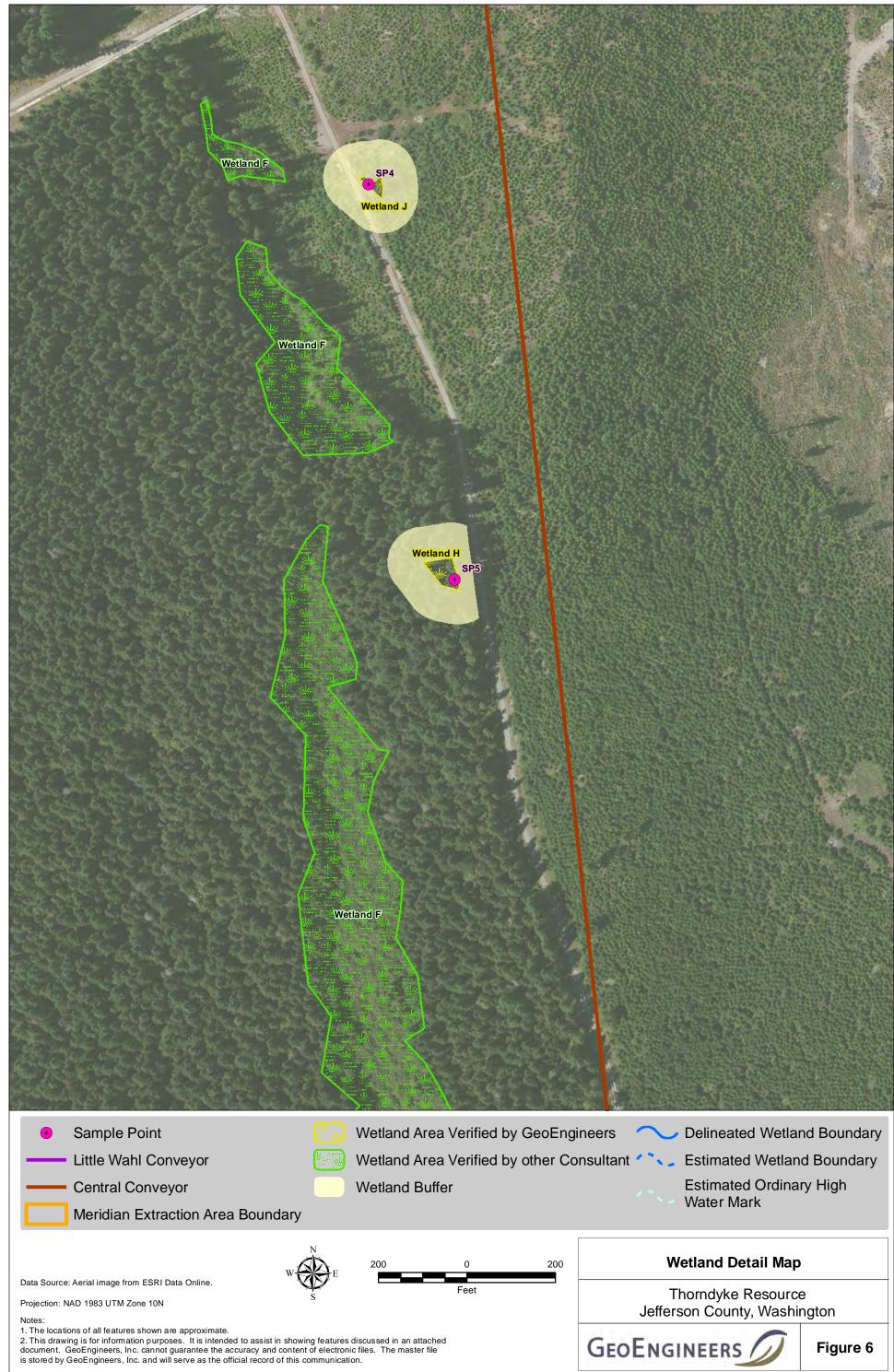
Sample Point Wetland Area Verified by GeoEngineers Delineated Wetland Boundary \bullet Wetland Area Verified by other Consultant Little Wahl Conveyor Estimated Wetland Boundary Estimated Ordinary High **Central Conveyor** Wetland Buffer Water Mark Meridian Extraction Area Boundary Wetland Detail Map 200 200 Data Source: Aerial image from ESRI Data Online. Feet Thorndyke Resource Projection: NAD 1983 UTM Zone 10N Jefferson County, Washington Notes: The locations of all features shown are approximate.
 This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file GEOENGINEERS Figure 4 is stored by ${\tt GeoEngineers}, {\tt Inc.}$ and will serve as the official record of this communication.

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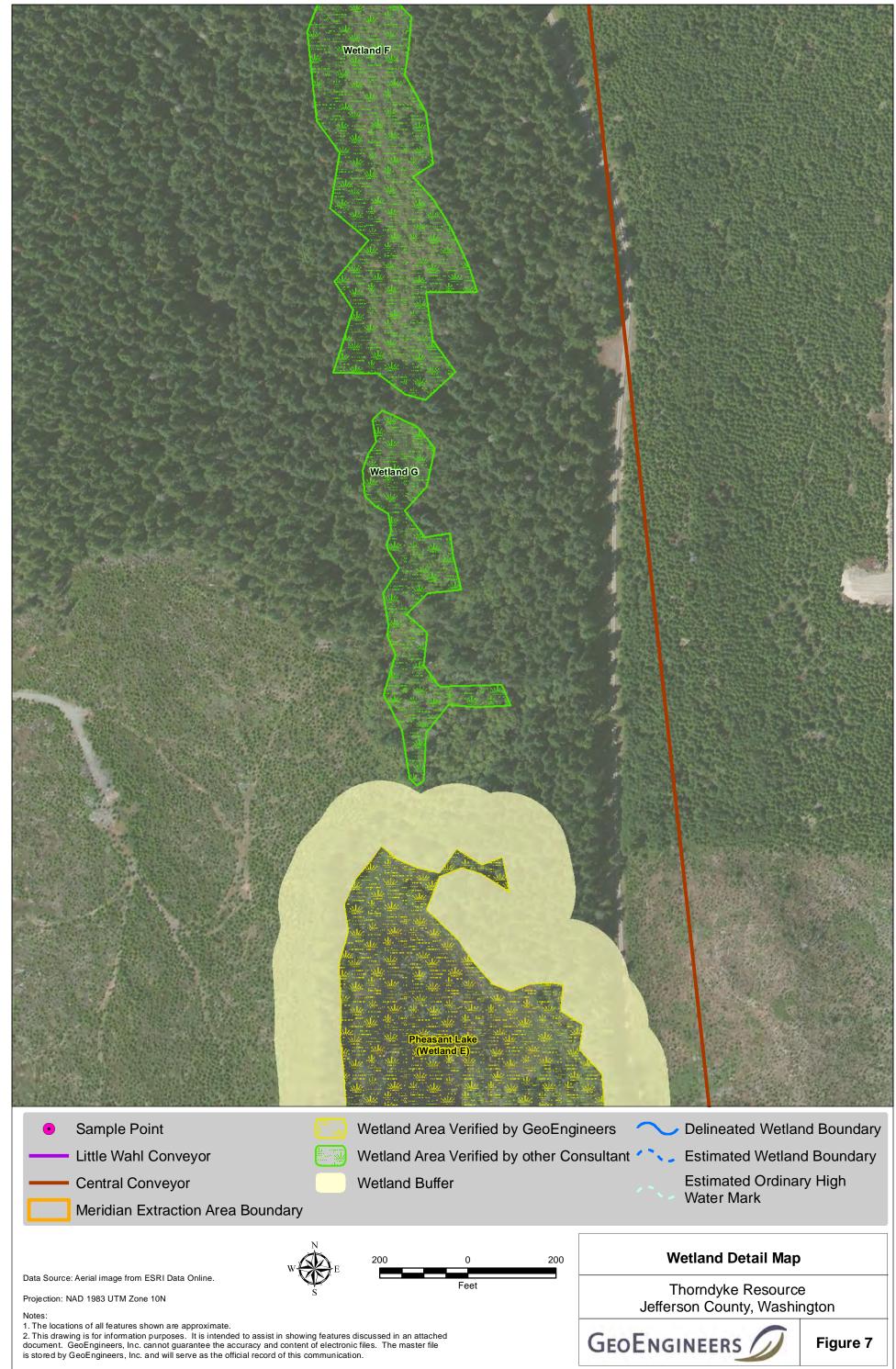


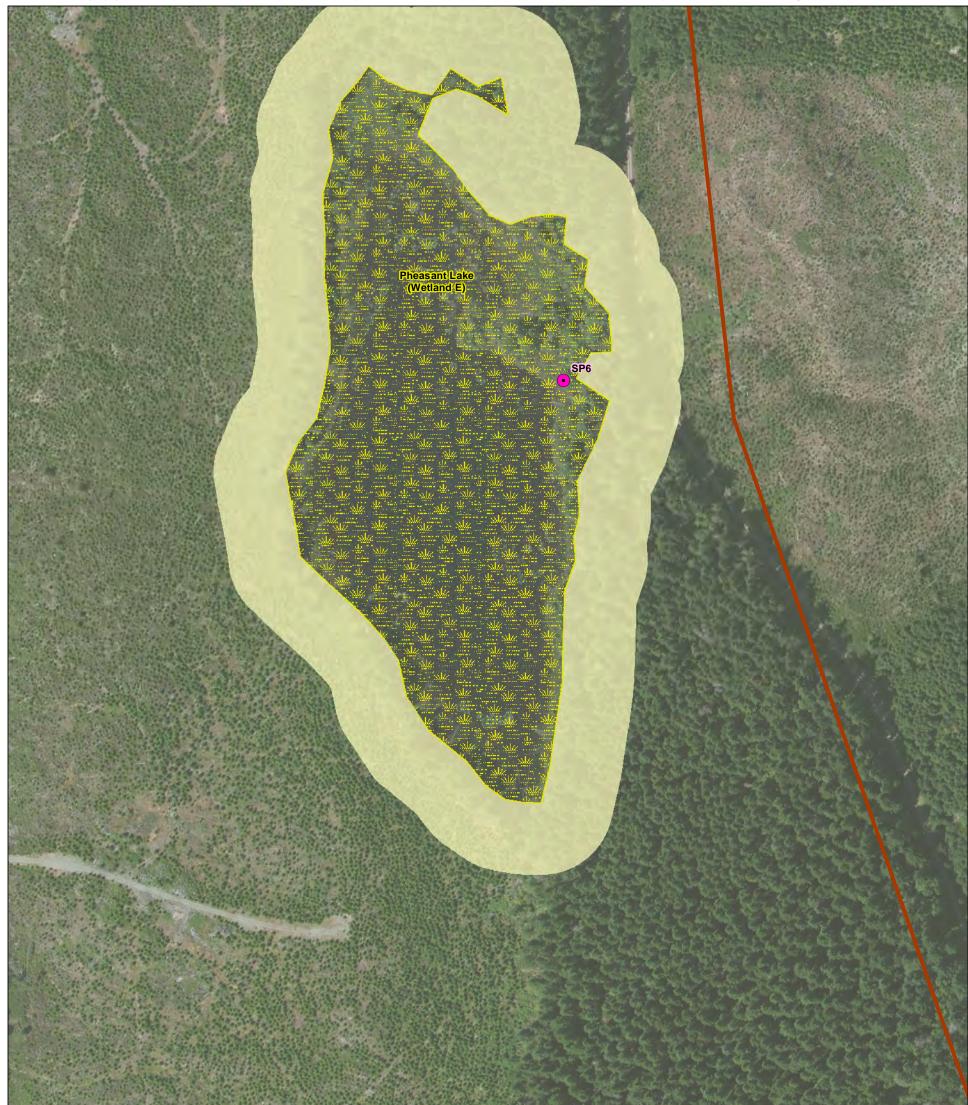


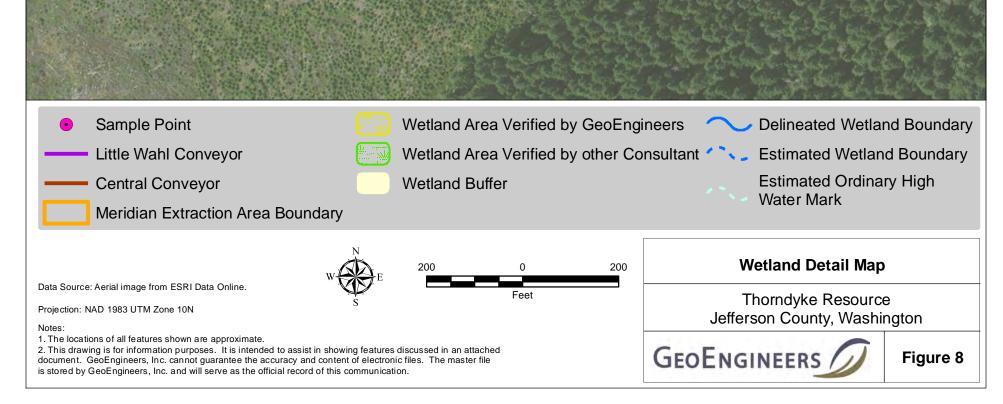
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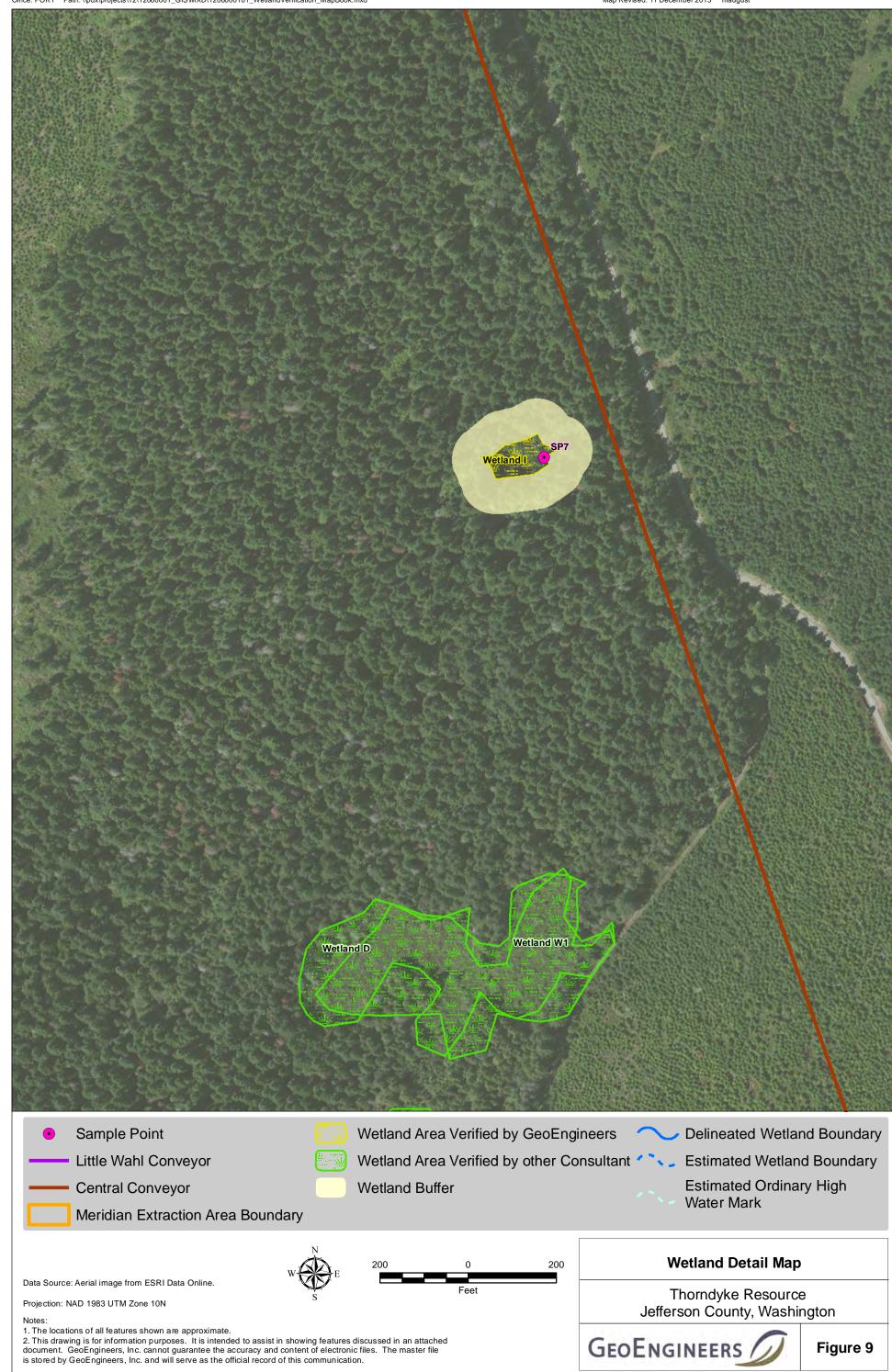
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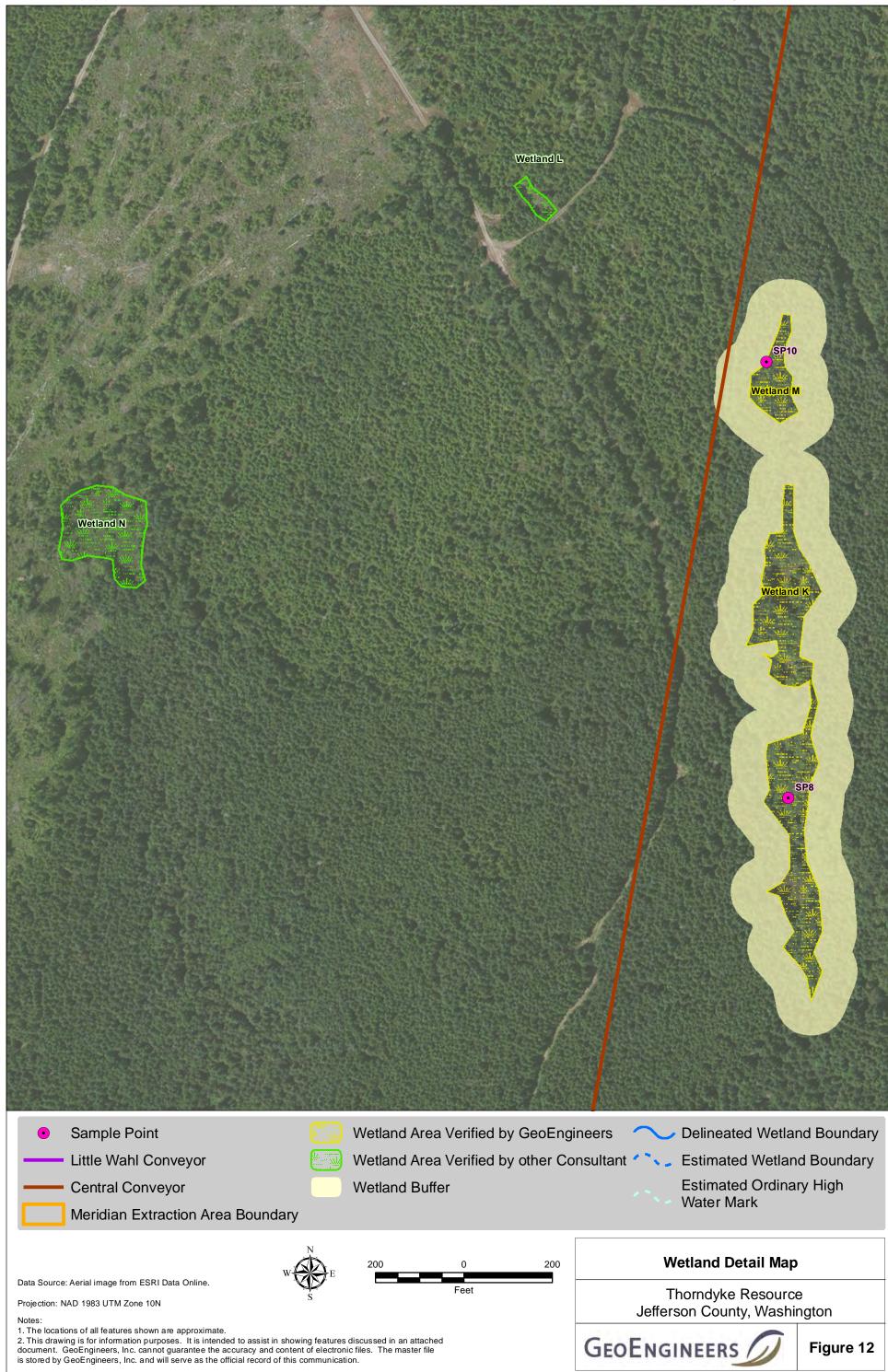


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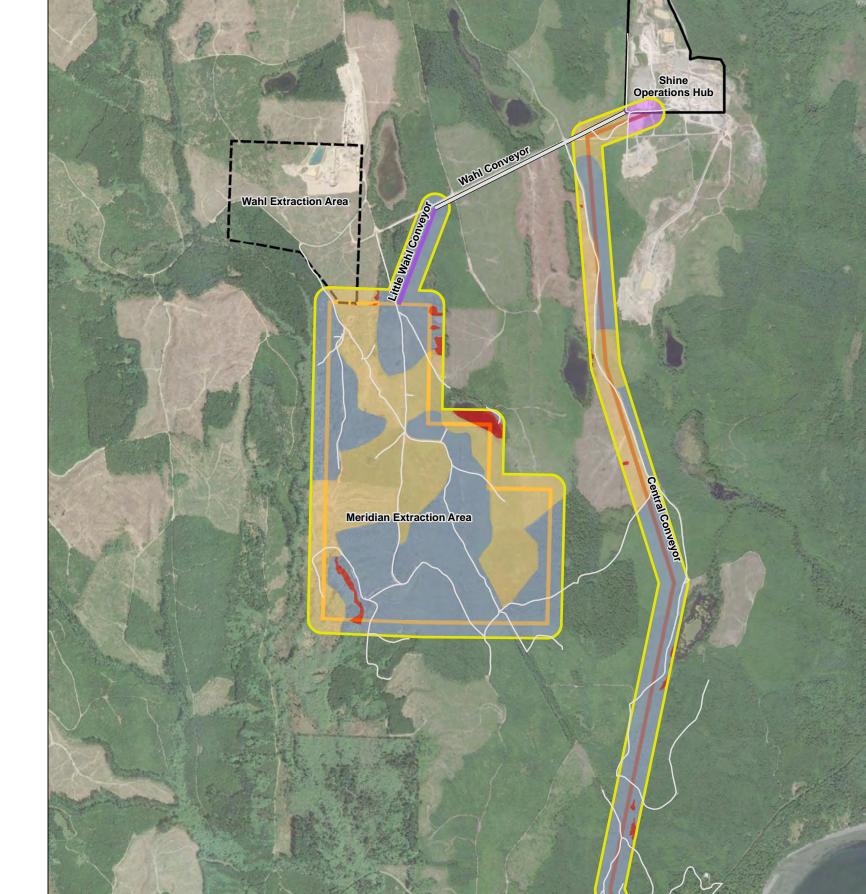


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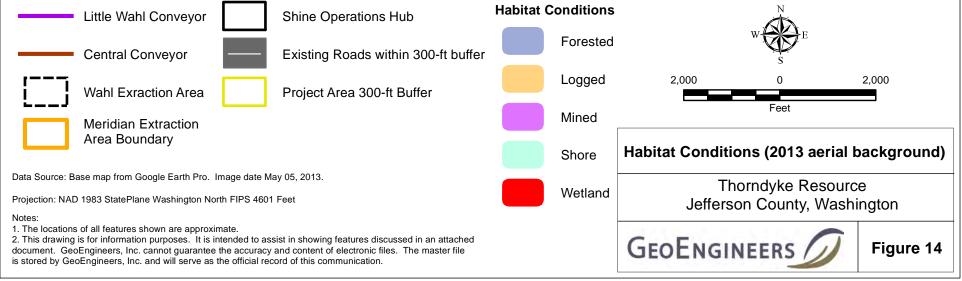
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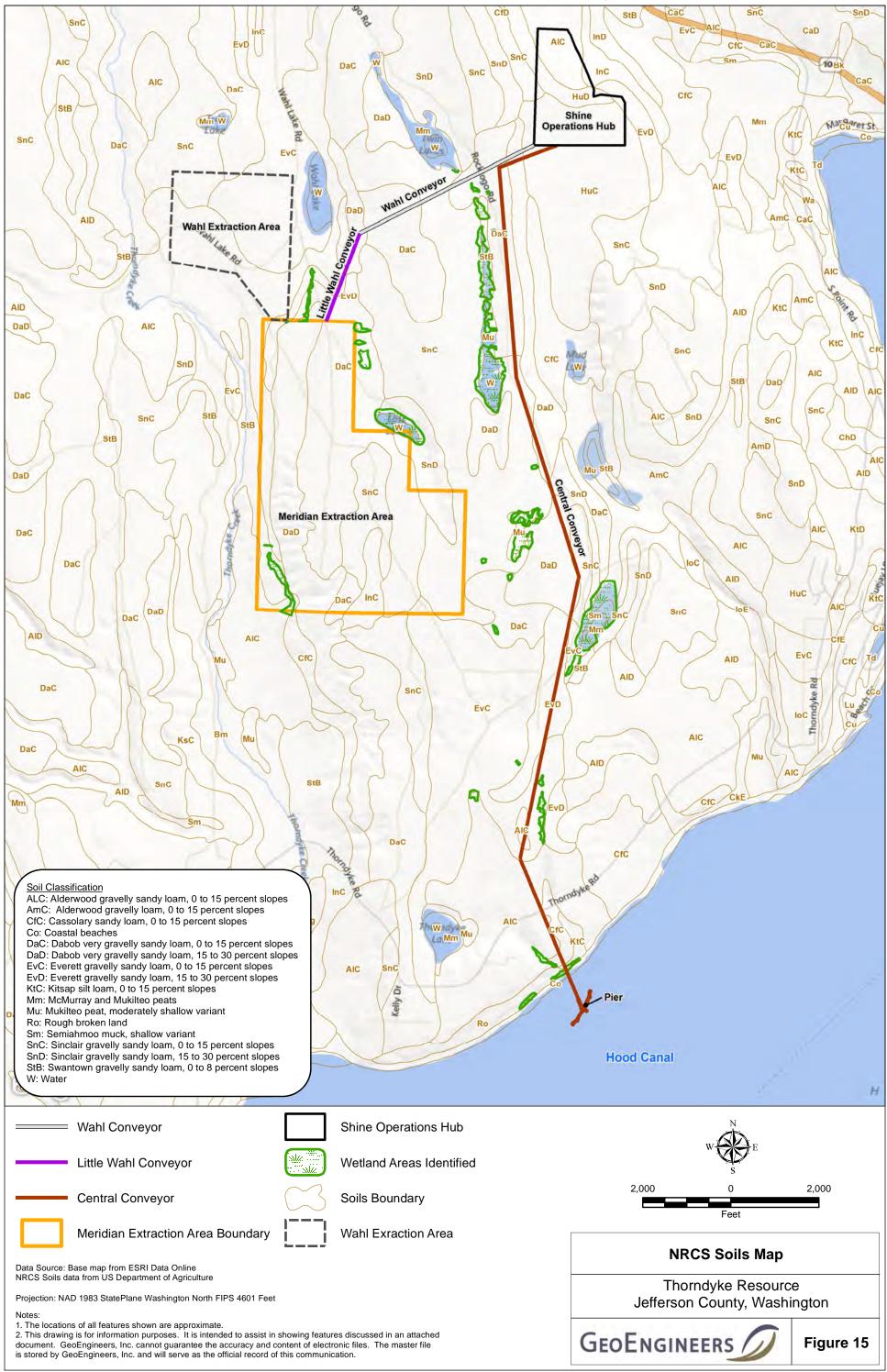


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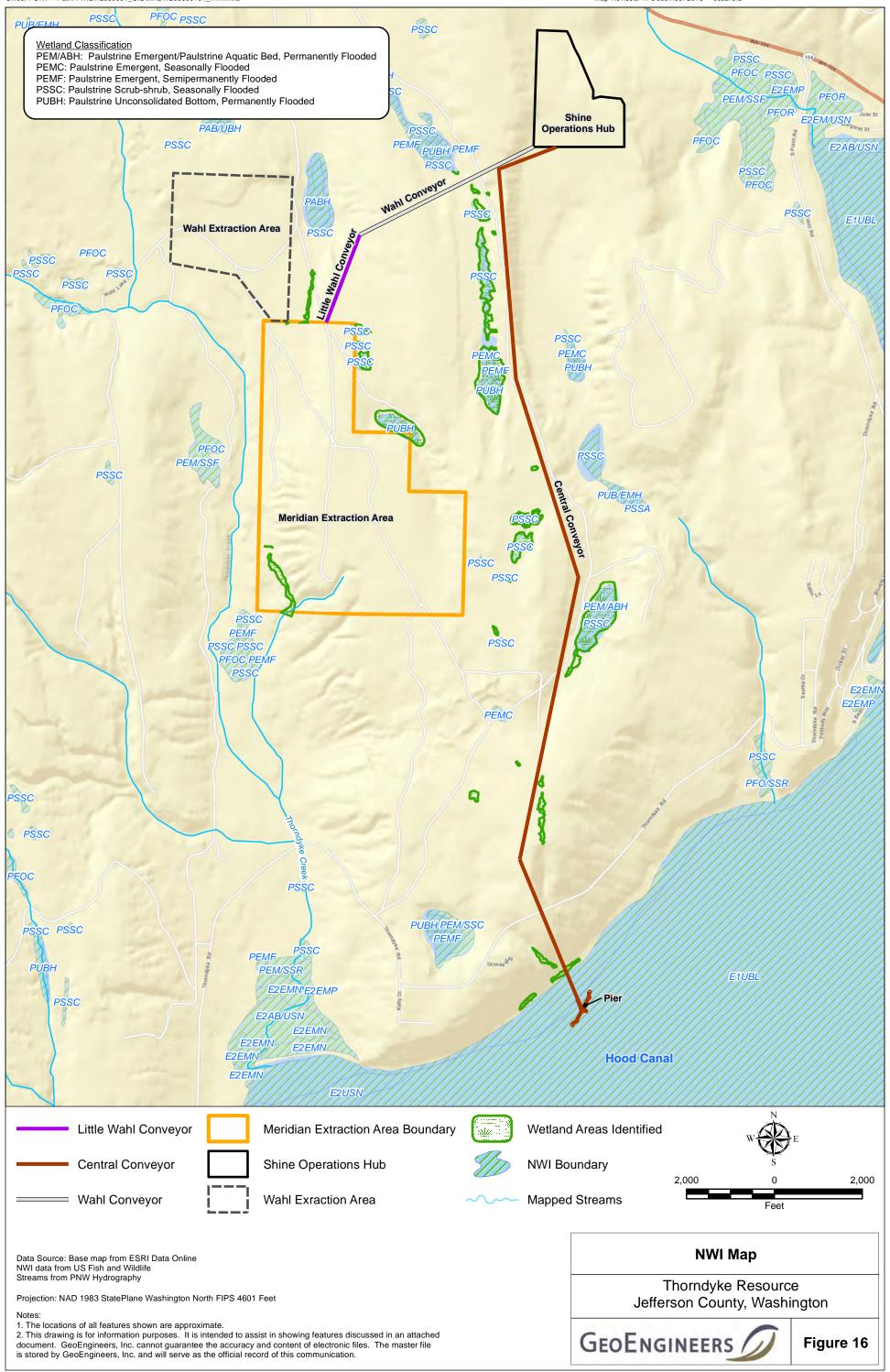




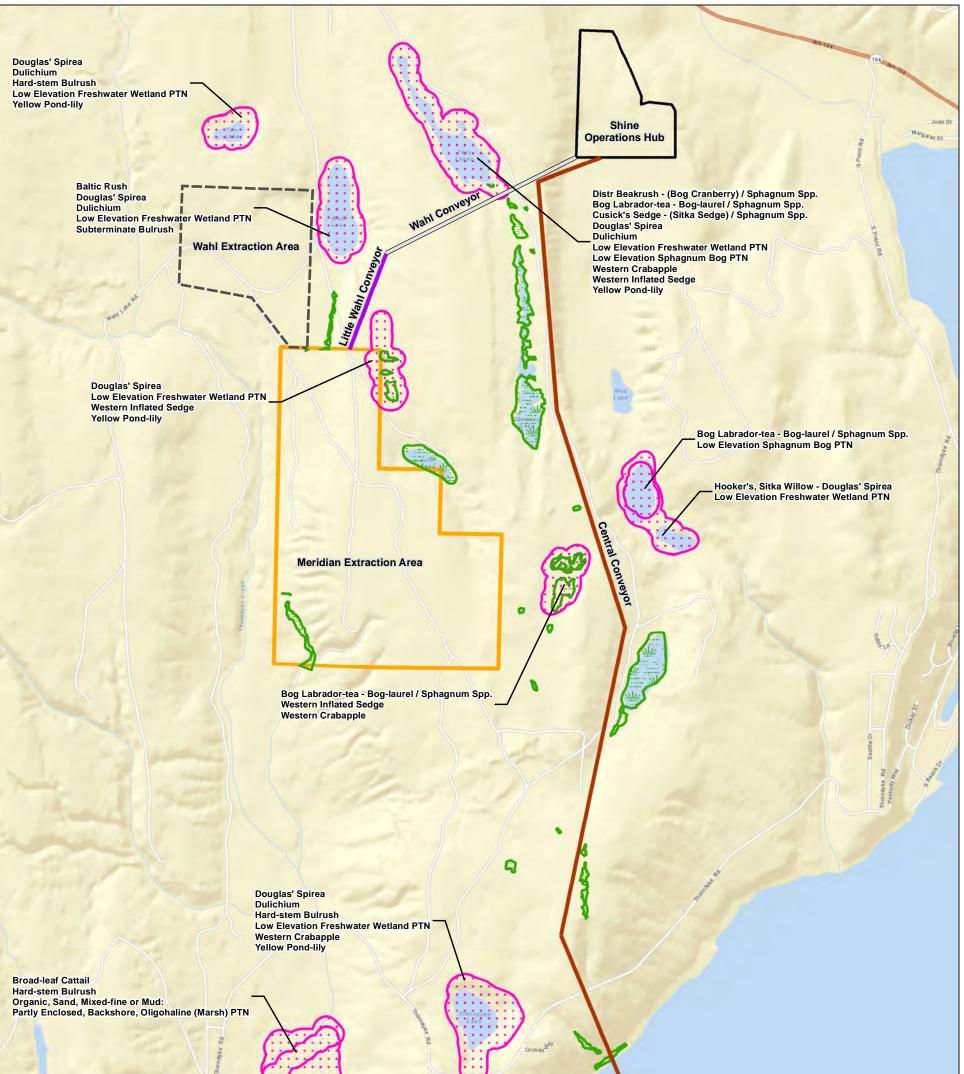
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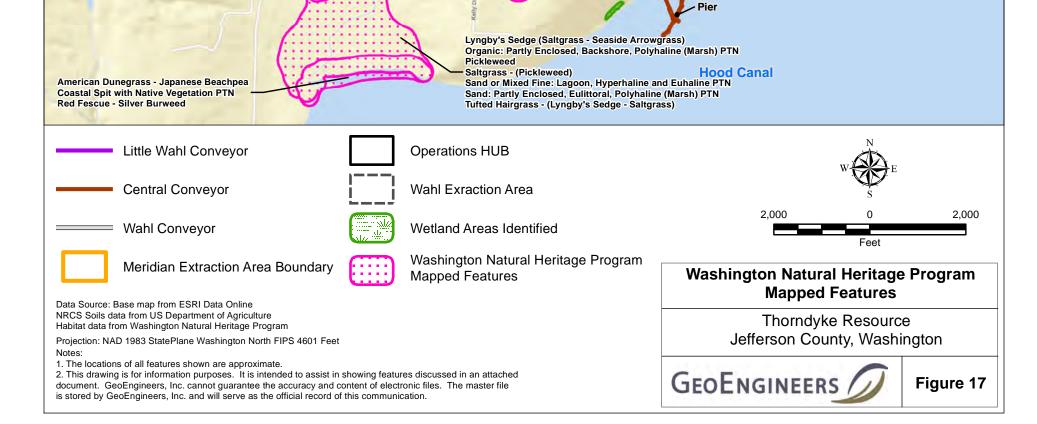


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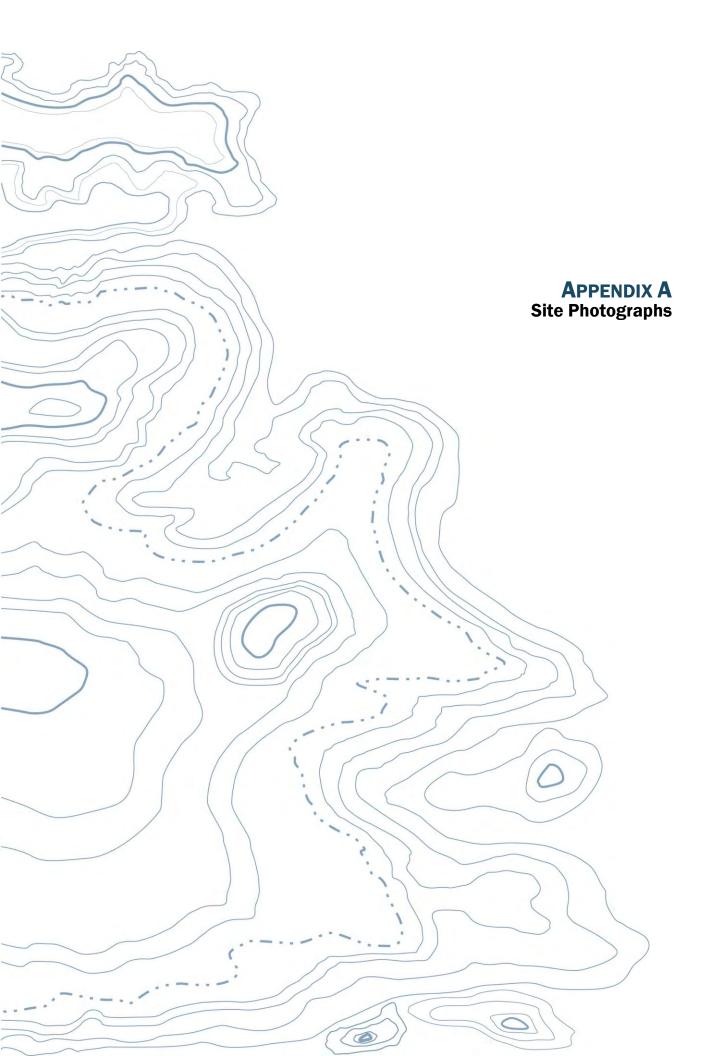


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Photograph 1 Buffer associated with Wetland O in the southwest corner of the Meridian Extraction Area.



Photograph 2 Looking north from Wetland P (within the Meridian Extraction Area) at the young Douglas fir forest starting to establish.





Photograph 3 Typical upland area that has been clear cut. Looking northeast towards Wetland W3.



Photograph 4 Culvert outlet from Wetland J. Culvert is located under a gravel access road.





Photograph 5 Wetland H (along the Central Conveyor) and surrounding upland area.



Photograph 6 Wetland I and surrounding upland area.





Photograph 7 Typical upland habitat adjacent to Wetlands K and M



Photograph 8 Forested habitat between Wetlands A and B.





Photograph 9 Wetland B, forested habitat adjacent to the Hood Canal Shoreline.



Photograph 10 Hood Canal Shoreline adjacent to Wetland B.





Project/Site:	Thorndyke Res	ources		City/County:	Jefferson			Sam	npling Date: 7	/25/2013
Applicant/Owner:	Fred Hill Mater	ials			State	: <u>WA</u>		Sam	pling Point: <u>SP</u>	-1
Investigator(s):	J. Dadisman, A.	Wright		Section/Townsh	ip/Range:	12/27N/R01W				
Landform (hillslope, terra	ace, etc.):	Depression		Local Relief (con	cave, convex, n	none): <u>C</u>	Concave		Slope (%): <u><3</u>	
Subregion (LLR):	A	<u> </u>	Lat:		Long	:	Datum:			
Soil Map Unit Name:	Swantown grav	elly sandy loam	n, 0-8 percent slope	es	N	WI Classification: <u>n</u>	ione			
Are climatic/hydrologic c	conditions on the	e site typical for	this time of year?		✓ Yes	🗌 No (i	if no, explain	in Remarks.)		
Are 🗌 Vegetation	Soil I	Hydrology	significantly distur	bed?	Are "normal o	circumstances" pres	sent?	\checkmark	Yes 🗌 No	
Are 🗌 Vegetation	Soil I	Hydrology	naturally problem	atic?	(if needed, ex	kplain any answers i	in Remarks.)			
SUMMARY OF FIND	INGS									
Hydrophytic Vegetation Hydric Soil Present? Weltand Hydrology Prese		✓ Yes ✓ Yes ✓ Yes ✓ Yes	No No No	Is the sampled a Wetland?	rea within a	✓ Yes 🗌 No				
Remarks: A seep is outle	etting into a road	side ditch wher	e wetland perame	ters have been id	lentified.					
VEGETATION - Use s	scientific nam	es of plants.								
Tree Stratum			Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test	Worksheet:			
1. 2.						Number of domin That are OBL, FAC			2	(A)
3. 4.						Total Number of [
			0	= Total Cover		Species Acros			2	(B)
<u>Sapling/Shurb Stratum</u> 1.						Percent of domina	•			
2. 3.		,				That are OBL, FAC	CW, or FAC:		100	(A/B)
4.						Prevalence Index	Worksheet:			
5.				Tatal Cause		Total % Cov	/er of:	Multiply by:		
Herb Stratum		-	0	= Total Cover		OBL Species FACW Species		x 1 = x 2 =	0	
1. Field horsetail (Equise	etum arvense)		20	Y	FAC	FAC Species		x 3 =	0	
2. Common rush (Juncus			15	Ν	FACW	FACU Species		x 4 =	0	
3.Velvetgrass (Holcus la	natus)		50	Y	FAC	UPL Species		x 5 =	0	4-1
<i>4.</i> <i>5.</i>						Column Totals:	0	(A)	0	(B)
5. 6.		·				Preva	alence Index :	= R/A = #	ŧDIV/0!	
7.									51170.	
8.						Hydrophytic Vege	tation Indica	tors:		
9.						🗹 1 - Rapid Test			ก	
10.						2 - Dominance				
11.						3 - Prevalence				
Woody Vine Stratum		-	85	= Total Cover		Remarks or on			supporting dat	a in
1.						🗌 5 - Wetland N	Ion-Vascular	Plants ¹		
2.						🗌 Problem Hydr	rophytic Vege	etation (Explair	า)	
% Bare Ground	in Herb Stratum	0	0	= Total Cover		¹ Indicators of hyd unless disturbed o			ogy must be pre	esent,
Remarks:						Hydrophytic Ve	getation Pre	sent?] Yes 🗌 No	0

🗸 Yes 🗌 No

Remarks:

SOIL								Sampling Point: <u>SP-1</u>
Depth	Matri	х	Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	2.5Y 4/2	100		,,,	.,pc	100	sandy gravel	
0 10		100					Sundy Braver	
			- · · · · · · · · · · · · · · · · · · ·					
			=					
1								
¹ Type: C=Concentratio	on, D=Depletion, RM-	Reduced Ma	trix, CS=Covered or (Coated Sand Gra	ins. ² Location:	PL=Pore Linii	ng, M=Matrix	
Hydric Soil Indicators:	: (Applicable to all LR	Rs, unless o	therwise noted.)				Indicators for Prol	blematic Hydric Soils ³ :
Histisol (A1)			Sandy Redox (S5)				2 cm Muck (A	10)
🗍 Histic Epipedon (A	(2)		Stripped Matrix (Se	5)			Red Parent Ma	aterial (TF2)
Black Histic (A3)			Loamy Mucky Mine	eral (F1) (except	MLRA 1)		Very Shallow [Dard Surface (TF12)
↓ ↓ Hydrogen Sulfide	(A4)		Loamy Gleyed Mat		•		, Other (Explain	
Depleted Below D			Depleted Matrix (F					,
Thick Dark Surface			Redox Dark Surface	•			³ Indicators of hydr	ophytic vegetation and wetland
Sandy Mucky Mine			Depleted Dark Surf				-	e present, unless disturbed or
								e present, unless disturbed of
Sandy Gleyed Mat			Redox Depressions		ydric Soil Present	- `	problematic.	
Restrictive Layer (if pr				П	yaric Soli Preseni	ſ		
Typ Danth (inche							\checkmark	Yes 🗌 No
Depth (inche	s):							
Remarks:								
HYDROLOGY								
Wetland Hydrology In	ndicators:							
Primary Indicators (mi	inimum of one requir	ed; check all	l that apply)				Secondary Indicato	ors (2 or more required)
, .								
Surface Water (A1	L)		Water-Stained	Leaves (B9) (exc	cept MLRA		Water-Stained	Leaves (B9) (MLRA
High Water Table	(A2)		1, 2, 4A, and 4		•		1, 2, 4A, and 4	
Saturation (A3)			Salt Crust (B11				Drainage Patte	
Water Marks (B1)			Aquatic Inverte					ater Table (C2)
Sediment Deposits			→ Hydrogen Sulfi					ble on Aerial Imagery (C9)
Drift Deposits (B3)				spheres along Li	ving Roots (C3)		Geomorphic P	0 / (/
Algal Mat or Crust				duction Iron (C4	•		Shallow Aquita	, ,
Iron Deposits (B5)			=	duction Tilled Sc	•			
			_				FAC-Neutral T	
Surface Soil Cracks				essed Plants (D1)			_	ounds (D6) (LRR A)
	on Aerial Imagery (B		U Other (Explain	in Remarks)			Frost-Heave H	ummocks (D7)
	d Concave Surface (B	8)						
Field Observations:				Wetla	nd Hydrology Pre	esent?		
Surface Water Present			Depth (inches):		-			
Water Table Present?		No No	Depth (inches):	14	_		\checkmark	Yes 🗌 No
Saturation Present?	√ Yes	∐ No	Depth (inches):	Surface	-			
(includes capillary frin								
Describe Recorded Da	ta (stream gauge, mo	onitoring we	ll, aerial photos, prev	vious inspections	s), if available:			
Remarks:								

Project/Site:	Thorndyke Res	sources		City/County:	Jefferson		-	:	Sampling Date:	7/25/2013
Applicant/Owner:	Fred Hill Mater	rials			State	: <u>WA</u>	_	5	Sampling Point:	SP-2
Investigator(s):	J. Dadisman, A.	. Wright		Section/Townsh	ip/Range:	12/27N/R01W				
Landform (hillslope, terra	ace, etc.):	slope		Local Relief (con	cave, convex, n	ione):	N/A		Slope (%):	<3
Subregion (LLR):	A		Lat:		Long	:	Datum:			
Soil Map Unit Name:	Swantown grav	velly sandy loar	n, 0-8 percent slope	es	N	WI Classification:	none			,
Are climatic/hydrologic c	conditions on the	e site typical for	r this time of year?		✓ Yes	No No	(if no, explain	in Remarks	s.)	
Are Vegetation	Soil	Hydrology	significantly distur	rbed?	Are "normal o	circumstances" pr	resent?		✓ Yes 🗌 No	0
Are 🗌 Vegetation	Soil 🗌	Hydrology	naturally problem	atic?	(if needed, ex	plain any answer	rs in Remarks.)			
SUMMARY OF FIND Hydrophytic Vegetation F										
Hydric Soil Present? Weltand Hydrology Prese		✓ Yes✓ Yes✓ Yes✓ Yes	No No No	Is the sampled a Wetland?	rea within a	✓ Yes 🗌 N	lo			
Remarks:										
VEGETATION - Use s	cientific nam	nes of plants								
Tree Stratum			Absolute % Cover	Dominant Species?	Indicator Status	Dominance Tes	t Worksheet:			
1. Red alder (Alnus rubr	a)		70	Y	FAC	Number of dom	inant Species			
2.						That are OBL, F	ACW, or FAC:		4	(A)
3.						Total Number of	f Daminant			
4.			70	= Total Cover		Total Number o	oss All Strata:		4	(B)
Sapling/Shurb Stratum			70			Species Aci	USS All Strata.	,		(0)
1. Salmonberry (Rubus s	pectabilis)		50	Y	FAC	Percent of dom	inant Species			
2.						That are OBL, F	ACW, or FAC:		100	(A/B)
3.										
4.						Prevalence Inde				
5.			50	= Total Cover		Total % C	over of:	Multiply b		
Herb Stratum			50			OBL Species FACW Species		x 1 = x 2 =	0	
1. Field horsetail (Equise	tum arvense)		15	Y	FAC	FAC Species		x 3 =	0	
2. Skunkcabbage (Lysich		s)	20	Ŷ	OBL	FACU Species		x 4 =	0	
3. Lady fern (Athyrium fi		•	10	N	FAC	UPL Species		x 5 =	0	
4. Brackenfern (Pteridiur	m aquilinum)		10	N	FACU	Column Totals:	0	(A)	0	(B)
5.						_		- •		
6.					-	Pre	valence Index	= B/A =	#DIV/0!	
7. 8.					-	Hydrophytic Ve	actation Indica	torc		
o. 9.						I - Rapid Te			ation	
10.			·			2 - Dominar			nion	
11.							ice Index is ≤3.0	-		
			55	= Total Cover					vide supporting of	data in
Woody Vine Stratum				-			on a separate s			
1.							l Non-Vascular			
2.			·		-		drophytic Vege		olain)	
% Bare Ground	in Herb Stratum	ı 5	0	= Total Cover			ydric soil and w	etland hyd	Irology must be	present,
							-			
Remarks:						Hydrophytic	Vegetation Pre	sent?	✓ Yes	No

SOIL								Sampling Point: SP-2
Depth	Matri	x	Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	10YR 2/1	100	· · ·				Loam	
¹ Type: C=Concentration,	D=Depletion, RM-I	Reduced Matri	x, CS=Covered or	Coated Sand Gra	ins. ² Location:	PL=Pore Linin	g, M=Matrix	
Hydric Soil Indicators: (A	pplicable to all LR	Rs, unless oth	erwise noted.)				Indicators for	r Problematic Hydric Soils ³ :
Histisol (A1) Histic Epipedon (A2)			Sandy Redox (S5) Stripped Matrix (S	(C)			2 cm Mu	nt Material (TF2)
Black Histic (A3)			•••	neral (F1) (except				low Dard Surface (TF12)
	١		.oamy Gleyed Ma		IVILKA IJ			plain in Remarks)
Depleted Below Dark			Depleted Matrix (³ Indicators of	hydrophytic vegetation and wetland
Thick Dark Surface (A	•		Redox Dark Surface	• •				
Sandy Mucky Minera			Depleted Dark Sur					ist be present, unless disturbed or
Sandy Gleyed Matrix			Redox Depression		udric Coil Drocon	•0	problematic.	
Restrictive Layer (if prese	entj:			н	ydric Soil Presen I	Lr.		
Type: Depth (inches):								🗸 Yes 🗌 No
Remarks:								
HYDROLOGY								
Wetland Hydrology Indic								
Primary Indicators (minin	num of one require	ed; check all th	hat apply)				Secondary Inc	dicators (2 or more required)
Curface Mater (A1)			Water Stainer	d Loover (DO) love				ained Leaves (DO) (MIDA
Surface Water (A1)		I		d Leaves (B9) (exc	ept MLRA		1, 2, 4A,	ained Leaves (B9) (MLRA
Saturation (A3)	-)		1, 2, 4A, and					-
Water Marks (B1)			Salt Crust (B1	1) tebrates (B13)				Patterns (B10) on Water Table (C2)
	2)		✓ Aquatic Invert ✓ Hydrogen Sulf					
Sediment Deposits (B Drift Deposits (B3)	2)			ospheres along Liv	ing Poots (C2)			l Visible on Aerial Imagery (C9) hic Position (D2)
Algal Mat or Crust (B	4)			eduction Iron (C4				Aquitard (D3)
Iron Deposits (B5)	+)			eduction Tilled So				ral Test (D5)
Surface Soil Cracks (B	6)			ressed Plants (D1)	· ·			nt Mounds (D6) (LRR A)
Inundation Visible on		7)	Other (Explain				=	ave Hummocks (D7)
Sparsely Vegetated C								
Field Observations:	Sheave Surrace (D			Wetla	nd Hydrology Pre	esent?		

Sediment Deposits (B2)	🗹 Hydrogen Sulfide Odor (C1)	Saturated Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Oxidized Rhizospheres along Living Roots (C3)	Geomorphic Position (D2)
Algal Mat or Crust (B4)	Presence of Reduction Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5)	Recent Iron Reduction Tilled Soils (C6)	FAC-Neutral Test (D5)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface (B8)		
Field Observations:	Wetland Hydrology Present?	
Surface Water Present? 🛛 Yes 🗸 No	Depth (inches):	
Water Table Present? 🛛 🗸 Yes 🗌 No	Depth (inches): 10	Ves No
Saturation Present? Ves 🗌 No	Depth (inches): Surface	
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring we	II, aerial photos, previous inspections), if available:	
Remarks:		

Project/Site:	Thorndyke Res	sources		City/County:	Jefferson		-	Samplin	g Date: 7/2	5/2013
Applicant/Owner:	Fred Hill Mater	rials			State	: WA	_	Sampling	g Point: <u>SP-3</u>	
Investigator(s):	J. Dadisman, A	. Wright		Section/Townsh	ip/Range:	6/27N/R01E				
Landform (hillslope, terra	ace, etc.):	depression		Local Relief (con	icave, convex, r	ione):	concave	Slo	ope (%): <u>N/A</u>	
Subregion (LLR):	Α		Lat:		Long	:	Datum:			
Soil Map Unit Name:	Dabob very gra	avelly sandy loa	m, 0-15 percent slo	opes	N	WI Classification:	none			
Are climatic/hydrologic c	conditions on the	e site typical for	r this time of year?		✓ Yes	No No	(if no, explain	in Remarks.)		
Are Vegetation	Soil	Hydrology	significantly distur	bed?	Are "normal o	circumstances" p	resent?	✓ Yes	s 🗌 No	
Are 🗌 Vegetation		Hydrology	naturally problem	atic?	(if needed, ex	xplain any answer	rs in Remarks.)			
SUMMARY OF FIND Hydrophytic Vegetation Hydric Soil Present? Weltand Hydrology Prese Remarks:	Present?	✓ Yes✓ Yes✓ Yes✓ Yes	No No No	Is the sampled a Wetland?	area within a	✓ Yes 🗌 N	lo			
VEGETATION - Use s	scientific nam	es of plants	• Absolute %	Dominant	Indicator					
Tree Stratum			Cover	Species?	Status	Dominance Tes	t Worksheet:			
1. Western red cedar (T	huja plicata)		10	Y	FAC	Number of dom	•			(•)
2. 3.					_	That are OBL, F.	ACW, OF FAC:	3		(A)
4.						Total Number o	of Dominant			
			10	= Total Cover		Species Act	ross All Strata:	3		(B)
Sapling/Shurb Stratum 1. Oregon crab apple (M	lalus fusca)		50	Y	FACW	Percent of dom	inant Species			
2.Rose spirea (Spiraea d			90	Y	FACW	That are OBL, F.	•	100)	(A/B)
3.										
4. 5					_	Prevalence Inde				
5.			140	= Total Cover		Total % C OBL Species	over of:	Multiply by: x 1 =	0	
Herb Stratum			110			FACW Species		x 2 =	0	
1.						FAC Species		x 3 =	0	
2.						FACU Species		x 4 =	0	
3. 4.						UPL Species Column Totals:	0	x 5 =	0	(B)
5 .			·				0			(5)
6.					_	Pre	evalence Index =	= B/A = #DIV/	/0!	
7.					_	l lu alua a lu dia Ma				
8. 9.						Hydrophytic Ve	st for Hydrophy			
10.			·				nce Test is >50%			
11.						3 - Prevaler	nce Index is ≤3.0) ¹		
Woody Vine Stratum			0	= Total Cover			logical Adaptati on a separate s	ons ¹ (provide supp heet.	porting data i	in
1. 2.							l Non-Vascular I drophytic Vege			
× Bare Ground	in Herb Stratum	0	0	= Total Cover			ydric soil and w	etland hydrology r	nust be prese	ent,
Remarks:							Vegetation Pres		es 🗌 No	

SOIL								Sampling Point: SP-3	
Depth	Matri	X	Redox Features						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-16	10YR 2/1	100				·	Loam		
			=				=]	
1 _ C_C					· 2	Di Dana Lini			
¹ Type: C=Concentration				Loated Sand Gra	ains. Location:	: PL=Pore Linir			
Hydric Soil Indicators: ((Applicable to all LR	.Rs, unless c	otherwise noted.)				Indicators for Pr	roblematic Hydric Soils ³ :	
 Histisol (A1) Histic Epipedon (A2 Black Histic (A3) ✓ Hydrogen Sulfide (A Depleted Below Date Thick Dark Surface (A) Sandy Mucky Miner Sandy Gleyed Matri Restrictive Layer (if pre Type Depth (inches) 		Sandy Redox (S5) Stripped Matrix (S6 Loamy Mucky Mine Loamy Gleyed Matri Depleted Matrix (F3 Redox Dark Surface Depleted Dark Surfa Redox Depressions	eral (F1) (except rix (F2) 3) e (F6) face (F7) 6 (F8)	t MLRA 1) Hydric Soil Presen	ıt?	 2 cm Muck (A10) Red Parent Material (TF2) Very Shallow Dard Surface (TF12) Other (Explain in Remarks) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Yes No 			
Remarks: Soils contained organic HYDROLOGY	materials								
Wetland Hydrology Ind									
Primary Indicators (min	imum of one requir	ed; check al	ll that apply)				Secondary Indica	ators (2 or more required)	
Surface Water (A1)				Leaves (B9) (exc	cept MLRA		Water-Stained Leaves (B9) (MLRA		

 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) 	 Water-Stained Leaves (B9) (except MLRA 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduction Iron (C4) Recent Iron Reduction Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) 	 Water-Stained Leaves (B9) (MLRA 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturated Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) 			
Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No	Wetland Hydrology Present? Depth (inches): Surface Depth (inches): Surface	✓ Yes 🗌 No			
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring we Remarks:	II, aerial photos, previous inspections), if available:				

Project/Site:	Thorndyke Resource	es		City/County:	Jefferson			Samp	oling Date:	7/25/2013
Applicant/Owner:	Fred Hill Materials				State	: <u>WA</u>		Samp	ling Point: S	P-4
Investigator(s):	J. Dadisman, A. Wrig	ght		Section/Townsh	nip/Range:	6/27N/R01E				
Landform (hillslope, terra	ace, etc.): <u>slop</u>	e		Local Relief (cor	icave, convex, n	none):	N/A		Slope (%): <u><</u>	3
Subregion (LLR):	<u>A</u>		Lat:		Long	:	Datum:			
Soil Map Unit Name:	Dabob very gravelly	sandy loa	ım, 0-15 percent slo	pes	N	WI Classification:	none			
Are climatic/hydrologic c	conditions on the site	typical fo	r this time of year?		✓ Yes	No No	(if no, explain	in Remarks.)		
Are Vegetation	Soil Hydro	ology	significantly distur	bed?	Are "normal o	circumstances" pr	esent?	\checkmark	Yes 🗌 No	
Are Vegetation	Soil Hydro	ology	naturally problem	atic?	(if needed, ex	xplain any answer	s in Remarks.)			
SUMMARY OF FIND										
Hydrophytic Vegetation Hydric Soil Present? Weltand Hydrology Prese		Yes Yes Yes	No No No	Is the sampled a Wetland?	area within a	✓ Yes 🗌 N	0			
Remarks:										
VEGETATION - Use s	scientific names o	f plants	• Absolute %	Dominant	Indicator					
Tree Stratum			Cover	Species?	Status	Dominance Tes	t Worksheet:			
1. Red alder (Alnus rubr	a)		5	Ŷ	FAC	Number of dom	inant Species			
2. Western red cedar (Th	huja plicata)		5	Y	FAC	That are OBL, FA	ACW, or FAC:		5	(A)
3.										
4.			10	- Total Cavar		Total Number o			-	(D)
Sapling/Shurb Stratum			10	= Total Cover		Species Acr	oss All Strata:		5	(B)
1. Salmonberry (Rubus s	nectahilis)		10	Y	FAC	Percent of domi	nant Species			
2. Rose spirea (Spiraea d			10	Ŷ	FACW	That are OBL, FA	•		100	(A/B)
3.						-	- ,			(/ /
4.						Prevalence Inde	x Worksheet:			
5.						Total % C	over of:	Multiply by:		
			20	= Total Cover		OBL Species		x 1 =	0	
Herb Stratum			_			FACW Species		x 2 =	0	
1. Field horsetail (Equise			5	N	FAC	FAC Species		x 3 =	0	
2. Slough sedge (Carex o 3.	obnupta)		40	Y	OBL	FACU Species UPL Species		x 4 = x 5 =	0	
<i>4.</i>						Column Totals:	0	(A)	0	(B)
5.					_					(2)
6.						Pre	valence Index =	= B/A =#C	DIV/0!	
7.										
8.					_	Hydrophytic Ve	-			
9.						✓ 1 - Rapid Te				
10.						2 - Dominar	ce Test is >50% ce Index is ≤3.0			
11.				T						
Woody Vine Stratum			45	= Total Cover		Remarks or o	on a separate s		upporting da	ata in
1. 2.							Non-Vascular drophytic Vege	Plants [*] etation (Explain))	
			0	= Total Cover						
% Bare Ground	in Herb Stratum	0				¹ Indicators of hy unless disturbed			y must be p	resent,
Remarks:						Hydrophytic \	/egetation Pres	sent?	Yes 🗌 N	No

SOIL								Sampling Point: <u>SP-4</u>
Depth	Matri	(Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8	10YR 3/1	95	10YR 4/6	5	<u> </u>	PL	Loam	
			=					
							·	
			=					
¹ Type: C=Concentration	n, D=Depletion, RM-I	Reduced Ma	trix, CS=Covered or C	Coated Sand Grai	ns. ² Location:	PL=Pore Linir	ng, M=Matrix	
Hydric Soil Indicators:	(Applicable to all LR	Rs, unless o	therwise noted.)				Indicators for P	roblematic Hydric Soils ³ :
Histisol (A1)			Sandy Redox (S5)				2 cm Muck	(A10)
Histic Epipedon (A2	2)		Stripped Matrix (S6	3)				Material (TF2)
Black Histic (A3)	<u> </u>		Loamy Mucky Mine	•				v Dard Surface (TF12)
	A 4)		Loamy Gleyed Mat		IVILKA IJ			
Hydrogen Sulfide (님						ain in Remarks)
Depleted Below Da		니	Depleted Matrix (F	•			4. u	
L Thick Dark Surface			Redox Dark Surface					drophytic vegetation and wetland
Sandy Mucky Mine			Depleted Dark Surf	. ,			hydrology must	be present, unless disturbed or
Sandy Gleyed Mat	rix (S4)		Redox Depressions	(F8)			problematic.	
Restrictive Layer (if pr	esent):			Hy	dric Soil Presen	t?		
	e: Rock						1	✓ Yes 🗌 No
Depth (inches	s): <u> </u>						l	
HYDROLOGY								
Wetland Hydrology In		<u> </u>						
Primary Indicators (min	nimum of one require	ed; check all	that apply)				Secondary Indic	ators (2 or more required)
Surface Water (A1)		Water-Stained	Leaves (B9) (exc	ent MIRA		Water-Stain	ed Leaves (B9) (MLRA
High Water Table (1, 2, 4A, and 4				1, 2, 4A, an	
Saturation (A3)	,,		Salt Crust (B11)					tterns (B10)
Water Marks (B1)			Aquatic Inverte					Water Table (C2)
Sediment Deposits	(B 2)		Hydrogen Sulfi					isible on Aerial Imagery (C9)
Drift Deposits (B3)	(02)				ing Poots (C2)			c Position (D2)
Algal Mat or Crust	(DA)			spheres along Liv duction Iron (C4)			Shallow Aqu	
	(D4)		=				_	
Iron Deposits (B5)	(DC)			duction Tilled Soi				
Surface Soil Cracks		-,	_	essed Plants (D1)	(LKK A)			Vlounds (D6) (LRR A)
	on Aerial Imagery (B		Other (Explain	in Remarks)			Frost-Heave	Hummocks (D7)
	d Concave Surface (B	3)		· · · · ·				
Field Observations:				Wetlar	nd Hydrology Pro	esent?		
Surface Water Present		I No	Depth (inches):				,	
Water Table Present?	Yes	✓ No	Depth (inches):				l	✓ Yes 🗌 No
Saturation Present?	Yes	✓ No	Depth (inches):					
(includes capillary fring								
Describe Recorded Dat	a (stream gauge, mo	nitoring wel	ll, aerial photos, prev	ious inspections)	, if available:			
Remarks:								
Wetland drains to a cu	lvert that directs wat	er under th	e roadway.					
1								

Project/Site:	Thorndyke Res	ources		City/County:	Jefferson		-		Sampling Date:	7/25/2013
Applicant/Owner:	Fred Hill Mater	rials			State	: <u>WA</u>	_	9	Sampling Point: <u>S</u>	P-5
Investigator(s):	J. Dadisman, A.	. Wright		Section/Townsh	ip/Range:	6/27N/R01E				
Landform (hillslope, terra	ace, etc.):	slope		Local Relief (con	icave, convex, n	ione):	N/A		Slope (%): <u><</u>	3
Subregion (LLR):	A		Lat:		Long	:	Datum:			
Soil Map Unit Name:	Dabob very gra	avelly sandy loa	am, 0-15 percent slo	pes	N	WI Classification:	none			
Are climatic/hydrologic c	conditions on the	e site typical fo	r this time of year?		✓ Yes	✓ No	(if no, explain	in Remark	s.)	
Are Vegetation	Soil	Hydrology	significantly distur	bed?	Are "normal o	circumstances" p	resent?		✓ Yes 🗌 No	
Are 🗌 Vegetation		Hydrology	naturally problem	atic?	(if needed, ex	xplain any answer	rs in Remarks.)			
SUMMARY OF FIND Hydrophytic Vegetation Hydric Soil Present? Weltand Hydrology Prese Remarks:	Present?	✓ Yes✓ Yes✓ Yes✓ Yes	No No No	Is the sampled a Wetland?	irea within a	✓ Yes 🗌 N	10			
VEGETATION - Use	scientific nam	es of plants	5.							
Tree Stratum_			Absolute % Cover	Dominant Species?	Indicator Status	Dominance Tes	t Worksheet:			
1. 2.					=	Number of dom That are OBL, F.	•		2	(A)
2. 3.					-	That are OBL, F.	ACVV, OF FAC:		2	(A)
4.						Total Number o	of Dominant			
			0	= Total Cover		Species Act	ross All Strata:		3	(B)
Sapling/Shurb Stratum 1. Salmonberry (Rubus s 2.	pectabilis)		10	Y	FAC	Percent of dom That are OBL, F.	•		66.66666667	(A/B)
<i>3</i> .							ACW, OFTAC.		00.0000007	(A) D)
4.						Prevalence Inde				
5.				Tatal Causa		Total % C	Cover of:	Multiply I		
Herb Stratum			10	= Total Cover		OBL Species FACW Species		x 1 = x 2 =	0	
1. Slough sedge (Carex o	obnupta		40	Y	OBL	FAC Species		x 3 =	0	
2. Common tansey (Tan			40	Y	NI	FACU Species		x 4 =	0	
3.						UPL Species		x 5 =	0	(-)
<i>4.</i> <i>5.</i>					-	Column Totals:	0	(A)	0	(B)
5. 6.						Pre	evalence Index	= B/A =	#DIV/0!	
7.					_			·	· ·	
8.						Hydrophytic Ve	-			
<i>9</i> .							est for Hydroph nce Test is >50%		ation	
10. 11.							nce Test is >505 nce Index is ≤3.0			
11.			80	= Total Cover	_				vide supporting da	ata in
Woody Vine Stratum						Remarks or	on a separate s	heet.		
<u>1.</u> 2.							l Non-Vascular /drophytic Vege		olain)	
£.			0	= Total Cover					Irology must be p	resent,
% Bare Ground	in Herb Stratum	0	<u>.</u>			unless disturbe	d or problemat	ic.		
Remarks:						Hydrophytic	Vegetation Pre	sent?	✓ Yes □ 1	١o

SOIL								Sampling Point: SP-5
Depth	Matrix	(Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	2.5Y 2.5/1	95	2.5Y 3/3	5	C	M	Loamy sand	
6-16	2.5Y 5/3	90	2.5y 5/6	10	C	м	Sand	
¹ Type: C=Concentration	D-Doplation RM	Poducod Ma	triv CS-Covered or (Controd Sand Cr	ains ² location:	DI-Doro Lini	ng, M=Matrix	
						FL-FUIE LIII		
Hydric Soil Indicators:	(Applicable to all LR	Rs, unless of	therwise noted.)				Indicators for F	Problematic Hydric Soils ³ :
Histisol (A1)			Sandy Redox (S5)				2 cm Muck	
Histic Epipedon (A2	<u>'</u>)		Stripped Matrix (Se	•				Material (TF2)
Black Histic (A3)			Loamy Mucky Mine		t MLRA 1)		<i>,</i>	w Dard Surface (TF12)
Hydrogen Sulfide (A			Loamy Gleyed Mat	rix (F2)			Other (Expl	lain in Remarks)
Depleted Below Da	rk Surface (A11)		Depleted Matrix (F	3)				
Thick Dark Surface	(A12)	\checkmark	Redox Dark Surface	e (F6)				ydrophytic vegetation and wetland
Sandy Mucky Mine	ral (S1)		Depleted Dark Surf	ace (F7)			hydrology must	t be present, unless disturbed or
Sandy Gleyed Matr	ix (S4)		Redox Depressions	(F8)			problematic.	
Restrictive Layer (if pre	esent):			ŀ	Iydric Soil Presen	t?		
Туре	2:							✓ Yes □ No
Depth (inches)):							
Remarks:								
HYDROLOGY								
	licators							
Wetland Hydrology Inc Primary Indicators (min		d. chock all	that apply)				Secondary Indi	cators (2 or more required)
r milary mulcators (mil	infution of othe require	cu, check all	tilat apply)				Secondary man	
Surface Water (A1)			Water-Stained		cont MIRA		□ Water-Stai	ned Leaves (B9) (MLRA
High Water Table (1, 2, 4A, and 4				1, 2, 4A, a	
Saturation (A3)	HZ)		Salt Crust (B11					atterns (B10)
								n Water Table (C2)
✓ Water Marks (B1)	(02)		Aquatic Inverte					
Sediment Deposits	(BZ)		Hydrogen Sulfi		iving Deete (C2)			Visible on Aerial Imagery (C9)
Drift Deposits (B3)	(D 4)			-	iving Roots (C3)			ic Position (D2)
Algal Mat or Crust ((B4)		Presence of Re				Shallow Aq	
Iron Deposits (B5)	(DC)		Recent Iron Re				FAC-Neutra	
Surface Soil Cracks		- \	Stunted or Stre		.) (LRR A)			Mounds (D6) (LRR A)
	on Aerial Imagery (B	•	Other (Explain	in Remarks)			Frost-Heav	e Hummocks (D7)
	Concave Surface (B8	3)						
Field Observations:		—		Wetla	and Hydrology Pro	esent?		
Surface Water Present?		I No	Depth (inches):		-1			
Water Table Present?	Yes	✓ No	Depth (inches):		-1			Ves No
Saturation Present?	Yes	✓ No	Depth (inches):		-1			
(includes capillary fring								
Describe Recorded Data	a (stream gauge, mo	nitoring wel	I, aerial photos, prev	ious inspection	s), it available:			
Remarks:								

Project/Site:	Thorndyke Resources		City/County:	Jefferson			Samplir	ng Date: 7,	/25/2013
Applicant/Owner:	Owner: Fred Hill Materials			State	: <u>WA</u>		Samplin	g Point: <u>SP</u> -	-6
Investigator(s):	J. Dadisman, A. Wright		Section/Townsh	ip/Range:	6/27N/R01E				
Landform (hillslope, terra	ace, etc.): <u>slope</u>		Local Relief (con	icave, convex, n	none):	N/A	Slo	ope (%): <u><3</u>	
Subregion (LLR):	<u>A</u>	Lat:		Long	:	Datum:			
Soil Map Unit Name:	Sinclair gravelly sandy loam,	0-15 percent slopes		N	WI Classification:	PEMUBFH			
Are climatic/hydrologic c	conditions on the site typical fo	or this time of year?		✓ Yes	✓ No	(if no, explain i	n Remarks.)		
Are Vegetation	Soil Hydrology	significantly distur	bed?	Are "normal o	circumstances" pr	esent?	✓ Ye	s 🗌 No	
Are 🗌 Vegetation	Soil Hydrology	naturally problema	atic?	(if needed, ex	kplain any answer	s in Remarks.)			
SUMMARY OF FIND Hydrophytic Vegetation I		No	r						
Hydric Soil Present? Weltand Hydrology Prese	🗹 Yes [Is the sampled a Wetland?	rea within a	✓ Yes 🗌 N	0			
Weitand, 2.2 - 30,									
Remarks:									
VEGETATION - Use s	scientific names of plants								
Tree Stratum		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Tes	t Worksheet:			
1. Western red cedar (T	huja plicata)	5	Y	FAC	Number of dom				
1. Western red cedar (Tr 2. 3. 4.					That are OBL, FA	ACW, or FAC:	4		(A)
3. 4		<u> </u>			Total Number o	f Dominant			
		5	= Total Cover	-		oss All Strata:	4		(B)
Sapling/Shurb Stratum									
1. Rose spirea (Spiraea a	louglasii)	10	Y	FACW	Percent of domi	•	10		
2. 3.		<u> </u>			That are OBL, FA	ACW, OF FAC:	10	0	(A/B)
<i>4</i> .				_	Prevalence Inde	x Worksheet:			
4. 5.					Total % C	over of:	Multiply by:		
		10	= Total Cover		OBL Species		x 1 =	0	
Herb Stratum	ffuence	15	У		FACW Species		x 2 =	0	
1. Comon rush (Juncus ej 2. Unidentified Aquatic ((jusus) Grass	<u> </u>	Y Y	FACW OBL	FAC Species FACU Species		x 3 = x 4 =	0	
3. Creeping buttercup (R	anunculus repens)	5	N	FACW	UPL Species		x 5 =	0	
4.					Column Totals:	0	(A)	0	(B)
5.					-		- (-	1-1	
6. 7		<u> </u>		_	Pre	valence Index =	B/A = #DIV	/0!	
8.		_ ·			Hydrophytic Ve	getation Indicat	ors:		
4. 5. 6. 7. 8. 9. 10. 11.					🗹 1 - Rapid Te				
10.					🗹 2 - Dominar				
11.						ce Index is ≤3.0			
Woody Vine Stratum		30	= Total Cover		Remarks or o	on a separate sł		porting data	a in
1. 2.						Non-Vascular F drophytic Vege			
		0	= Total Cover				etland hydrology	must he nre	sent
% Bare Ground	in Herb Stratum C	<u>)</u>			unless disturbed				.sent,
Remarks:					Hydrophytic \	/egetation Pres	ent?		
	ss is assumed to be an obligate	e speceis as it appear	red healthy and v	vas	iny all opiny all o	egetation res	enti 🗸 Y	es 🗌 No	,
growing in standing wate									

growing in standing water.

SOIL								Sampling Point: <u>SP-6</u>	
Depth	Matrix	(Redox Features						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-6	2.5Y 2.5/1	95	2.5Y 3/3	5	<u></u> C	м	Loamy sand		
6-16	2.5Y 5/3	90	2.5y 5/6	10	сс	м	Sand		
¹ Type: C=Concentration,	D=Depletion, RM-F	Reduced Mat	rix. CS=Covered or	Coated Sand Gr	ains. ² Location:	PI =Pore Lini	ng, M=Matrix		
Hydric Soil Indicators: (A								Problematic Hydric Soils ³ :	
		ts, uniess of	inerwise noted.)				indicators for i	roblematic ryune sons .	
Histisol (A1)			Sandy Redox (S5)				2 cm Muck	((\ 1 0)	
Histic Epipedon (A2)		님	Stripped Matrix (S	6)				t Material (TF2)	
Black Histic (A3)	1	님	Loamy Mucky Min	•	+ MIRA 1)			bw Dard Surface (TF12)	
Hydrogen Sulfide (A	4)	님	Loamy Gleyed Mat				Other (Explain in Remarks)		
		님						ian in Kemarksy	
Depleted Below Dar	. ,		Depleted Matrix (F				³ Indicators of h	ydrophytic vegetation and wetland	
Thick Dark Surface (Redox Dark Surface					t be present, unless disturbed or	
Sandy Mucky Miner		님	Depleted Dark Sur					t be present, unless disturbed of	
Sandy Gleyed Matrix Restrictive Layer (if pres			Redox Depressions		Hydric Soil Presen	+0	problematic.		
				ſ		L?			
Type Depth (inches)								Ves No	
Remarks:									
HYDROLOGY									
Wetland Hydrology Ind									
Primary Indicators (mini	mum of one require	ed; check all	that apply)				Secondary Indi	cators (2 or more required)	
				(50) (
Surface Water (A1)	•			Leaves (B9) (ex	cept MLRA			ined Leaves (B9) (MLRA	
High Water Table (A	(2)		1, 2, 4A, and 4				1, 2, 4A, a	-	
Saturation (A3)			Salt Crust (B11	-				Patterns (B10)	
Water Marks (B1)	52)		Aquatic Invert					n Water Table (C2)	
Sediment Deposits (BZ)		Hydrogen Sulfi		i dia a Da ata (C2)			Visible on Aerial Imagery (C9)	
Drift Deposits (B3)	D 4)				iving Roots (C3)			ic Position (D2)	
Algal Mat or Crust (I	84)		_	eduction Iron (C				uitard (D3)	
Iron Deposits (B5)				eduction Tilled S			FAC-Neutr		
Surface Soil Cracks (7)	_	essed Plants (D1	L) (LKK A)			Mounds (D6) (LRR A)	
Inundation Visible o			Other (Explain	in Remarks)				ve Hummocks (D7)	
Sparsely Vegetated Field Observations:	Concave Surface (Ba	5)		M/oti	and Undralage Dre	+-)			
Surface Water Present?			Donth (inchas)	weti	and Hydrology Pre	esent?			
Water Table Present?		I No I No	Depth (inches): Depth (inches):		-			✓ Yes No	
					-				
Saturation Present? (includes capillary fringe	Yes	✓ No	Depth (inches):		-1				
Describe Recorded Data		nitoring wall	aerial nhotos prov	vious inspection	s) if available.				
Describe Necordeu Dala	Sucan gauge, mo	intoring well	, aeriai priotos, prev	nous inspection	s, ii avaliable.				
Remarks:									
nemarks.									
L									

Project/Site:	Thorndyke Res	sources		City/County:	Jefferson		_	:	Sampling Date:	7/25/2013
Applicant/Owner:	:/Owner: Fred Hill Materials				State	: <u>WA</u>	_	S	Sampling Point: <u>S</u>	SP-7
Investigator(s):	J. Dadisman, A	A. Wright		Section/Townsh	iip/Range:	7/27N/R01E				
Landform (hillslope, terra	ace, etc.):	Depression		Local Relief (cor	ncave, convex, r	none):	concave		Slope (%):	
Subregion (LLR):	A		Lat:		Long	:	Datum:			
Soil Map Unit Name:	Sinclair gravel	ly sandy loam,	0-15 percent slopes		N	WI Classification	none			
Are climatic/hydrologic c	conditions on th	e site typical fo	or this time of year?		✓ Yes	✓ No	(if no, explain	in Remarks	s.)	
Are Vegetation	Soil	Hydrology	significantly distu	bed?	Are "normal o	circumstances" p	resent?		✓ Yes 🗌 No	
Are Vegetation	Soil	Hydrology	naturally problem	atic?	(if needed, ex	kplain any answei	rs in Remarks.)			
SUMMARY OF FIND Hydrophytic Vegetation										
Hydric Soil Present? Weltand Hydrology Prese		✓ Yes✓ Yes✓ Yes✓ Yes	No No No	Is the sampled a Wetland?	area within a	✓ Yes 🗌 N	No			
Pomorke										
Remarks:										
VEGETATION - Use s	scientific nam	nes of plants	S. Absolute %	Dominant	Indicator					
Tree Stratum			Cover	Species?	Status	Dominance Tes				
<u>1.</u> 2.					_	Number of don That are OBL, F			2	(A)
z. 3.							ACW, OF FAC.	,		(A)
4.					-	Total Number o	of Dominant			
			0	= Total Cover		Species Ac	ross All Strata:		2	(B)
Sapling/Shurb Stratum 1. Scouler's willow (Salix	scouleriana)		15	Y	FAC	Percent of dom	inant Species			
2.	scoulerialiaj		15			That are OBL, F			100	(A/B)
3.										
4.					_	Prevalence Inde				
5.			15	= Total Cover	_	Total % C	Cover of:	Multiply b		
Herb Stratum			15	= Total Cover		OBL Species FACW Species		x 1 = x 2 =	0	
1. Slough sedge (Carex o	bnupta)		40	Y	OBL	FAC Species		x 3 =	0	
2. Water parsley (Oenar		a)	10	N	OBL	FACU Species		x 4 =	0	
3. Lady fern (Athyrium fi	ilix-femina)		5	Ν	FAC	UPL Species		x 5 =	0	
4.					_	Column Totals:	0	(A)	0	(B)
5.						-		5 / 4		
6. 7.					_	Pre	evalence Index	= B/A =	#DIV/0!	
7. 8.						Hydrophytic Ve	getation Indica	tors:		
9.							est for Hydroph		ation	
10.							nce Test is >509			
11.							nce Index is ≤3.			
			55	= Total Cover	-	4 - Morpho	logical Adaptat	ions ¹ (prov	ide supporting d	ata in
Woody Vine Stratum				•			on a separate s			
1.						🗌 5 - Wetland	d Non-Vascular	Plants ¹		
2.						Problem Hy	/drophytic Vege	etation (Exp	olain)	
% Bare Ground	in Herb Stratum	n (0	= Total Cover		¹ Indicators of h unless disturbe		-	lrology must be p	oresent,
			-							
Remarks:						Hydrophytic	Vegetation Pre	sentr	✓ Yes	No

SOIL								Sampling Point: <u>SP-7</u>			
Depth	Matrix		Redox Features								
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks			
0-16	5YR 2.5/1	95	5YR 3/4	5	<u> </u>	PL	Loamy sand				
			- <u> </u>		·		·				
					·						
	·										
¹ Type: C=Concentration,	D-Doplation BM B	oducod Ma	triv CS-Covered or C	antad Sand Gra	inc ² location:	DI-Doro Linii	ng, M=Matrix				
				Oateu Saliu Gra	IIIS. LOCATION.	PL-POIe Liilii					
Hydric Soil Indicators: (A	Applicable to all LRR	s, unless of	therwise noted.)				Indicators for Pr	oblematic Hydric Soils ³ :			
		_									
Histisol (A1)			Sandy Redox (S5)				2 cm Muck (-			
Histic Epipedon (A2)		니	Stripped Matrix (S6					Material (TF2)			
Black Histic (A3)			Loamy Mucky Mine		MLRA 1)			/ Dard Surface (TF12)			
Hydrogen Sulfide (A	4)		Loamy Gleyed Matr	ix (F2)			Other (Explain in Remarks)				
Depleted Below Dar	k Surface (A11)		Depleted Matrix (F3	3)							
L Thick Dark Surface (A12)	\checkmark	Redox Dark Surface	(F6)			³ Indicators of hy	drophytic vegetation and wetland			
Sandy Mucky Miner	al (S1)		Depleted Dark Surfa	ace (F7)			hydrology must	pe present, unless disturbed or			
Sandy Gleyed Matrix	k (S4)		Redox Depressions	(F8)			problematic.				
Restrictive Layer (if pres	sent):			Н	ydric Soil Presen	?					
Туре							Г	VYes No			
Depth (inches)	:						Ľ				
Remarks:											
HYDROLOGY											
Wetland Hydrology Ind	icators.										
Primary Indicators (mini		d: check all	that apply)				Secondary Indica	tors (2 or more required)			
	indir of one require	a, encer an					Decontrary marce				
Surface Water (A1)			Water-Stained I	eaves (B9) (exc	ept MLRA		Water-Stain	ed Leaves (B9) (MLRA			
High Water Table (A	2)		1, 2, 4A, and 4				1, 2, 4A, and				
Saturation (A3)	~)		Salt Crust (B11)				Drainage Patterns (B10)				
Water Marks (B1)			Aquatic Inverte				Dry-Season Water Table (C2)				
Sediment Deposits (B2)		Hydrogen Sulfic				Saturated Visible on Aerial Imagery (C9)				
Drift Deposits (B3)	02)		Oxidized Rhizos		ving Roots (C3)		Geomorphic Position (D2)				
Algal Mat or Crust (I	34)		Presence of Rec				Shallow Aquitard (D3)				
Iron Deposits (B5)	54)		Recent Iron Red				✓ FAC-Neutral Test (D5)				
Surface Soil Cracks (R6)		Stunted or Stree		. ,			10unds (D6) (LRR A)			
Inundation Visible o	•	۱	Other (Explain i					Hummocks (D7)			
Sparsely Vegetated	÷	•		ii Keillaiks)							
Field Observations:	Concave Surface (Bo)		Watla	nd Hudrology Dry	cont?					
			Donth (inchas);	vvetia	nd Hydrology Pre I	sent					
Surface Water Present? Water Table Present?		✓ No ✓ No	Depth (inches): Depth (inches):		·l		Г	VYes No			
Saturation Present?					·		Ľ				
	Yes	✓ No	Depth (inches):		·						
(includes capillary fringe Describe Recorded Data		itoring wel	l porial photos provi	ous inspections) if available:						
Describe Recorded Data	(stream gauge, mor	intoring wei	ii, aeriai priotos, previ	ous inspections	, il avaliable:						
Domortes											
Remarks:											

Project/Site:	Thorndyke Resources		City/County:	Jefferson			Sampling I	Date: 7/25/	/2013
Applicant/Owner:	Fred Hill Materials		State	: <u>WA</u>		Sampling P	oint: <u>SP-8</u>		
Investigator(s):	J. Dadisman, A. Wright		Section/Townsh	ip/Range:	17/27N/R01E				
Landform (hillslope, terra	ace, etc.): Depression	on	Local Relief (con	cave, convex, r	none):	concave	Slope	e (%):	
Subregion (LLR):	Α	Lat:		Long	:	Datum:			
Soil Map Unit Name:	Everett gravelly sandy loa	am, 0-15 percent slopes		N	WI Classification:	none			
Are climatic/hydrologic c	conditions on the site typica	al for this time of year?		✓ Yes	✓ No	(if no, explain	in Remarks.)		
Are Vegetation	Soil Hydrology	significantly distur	bed?	Are "normal	circumstances" pr	esent?	✓ Yes	No	
Are Vegetation	Soil Hydrology	naturally problem	atic?	(if needed, ex	kplain any answer	s in Remarks.)			
SUMMARY OF FIND Hydrophytic Vegetation		No							
Hydric Soil Present? Weltand Hydrology Prese	🗹 Yes	No No	Is the sampled a Wetland?	rea within a	✓ Yes 🗌 N	0			
Remarks:									
VEGETATION - Use s	scientific names of pla	Absolute %	Dominant	Indicator	1				
Tree Stratum		Cover	Species?	Status	Dominance Tes	t Worksheet:			
1. Red alder (Alnus rubr	a)	90	Ŷ	FAC	Number of dom	inant Species			
2. Douglas fir (Pseudots	uga menziesii)	10	Ν	FACU	That are OBL, FA	ACW, or FAC:	2		(A)
3.				= <u> </u>		(D · · ·			
4.		100	- Total Cover	-	Total Number o		4		(D)
Sapling/Shurb Stratum		100	= Total Cover		Species Acr	oss All Strata:	4		(B)
1. Salal (Gaultheria shal	lon)	25	Y	FACU	Percent of domi	nant Species			
2. California huckleberry	-	10	Y	NI	That are OBL, FA	•	50		(A/B)
3.									
4.					Prevalence Inde				
5.			Tatal Cause		Total % Co		Multiply by:		
Herb Stratum		35	= Total Cover		OBL Species FACW Species	80	x 1 = x 2 =	<u>80</u> 0	
1. Slough sedge (Carex of	() ()	80	Y	OBL	FAC Species	90	x 2 - x 3 =	270	
2. Brackenfern (Pteridiu		5	N.	FACU	FACU Species		x 4 =	160	
3.					UPL Species		x 5 =	50	
4.					Column Totals:	220	(A)	560 (B	3)
5.					_				
6.					Pre	valence Index =	= B/A =	2.55	
7. 8.					Hydrophytic Veg	totation Indica	tors		
<i>9</i> .						-	ytic Vegetation		
10.						nce Test is >50%			
11.					→ 3 - Prevalen				
Woody Vine Stratum		85	= Total Cover			ogical Adaptat on a separate s	ions ¹ (provide suppo heet.	rting data in	
1. 2.					🔲 5 - Wetland	Non-Vascular	Plants ¹		
2.		0	= Total Cover				etation (Explain)		
% Bare Ground	in Herb Stratum	0			¹ Indicators of hy unless disturbed		etland hydrology mu ic.	st be presen	ıt,
Remarks:					Hydrophytic \	legetation Pres	sent? 🗸 Yes	No No	

SOIL								Sampling Point: <u>SP-8</u>
Depth	Matri	x	Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	10YR 3/3	98	10YR 4/6	2	<u> </u>	M	Loamy sand	hemana
Type: C=Concentratio	on, D=Depletion, RM-I	Reduced Ma	atrix CS=Covered or	Coated Sand Gr	ains ² location	· PI = Pore Lini	ng, M=Matrix	
								oblematic Hydric Soils ³ :
Ayaric Soli Indicators	: (Applicable to all LR	ks, unless o	itherwise noted.)				indicators for Pr	oblematic Hydric Solis :
			Condu Doday (CE)					410)
Histisol (A1)	22		Sandy Redox (S5)	()			2 cm Muck (
Histic Epipedon (A	42)		Stripped Matrix (S					Material (TF2)
Black Histic (A3)	()		Loamy Mucky Min		t MLRA 1)			Dard Surface (TF12)
Hydrogen Sulfide			Loamy Gleyed Mat				✓ Other (Expla	in in Remarks)
📙 Depleted Below D	ark Surface (A11)		Depleted Matrix (F					
🔄 Thick Dark Surfac	e (A12)		Redox Dark Surfac	e (F6)			³ Indicators of hyd	drophytic vegetation and wetland
🗌 Sandy Mucky Min	eral (S1)] Depleted Dark Sur	face (F7)			hydrology must I	pe present, unless disturbed or
Sandy Gleyed Ma	trix (S4)		Redox Depressions	s (F8)			problematic.	
Restrictive Layer (if p	resent):				Hydric Soil Presen	nt?		
Ty	pe:						Г	VYes No
Depth (inche	es):						Ľ	Yes No
Remarks:								
Evidence of wetland h	wdrology is present a	nd there is a	dominanance of hy	dronhytic veget	ation in this area	Therefore h	vdric soils are assum	ed to be present
Evidence of Wetland I	iyarology is present a	iu there is t	a dominantarice of my	arophytic veget		mercroren		
HYDROLOGY								
Wetland Hydrology I	ndicators:							
	inimum of one require	ed: check al	l that apply)				Secondary Indica	tors (2 or more required)
		cu, encertur						
Surface Water (A:	1)		Water-Stained	l Leaves (B9) (e >	cept MLRA		Water-Staine	ed Leaves (B9) (MLRA
High Water Table			1, 2, 4A, and				1, 2, 4A, and	
Saturation (A3)	(~2)		Salt Crust (B11				Drainage Pat	
			Aquatic Invert					
Water Marks (B1)								Water Table (C2)
Sediment Deposit	. ,		Hydrogen Sulf					sible on Aerial Imagery (C9)
Drift Deposits (B3					iving Roots (C3)		Geomorphic	
Algal Mat or Crus			_	eduction Iron (C			Shallow Aqui	
Iron Deposits (B5)			Recent Iron Re	eduction Tilled S	oils (C6)		FAC-Neutral	Test (D5)
Surface Soil Crack	s (B6)		Stunted or Str	essed Plants (D2	l) (LRR A)		Raised Ant N	1ounds (D6) (LRR A)
Inundation Visible	e on Aerial Imagery (B	7)	🗌 Other (Explain	in Remarks)			Frost-Heave	Hummocks (D7)
Sparsely Vegetate	ed Concave Surface (B	8)						
Field Observations:				Wetl	and Hydrology Pr	esent?		
Surface Water Presen	t? 🗌 Yes	🗸 No	Depth (inches):		_			
Water Table Present?	Yes	🔽 No	Depth (inches):					🗸 Yes 🔲 No
Saturation Present?	Yes	√ No	Depth (inches):					
includes capillary frin	ge)				-1			
	ita (stream gauge, mo	nitoring we	II, aerial photos, prev	vious inspection	s), if available:			
		0 -		•				
Remarks:								
	delineation report, t	his area was	flooded during the	December delin	eation.			
0								

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

Project/Site:	Thorndyke Res	source	S			City/County:	Jefferson		_	S	ampling Date:	7/26/2013
Applicant/Owner:	Fred Hill Mate	rials					Sta	te: WA	_	Sa	ampling Point:	SP-9
Investigator(s):	J. Dadisman, A	. Wrig	ht			Section/Towns	hip/Range:	17/27N/R01E				
Landform (hillslope, terra	ace, etc.):	Depr	ression			Local Relief (co	ncave, convex	, none):	concave		Slope (%):	<2
Subregion (LLR):	<u>A</u>			_	Lat:		Lor	ng:	Datum:			
Soil Map Unit Name:	Semiahmoo m	uck, sł	1allow v	ariant			_	NWI Classification	: PEMABSSCH			
Are climatic/hydrologic c	conditions on the	e site t	ypical fo	or this time	of year?		✓ Ye	es 🗸 No	(if no, explain	in Remarks.	.)	
Are Vegetation	Soil	Hydrol	ogy	significan	tly distur	bed?	Are "norma	Il circumstances" p	present?	[✓ Yes 🗌 No)
Are Vegetation	Soil	Hydrol	ogy	naturally	problem	atic?	(if needed,	explain any answe	ers in Remarks.)			
SUMMARY OF FIND Hydrophytic Vegetation I			Vec [
Hydric Soil Present? Weltand Hydrology Prese		$\overline{\mathbf{A}}$	Yes Yes Yes	No No No		Is the sampled Wetland?	area within a	✓ Yes	No			
Remarks:												
VEGETATION - Use s	cientific nam	nes of	plant	s. Absolu	ite %	Dominant	Indicator					
Tree Stratum				Cov		Species?	Status	Dominance Te	st Worksheet:			
1. Red alder (Alnus rubr				5		Y	FAC	Number of dor				
2. Western red cedar (Th	nuja plicata)			5		Y	FAC	That are OBL, F	FACW, or FAC:		4	(A)
3. 4.								 Total Number	of Dominant			
				10)	= Total Cover			cross All Strata:		4	(B)
Sapling/Shurb Stratum						•						
1. Scouler's willow (Salix	scouleriana)			5		Y	FAC	Percent of dom				
2.								That are OBL, F	ACW, or FAC:		100	(A/B)
3. 4								Brovalanco Ind	av Warkshaat			
4. 5.								Prevalence Ind Total % (Multiply by		
5.				5		= Total Cover		OBL Species		x 1 =	<u>y.</u> 0	
Herb Stratum						-		FACW Species		x 2 =	0	
1. Slough sedge (Carex o				40)	Y	OBL	FAC Species		x 3 =	0	
2. Common rush (Juncus				10		N	FACW	FACU Species		x 4 =	0	
3. Floating pondweed (P	otamogeton na	itans)		1)	N	OBL	UPL Species		x 5 =	0	(D)
<i>4.</i> <i>5.</i>								Column Totals:	:0	(A)	0	(B)
<i>6</i> .								Pr	evalence Index =	= B/A =	#DIV/0!	
7.										·		
8.									egetation Indicat			
9.									est for Hydroph		ion	
10.							_		ince Test is >50%			
11.									nce Index is ≤3.0			
Woody Vine Stratum				60)	= Total Cover		 Remarks or	ological Adaptat	heet.	de supporting d	lata in
<u>1.</u> 2.							_		d Non-Vascular ydrophytic Vege		lain)	
				0		= Total Cover			ydric soil and w			procont
% Bare Ground	in Herb Stratum	۱	(0					ed or problemati	-	ology must be	presellt,
Remarks:								Hydrophytic	Vegetation Pres	sent?	✓ Yes 🗌	No

SOIL								Sampling Point: <u>SP-9</u>
Depth	Matri	х	Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	10YR 2/1	100		,,,	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	100	Loamy sand	itemano
0 10		100						
							,	
1					2			
¹ Type: C=Concentration,	, D=Depletion, RM-	Reduced Ma	trix, CS=Covered or (Coated Sand Gra	ins. ² Location:	PL=Pore Linii	ng, M=Matrix	-
Hydric Soil Indicators: (/	Applicable to all LR	Rs, unless o	therwise noted.)				Indicators for Prol	blematic Hydric Soils ³ :
Histisol (A1)			Sandy Redox (S5)				2 cm Muck (A	10)
Histic Epipedon (A2))		Stripped Matrix (Se	5)			Red Parent Ma	aterial (TF2)
Black Histic (A3)			Loamy Mucky Mine	eral (F1) (except	MLRA 1)		Very Shallow [Dard Surface (TF12)
Hydrogen Sulfide (A	.4)		Loamy Gleyed Mat		-		Other (Explain	
Depleted Below Dar			Depleted Matrix (F					
Thick Dark Surface (Redox Dark Surface	•			³ Indicators of hydr	ophytic vegetation and wetland
Sandy Mucky Miner	•		Depleted Dark Surf				-	e present, unless disturbed or
Sandy Gleyed Matrix		H	Redox Depressions				problematic.	present, unless distarbed of
Restrictive Layer (if pres			Redux Depressions		ydric Soil Present	·	problematic.	
Type:						.:		
Depth (inches):							\checkmark	Yes 🗌 No
Remarks:								
HYDROLOGY								
Wetland Hydrology Ind		<u> </u>						
Primary Indicators (mini	mum of one requir	ed; check all	that apply)				Secondary Indicato	ors (2 or more required)
			_				_	
Surface Water (A1)				Leaves (B9) (exc	ept MLRA			l Leaves (B9) (MLRA
✓ High Water Table (A	(2)		1, 2, 4A, and 4				1, 2, 4A, and	
✓ Saturation (A3)			Salt Crust (B11)			Drainage Patte	erns (B10)
Water Marks (B1)			Aquatic Inverte	ebrates (B13)			Dry-Season W	ater Table (C2)
Sediment Deposits (B2)		🗸 Hydrogen Sulfi	de Odor (C1)			Saturated Visi	ble on Aerial Imagery (C9)
Drift Deposits (B3)			Oxidized Rhizo	spheres along Liv	/ing Roots (C3)		🗹 Geomorphic P	osition (D2)
Algal Mat or Crust (I	B4)		Presence of Re	duction Iron (C4)		Shallow Aquita	ard (D3)
Iron Deposits (B5)			Recent Iron Re	duction Tilled So	ils (C6)		FAC-Neutral T	est (D5)
Surface Soil Cracks (B6)		Stunted or Stre	essed Plants (D1)	(LRR A)		Raised Ant Mc	ounds (D6) (LRR A)
Inundation Visible o	n Aerial Imagery (B	7)	Other (Explain	in Remarks)			Frost-Heave H	ummocks (D7)
Sparsely Vegetated	Concave Surface (B	8)						
Field Observations:	•	-		Wetla	nd Hydrology Pre	esent?		
Surface Water Present?	Yes	✓ No	Depth (inches):					
Water Table Present?	✓ Yes	No	Depth (inches):	2			\checkmark	Yes 🗌 No
Saturation Present?	✓ Yes	No	· · · -	Surface				
(includes capillary fringe			••••					
Describe Recorded Data		nitoring wel	ll, aerial photos, prev	vious inspections	, if available:			
		0.00		· · · · · ·				
Remarks:								

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

Project/Site:	Thorndyke Resources		City/County:	Jefferson			Sampling Date:	7/26/2013
Applicant/Owner:	Fred Hill Materials			State	: WA		Sampling Point:	SP-10
Investigator(s):	J. Dadisman, A. Wright		Section/Townsh	nip/Range:	17/27N/R01E			
Landform (hillslope, terra	ace, etc.): Depression	ı	Local Relief (cor	ncave, convex, r	none): <u>c</u>	concave	Slope (%):	
Subregion (LLR):	<u>A</u>	Lat:		Long		Datum:		
Soil Map Unit Name:	Everett gravelly sandy loan	n, 0-15 percent slopes		N	WI Classification: <u>n</u>	ione		
Are climatic/hydrologic c	conditions on the site typical	for this time of year?		✓ Yes	✓ No (i	if no, explain i	n Remarks.)	
Are Vegetation	Soil Hydrology	significantly distur	bed?	Are "normal o	circumstances" pres	sent?	✓ Yes 🗌 N	0
Are Vegetation	Soil Hydrology	naturally problem	atic?	(if needed, ex	xplain any answers i	in Remarks.)		
SUMMARY OF FIND			Γ					
Hydrophytic Vegetation F Hydric Soil Present? Weltand Hydrology Prese	Ves	No No No No	Is the sampled a Wetland?	area within a	✓ Yes 🗌 No			
Remarks:								
VEGETATION - Use s	scientific names of plan	hts. Absolute %	Dominant	Indicator				
<u>Tree Stratum</u>		Cover	Species?	Status	Dominance Test V	Worksheet:		
1. Red alder (Alnus rubr	a)	10	Y	FAC	Number of domin		2	(•)
2. 3.					That are OBL, FAC	LW, OF FAC:	2	(A)
4.					Total Number of I	Dominant		
Capling /Church Stratum		10	= Total Cover		Species Acros	ss All Strata:	2	(B)
Sapling/Shurb Stratum 1.					Percent of domina	ant Species		
2.					That are OBL, FAC		100	(A/B)
3.				_	Drovalanca Indov	Workshoot		
4. 5.					Prevalence Index Total % Cov		Multiply by:	
		0	= Total Cover		OBL Species		x 1 =0	
<u>Herb Stratum</u> 1. Slough sedge (Carex o	hnuntal	80	Y	OBL	FACW Species FAC Species		$\begin{array}{c} x \ 2 = \\ x \ 3 = \end{array} \begin{array}{c} 0 \\ 0 \end{array}$	
2.	σπαρταγ	0	T	UBL	FACU Species		x = 0 x = 0	
3.					UPL Species		x 5 = 0	
<i>4.</i> 5.				_	Column Totals:	0	(A) 0	(B)
<i>6</i> .				_	Preva	alence Index =	B/A = #DIV/0!	
7.								
8. 9.					Hydrophytic Vege			
9. 10.		<u> </u>			 ✓ 1 - Rapid Test ✓ 2 - Dominance 			
11.					3 - Prevalence			
Woody Vine Stratum		80	= Total Cover		4 - Morpholog Remarks or on		ons ¹ (provide supporting oneet.	data in
1. 2.					5 - Wetland N		Plants ¹ tation (Explain)	
	in Herb Stratum	<u> </u>	= Total Cover		1.	Iric soil and we	etland hydrology must be	present,
Remarks:		<u> </u>			Hydrophytic Ve			No

SOIL								Sampling Point: <u>SP-10</u>
Depth	Matrix	(Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	7.5YR 3/2	95	7.5YR 4/4	5	<u> </u>	M	Loam	
				-				
					-			
							=	
					·			
¹ Turner C. Componenting	D Devletion DM			Cantad Cand Cra	² l continue		-	
¹ Type: C=Concentration	· · · ·		•	Loated Sand Gra	Ins. Location:	PL=Pore Linii	ng, M=Matrix	
Hydric Soil Indicators:	(Applicable to all LR	Rs, unless o	otherwise noted.)				Indicators for P	roblematic Hydric Soils ³ :
		_						
Histisol (A1)			Sandy Redox (S5)				2 cm Muck	
Histic Epipedon (A2	2)		Stripped Matrix (Se	•				Material (TF2)
Black Histic (A3)] Loamy Mucky Mine		MLRA 1)			w Dard Surface (TF12)
Hydrogen Sulfide (A	44)] Loamy Gleyed Mat	rix (F2)			Other (Expl	ain in Remarks)
Depleted Below Da	rk Surface (A11)		Depleted Matrix (F	3)				
Thick Dark Surface	(A12)	\checkmark	Redox Dark Surface	e (F6)			³ Indicators of h	ydrophytic vegetation and wetland
Sandy Mucky Mine	ral (S1)		Depleted Dark Surf	face (F7)			hydrology must	be present, unless disturbed or
Sandy Gleyed Matr	ix (S4)		Redox Depressions	(F8)			problematic.	
Restrictive Layer (if pre	esent):			Н	ydric Soil Presen	t?		
Туре	e:							Ves No
Depth (inches)):							
Remarks:								
HYDROLOGY	. .							
Wetland Hydrology Inc Primary Indicators (min		d. check al	l that apply)				Secondary India	ators (2 or more required)
	infuntion one require	u, check a					Secondary marc	
Surface Water (A1)			Water-Stained	Leaves (B9) (exc	ent MIRA		🗌 Water-Stair	ned Leaves (B9) (MLRA
High Water Table (1, 2, 4A, and 4				1, 2, 4A, ar	
Saturation (A3)	(12)		Salt Crust (B11)					atterns (B10)
Water Marks (B1)			Aquatic Inverte					Water Table (C2)
Sediment Deposits	(B2)		Hydrogen Sulfi					/isible on Aerial Imagery (C9)
Drift Deposits (B3)	(02)			spheres along Li	ving Roots (C3)		Geomorphi	
Algal Mat or Crust	(B4)			duction Iron (C4			Shallow Aq	
Iron Deposits (B5)			=	duction Tilled Sc			✓ FAC-Neutra	
Surface Soil Cracks	(B6)		_	essed Plants (D1)				Mounds (D6) (LRR A)
	on Aerial Imagery (B	7)	Other (Explain				_	e Hummocks (D7)
	l Concave Surface (B			in Kennarks)				
Field Observations:		5)		Wotla	nd Hydrology Pr	ocont?		
Surface Water Present?	? Yes	✓ No	Depth (inches):	vvelld				
Water Table Present?		✓ No	Depth (inches):		-			Ves No
Saturation Present?	Ves	V NO	Depth (inches):		-			
(includes capillary fring					•			
Describe Recorded Data		nitoring we	Il aerial nhotos prev	vious inspections) if available.			
Describe necoraea Data	a (Stream gauge, IIIO	intoring we	ii, acriai priotos, prev	isus inspections				
Remarks:								

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

Project/Site:	Thorndyke Resources		City/County:	Jefferson			Sam	pling Date: 7	7/26/2013
Applicant/Owner:	Fred Hill Materials			State	: WA		Samı	oling Point: <u>SF</u>	P-11
Investigator(s):	J. Dadisman, A. Wright		Section/Townsh	ip/Range:	17/27N/R01W				
Landform (hillslope, terra	ace, etc.): Depress	sion	Local Relief (con	cave, convex, r	none):	concave		Slope (%):	
Subregion (LLR):	<u>A</u>	Lat:		Long	::	Datum:			
Soil Map Unit Name:	Coastal Beaches			N	WI Classification:	E2AB/USN			
Are climatic/hydrologic c	conditions on the site typi	cal for this time of year?		✓ Yes	✓ No	(if no, explain	in Remarks.)		
Are Vegetation	Soil Hydrology	y significantly distur	bed?	Are "normal	circumstances" pr	esent?	\checkmark	Yes 🗌 No	
Are 🗌 Vegetation	Soil Hydrology	y naturally problem	atic?	(if needed, ex	xplain any answer	s in Remarks.)			
SUMMARY OF FIND									
Hydrophytic Vegetation Hydric Soil Present? Weltand Hydrology Prese	Ve Ye	es 🔲 No	Is the sampled a Wetland?	rea within a	✓ Yes 🗌 N	lo			
Remarks:									
VEGETATION - Use s	scientific names of p	Absolute %	Dominant	Indicator					
Tree Stratum		Cover	Species?	Status	Dominance Tes	t Worksheet:			
1. Red alder (Alnus rubr		5	Y	FAC	Number of dom	•			
2. Pacific willow (Salix lo	isiandra)	5	Y	FACW	That are OBL, FA	ACW, or FAC:		3	(A)
3. 4.					Total Number o	f Dominant			
		10	= Total Cover			oss All Strata:		4	(B)
Sapling/Shurb Stratum									
1. Scouler's willow (Salix	scouleriana)	5	Y	FAC	Percent of domi				
2.					That are OBL, FA	ACW, or FAC:		75	(A/B)
3.					Drovalanca Inda	w Morkshoot			
4. 5.					Prevalence Inde Total % Co		Multiply by:		
5.		5	= Total Cover		OBL Species		x 1 =	0	
Herb Stratum					FACW Species		x 2 =	0	
1. Silver bur ragweed (A	mbrosia chamissonis)	10	Ν	NI	FAC Species		x 3 =	0	
2. American dunegrass		60	Y	FACU	FACU Species		x 4 =	0	
3. Common rush (Juncus	s effusus)	5	N	FACW	UPL Species		x 5 =	0	(D)
<i>4.</i> <i>5.</i>					Column Totals:	0	(A)	0	(B)
6.					Pre	valence Index =	= B/A = #	DIV/0!	
7.									
8.					Hydrophytic Ve	-			
9.						st for Hydroph		l	
10.					2 - Dominar				
11.			Tatal Cause			ice Index is ≤3.0			
Woody Vine Stratum		75	= Total Cover		Remarks or o	ogical Adaptati on a separate s	heet.	supporting da	ta in
<u>1.</u> 2.						Non-Vascular I drophytic Vege)	
		0	= Total Cover						acont
% Bare Ground	in Herb Stratum	5			¹ Indicators of hy unless disturbed			gy must be pr	eseill,
Remarks:					Hydrophytic \	Vegetation Pres	sent? 🗸	Yes 🗌 N	0

SOIL								Sampling Point: <u>SP-11</u>
Depth	Matrix	Redox F	eatures					
(inches)	Color (moist)	% Color	(moist)	%	Type ¹	Loc ²	Texture	Remarks
			<u> </u>				sand	no color
		1.1						
		1.1						
							·	
¹ Type: C-Concentratio	on, D=Depletion, RM-Re	duced Matrix CS-C	overed or Coste	d Sand Grai	ins ² location:	PL=Pore Lining	M-Matrix	
••	: (Applicable to all LRR							Problematic Hydric Soils ³ :
Hydric Soli Indicators	Applicable to all LKK	, unless otherwise i	noted.)				indicators for i	roblematic Hydric Solis :
Histisol (A1)		Sandy Re	adox (S5)				2 cm Muck	(A10)
Histic Epipedon (A	2)		Matrix (S6)					Material (TF2)
Black Histic (A3)	~2)			[1] loveent				
	(^ 4)		Aucky Mineral (I		IVILKA I)			w Dard Surface (TF12)
Hydrogen Sulfide			ileyed Matrix (F	2)			Uther (Exp	lain in Remarks)
Depleted Below D		·	d Matrix (F3)				3. u	
Thick Dark Surface	· ·		ark Surface (F6)					ydrophytic vegetation and wetland
Sandy Mucky Min		·	d Dark Surface (F7)				t be present, unless disturbed or
Sandy Gleyed Mat		📃 Redox D	epressions (F8)				problematic.	
Restrictive Layer (if p	resent):			H	ydric Soil Present	?		
Тур								✓ Yes 🗌 No
Depth (inche	es):							
Remarks:								
Soils are assumed to b	e hydric because the a	ea is below the ordi	nary high water	· line and is	regularly inundat	ted by marine	waters.	
HYDROLOGY								
Wetland Hydrology Ir	ndicators:							
	inimum of one required	; check all that apply	y)				Secondary Indi	cators (2 or more required)
							-	
Surface Water (Af	L)	🗌 Wat	er-Stained Leav	es (B9) (exc	ept MLRA		🗌 Water-Stai	ned Leaves (B9) (MLRA
High Water Table	(A2)	1, 2	, 4A, and 4B)				1, 2, 4A, a	nd 4B)
Saturation (A3)		Salt	Crust (B11)				🗌 Drainage P	atterns (B10)
Water Marks (B1)		Aqui	atic Invertebrate	es (B13)			Dry-Seasor	n Water Table (C2)
Sediment Deposit			rogen Sulfide Oo					visible on Aerial Imagery (C9)
Drift Deposits (B3			lized Rhizospher	res along Liv	/ing Roots (C3)		Geomorph	ic Position (D2)
Algal Mat or Crust			ence of Reducti	-			Shallow Ag	uitard (D3)
Iron Deposits (B5)			ent Iron Reducti				=	al Test (D5)
Surface Soil Crack			ted or Stressed		. ,			Mounds (D6) (LRR A)
	on Aerial Imagery (B7)	_	er (Explain in Re		· · ·		_	e Hummocks (D7)
	d Concave Surface (B8)							/
Field Observations:				Wetla	nd Hydrology Pre	esent?		
Surface Water Presen	t? 🗌 Yes	✓ No Depth (ii	nches):					
Water Table Present?		No Depth (in						🗸 Yes 🗌 No
Saturation Present?		✓ No Depth (ii						
(includes capillary frin								
	ta (stream gauge, mon	toring well aerial of	notos previous	inspections	if available			
					,			

Remarks:

Wetland area is situated in a depression that regulary is inundated by tidal marine waters. Water is trapped in the depression during high tide events.



	Version 2 - Updated	July 2006 to inc	RM – WESTERN WASH crease accuracy and reproducibili w WDFW definitions for priority	ty among user	rs	
Name of w	vetland (if known): Wetland A					
Date of site	e visit: July 26, 2013					
Rated by:	J. Dadisman	Trained b	y Ecology? Yes X_ No	Date of t	raining: 11/06	
SEC: 19	TWNSHP: 27N	RNGE: 1W	Is S/T/R in Append:	ix D? Yes <u>X</u>	L-but not the NHP Wet	land No
	Map of wetland unit	: Figure	Estimated size			
		SUMMA	ARY OF RATING			
Category	based on FUNCTIONS provided	by wetland:	I II	III	X IV_	
	Category I = Score > 70	7	Score for Water Quality Fu	inctions	10	
	Category II = Score 51 - 69		Score for Hydrologic Fu	inctions	8	
	Category III = Score 30 – 50		Score for Habitat Fu	inctions	19	
	Category IV = Score < 30		TOTAL Score for Fu	inctions	37	
Category b	based on SPECIAL CHARACTE	_ RISTCS of We	tland I II	Do	oes not apply <u>X</u>	•
	Final Cate	egory (choos	se the "highest" category from	above")	III	
	Summary of basi	c information	about the wetland unit.			
	Wetland Unit has Spec Characteristics	cial	Wetland HGM Class used for Rating			
	Estuarine		Depressional			
	Natural Heritage Wetlan	nd	Riverine			
	Bog		Lake-fringe			
	Mature Forest		Slope	X		
	Old Growth Forest		Flats			

Freshwater Tidal

Х

Check if unit has multiple

HGM classes present

Coastal Lagoon

None of the above

Interdunal

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

	Classification of vegetated ve	tianus for western washington
	ne hydrologic criteria listed in each question do not apply to tiple HGM classes. In this case, identify which hydrologic	
1.	Are the water levels in the entire unit usually controlled by	tides (i.e. except during floods)?
(NO - go to 2 YES – the wetland class is Ti	
	If yes, is the salinity of the water during periods of and	
	YES – Freshwater Tidal Fringe	NO – Saltwater Tidal Fringe (Estuarine)
		e use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it
		arine in the first and second editions of the rating system are called Salt
		stuarine wetlands were categorized separately in the earlier editions, and
		istency between editions, the term "Estuarine" wetland is kept. Please
	note, however, that the characteristics that define Category I ar	nd II estuarine wetlands have changed (see p).
2.	The entire wetland unit is flat and precipitation is only sour	rce (>90%) of water to it. Groundwater and surface water
	runoff are NOT sources of water to the unit.	
		vetland class is Flats
	If your wetland can be classified as a "Flats" wetland,	use the form for Depressional wetlands.
3.	Does the entire wetland meet both of the following criteria	?
		ores of a body of permanent open water (without any
	vegetation on the surface) where at least 20 ac	
	At least 30% of the open water area is deeper	
	(NO - yo to 4) YES – The v	vetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland meet all of the following criteria?	
	X The wetland is on a slope (slope can be very g	
		irection (unidirectional) and usually comes from seeps. It may
	flow subsurface, as sheetflow, or in a swale w	
	X The water leaves the wetland without being i	
		types of wetlands except occasionally in very small and
		pressions are usually <3 ft diameter and less than 1 foot deep).
		vetland class is Slope
5.	Does the entire wetland meet all of the following criteria?	
		e it gets inundated by overbank flooding from that stream or
	river.	
	The overbank flooding occurs at least once ev	
		ions that are filled with water when the river is not flooding
		vetland class is Riverine
6.		nich water ponds, or is saturated to the surface, at some time of
	the year. This means that any outlet, if present is higher th	an the interior of the wetland.
_	NO – go to 7 YES – The	e wetland class is Depressional
7.	Is the entire wetland located in a very flat area with no obv	ious depression and no overbank flooding. The unit does not
	pond surface water more than a few inches. The unit seem	s 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	e wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably cor	tains 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 REC	IMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT
	AREAS IN THE UNIT (make a rough sketch to help you decide).	Use the following table to identify the appropriate class to use for the
	rating system if you have several HGM classes present within your	wetland. NOTE: Use this table only if the class that is recommended in
	the second column represents 10% or more of the total area of the v	vetland unit being rated. If the area of the class listed in column 2 is less
	than 10% of the unit, classify the wetland using the class that repres	ents more than 90% of the total area.
	HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
	Slope + Riverine	Riverine
	Slope + Depressional	Depressional
	Slope + Lake-fringe	Lake-fringe
	Depressional + Riverine along stream within boundary	Depressional
	Depressional + Lake-fringe	Depressional
	Salt Water Tidal Fringe and any other class of	Treat as ESTUARINE under wetlands with special
	freshwater wetland	characteristics
If v		apply to your wetland, or you have more than 2 HGM classes
	hin a wetland boundary, classify the wetland as Depression	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	

Wetland Rating Form - western Washington, version 2 (7/06)

S	Slope Wetlands	Points
~	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score
S 1	Does the wetland have the <u>potential</u> to improve water quality?	per box) (see p.64)
	S 1.1 Characteristics of average slope of unit: • Slope is 1% or less (a 1% slope has a 1 ft. vertical drop in elevation for every 100 ft. horizontal distance) points = 3 • Slope is 1% - 2%	2
	S 1.2 The soil 2 inches below the surface (or duff layer) is clay, organic (Use NRCS definitions). YES = 3 points NO = $\frac{0}{\text{points}}$	0
	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants	Figure
	 are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area	3
	Total for S 1 Add the points in the boxes above	5
S 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 67)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity Grazing in the wetland or within 150 ft	
	Untreated stormwater discharges to wetland Tilled fields, logging, or orchards within 150 ft. of wetland X Residential, urban areas, or golf courses are within 150 ft. upslope of wetland Other	Multiplier <u>2</u>
	YES multiplier is 2 NO multiplier is 1	_
•	<u>TOTAL</u> – Water Quality Functions Multiply the score from S1 by S2; then <i>add score to table on p. 1</i>	10
	HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream erosion.	
S 3	Does the wetland have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)
	 S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland (stems of plants should be thick enough (usually > 1/8in), or dense enough to remain erect during surface flows). Dense, uncut, rigid vegetation covers > 90% of the area of the wetland points = 6 Dense, uncut, rigid vegetation> 1/2 area of wetland points = 3 Dense, uncut, rigid vegetation > 1/4 area points = 1 More than 1/4 of area is grazed, mowed, tilled, or vegetation is not rigid points = 0 	6
	S 3.2Characteristics of slope wetland that holds back small amounts of flood flows. The slope has small surface depressions that can retain water over at least 10% of its area.YES= 2 pointsNO= 0 points	2
	Add the points in the boxes above	8
S 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note</i> <i>which of the following conditions apply.</i>	(see p. 70)
	Wetland has surface runoff that drains to a river or stream that has flooding problems Other	Multiplier
	(Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam)YES multiplier is 2NO multiplier is 1	<u>1</u>
•	<u>TOTAL</u> – Hydrologic Functions Multiply the score from S3 by S4; then <i>add score to table on p. 1</i>	8

Thes	se questions apply to wetlands of all HGM classes.	Points
	HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.	(only 1 score per box)
H 1	Does the wetland have the <u>potential</u> to provide habitat for many species?	
	H 1.1 <u>Vegetation structure</u> (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed Encount electronic	
	Emergent plants Scrub/shrub (areas where shrubs have > 30% cover) X If the unit has a forested class check if: X The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-	
	Add the number of vegetation types that qualify. If you have:Map of Cowardin vegetation classes4 structures or more points = 43 structures points = 22 structures points = 11 structure points = 0	
	H 1.2 <u>Hydroperiods</u> (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to	Figure
	cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present points = 3 Seasonally flooded or inundated 3 or more types presentpoints = 2 Occasionally flooded or inundated 2 types presentpoints = 1 X Saturated only 1 type presentpoints = 0 X Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake-fringe wetland	1
	Freshwater tidal wetland = 2 points Map of hydroperiods	
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0	1
	 H 1.4 Interspersion of Habitats (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points Use map of Cowardin classes 	
	High = 3 points [riparian braided channels]	
	 H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error. 	3
	H 1 TOTAL Score – potential for providing habitat Add the points in the column above	6

Wetland name or number: A

2 Does	the wetland have the <u>opportunity</u> to provide habitat for many species?		(only 1 sc per box
H 2.1	Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest criterion that applies to the wetland is to be used in the rating. See text for definition of "u X 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use) 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference 100m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference 101 100 of the criteria above: 11 No paved areas (except paved trails) or buildings within 25m (80 ft) of wetland > 95% circumference. Light to moderate grazing or lawns are OK. 11 No paved areas of buildings within 50m of wetland for > 50% circumference. Light to moderate grazing or lawns are OK. 11 Wegetated buffers are < 2m wide (6.6 ft) for mo	<pre> points = 5 points = 4 points = 4 points = 4 points = 3 points = 3 points = 2 points = 2 points = 1 points = 0 points = 1</pre>	Figure _
H 2.2	Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eir or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplar least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, p are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eir or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, an estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? fringe wetland, if it does not have an undisturbed corridor as in the question above YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR Within 1 mile of a lake greater than 20 acres? 	ther riparian r native nds that are at <i>aved roads</i> , ther riparian nd connects to OR a Lake- e?	2

Wetland name or number: A

Total Score for Habitat Funct	ions Add the points for H 1 and H 2; then <i>record the result on p. 1</i>	19
	TOTAL for H 1 from page 8	U
		- <u>-</u> -
	portunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	13
There are no wetlands	s within 1/2 milepoints = 0	
	tland within 1/2 milepoints = 2	
	points = 3	
	n a lake with disturbance and there are 3 other lake-fringe wetlands	
	ther wetlands within 1/2 mile, BUT the connections between them are	-
	mile	5
	fringe on a lake with little disturbance and there are 3 other lake-fringe	
but connections should	d NOT be bisected by paved roads, fill, fields, or other developmentpoints = 5	
	(light grazing between wetlands OK, as is lake shore with some boating,	
	<i>hoose the one description of the landscape around the wetland that best fits (see p. 84)</i> ner wetlands within 1/2 mile, and the connections between them are	
	lands are addressed in question H 2.4)	
	uted wetlands are by definition a priority habitat but are not included in this	
	tat = $\frac{1 \text{ point}}{1 \text{ point}}$ No habitats = 0 points	
If wetland has 2 priority habi	tats = 3 points	
If wetland has 3 or more price	e · · · · · · · ·	
	ter at the largest end, and > 6 m (20 ft) long.	
•	in) in western Washington and are $> 2 \text{ m}$ (6.5 ft) in height. Priority logs	
	s are considered snags if they are dead or dying and exhibit sufficient le cavity excavation/use by wildlife. Priority snags have a diameter at	
be associated with cliffs.	are considered anone if they are dead or dving and article articles	
	, and/or sedimentary rock, including riprap slides and mine tailings. May	
	eas of rock rubble ranging in average size $0.15 - 2.0 \text{ m} (0.5 - 6.5 \text{ ft})$,	
	m (25 ft) high and occurring below 5000 ft.	
	her geological formations and is large enough to contain a human. m(25 fb) high and accurring below 5000 ft	
	urring cavity, recess, void, or system of interconnected passages under the	
	WDFW report: pp. 167-169 and glossary in Appendix A).	
	Sound Nearshore. (<i>full descriptions of habitats and the definition of</i>	
•	undisturbed nearshore habitats. These include Coastal Nearshore, Open	
*	life history requirements for instream fish and wildlife resources.	
Instream: The combination	ation of physical, biological, and chemical processes and conditions that	
	(full descriptions in WDFW PHS report p. 161).	1
	baceous, non-forested plant communities that can either take the form of	
-	cosystems which mutually influence each other.	
U	djacent to aquatic systems with flowing water that contains elements of	
	ent is important (<i>full descriptions in WDFW PHS report p. 158</i>).	
÷	Voodlands Stands of pure oak or oak/conifer associations where canopy	
	r; 80 - 200 years old west of the Cascade crest.	
	mbers of snags, and quantity of large downed material is generally less	
	bh or > 200 years of age. (Mature forests) Stands with average diameters ; crown cover may be less that 100%; crown cover may be less that	
	ared canopy with occasional small openings; with at least 20 trees/ha (8 bb or ≥ 200 worrs of area (Matura forests) Stands with average diameters	
	rests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
	riable size patches of grass and forbs on shallow soils over bedrock.	
	dlife (full descriptions in WDFW PHS report p. 152).	
	I Corridors : Areas of habitat that are relatively important to various	
Aspen Stands: Pure or	mixed stands of aspen greater than 0.4 ha (1 acre).	
connections do not have to be	•	
Which of the following prior	ity habitats are within 330ft (100m) of the wetland unit? NOTE: the	
http://wdfw.wa.gov/hab/phsl		

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	Wetland Type – <i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i>	
C1	Estuarine wetlands? (see p.86)	
C1	Does the wetland unit meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and	
	With a salinity greater than 0.5 ppt.	
	$\mathbf{YES} = \text{Go to SC } 1.1 \qquad \text{NO} X$	
	SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural	
	Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?	
	YES = Category I NO = Category II	Cat. 1
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp, are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II).	Cat. I
	The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category 1. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed	Dual
	 At least 5/4 of the handward edge of the wethand has a 100 ft. burlet of shidb, forest, of the grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Ratin I/II
C2	Natural Heritage Wetlands (see p. 87)	
C2	Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as	
	either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or	
	Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This</i>	
	question is used to screen out most sites before you need to contact WNHP/DNR.)	
	S/T/R information from Appendix D or accessed from WNHP/DNR web site X	
	YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened	a . 1
	or endangered plant species?	Cat 1
	YES = Category 1 NO X not a Heritage Wetland	
C3	<u>Bogs</u> (see p. 87)	
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use	
	the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the	
	wetland based on its function.	
	1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that	
	compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? $YES = go$ to question 3 $NO = go$ to question 2	
	2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over	
	bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or	
	pond? YES = go to question 3 NO = is not a bog for purpose of rating	
	3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present,	
	consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?	
	YES = Is a bog for purpose of rating NO = go to question 4	
	NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that	
	criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is	
	less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
	4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western	
	hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of	
	the species (or combination of species) on the bog species plant list in Table 3 as a significant	
	component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	Cat. 1
	component of the ground cover (> 50% coverage of the total shrub/herbacebas cover).	Cat.

SC4	Forested Wetlands (see p. 90)					
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland</i>					
	<i>based on its function.</i> Old-growth forests : (west of Cascade Crest) Stands of at least two three species forming a					
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)					
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or					
	more).					
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees					
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW					
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.					
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old					
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than					
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally					
	less than that found in old-growth.	Cat. I				
	YES = Category I NO = X not a forested wetland with special characteristics					
SC5	Wetlands in Coastal Lagoons (see p. 91)					
505	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?					
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated					
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.					
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5					
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the					
	bottom.)					
	YES = Go to SC 5.1 NO X not a wetland in a coastal lagoon					
	SC 5.1 Does the wetland meet all of the following three conditions?					
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has					
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).					
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed					
	or un-mowed grassland. The wetland is larger than 1/10 acre (4350 square ft.)					
	$\mathbf{YES} = \text{Category I} \qquad \mathbf{NO} = \text{Category II}$	Cat. II				
c.c.c	Interdunal Wetlands (see p. 93)	Cat , 11				
SC6	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or					
	WBUO)?					
	YES = Go to SC 6.1 NO X not an interdunal wetland for rating					
	If you answer yes you will still need to rate the wetland based on its functions.					
	In practical terms that means the following geographic areas:					
	• Long Beach Peninsula lands west of SR 103					
	 Grayland-Westport lands west of SR 105 Ocean Shores-Copalis – lands west of SR 115 and SR 109 					
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?					
	$\mathbf{YES} = \text{Category II} \qquad \mathbf{NO} = \text{go to SC 6.2}$					
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?					
	Category of wetland based on Special Characteristics	Cat. III				
	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.					
•						

	Version 2 - Updated	July 2006 to increase	- WESTERN WASH accuracy and reproducibilit FW definitions for priority	ty among users		
Name of wetland (if know	own): <u>Wetland B</u>			_		
Date of site visit: July	26, 2013					
Rated by: <u>J. Dadisman</u>	L	Trained by Eco	ology? Yes X_ No	Date of trai	ining: 11/06	
SEC: 19 TW	NSHP: 27N	RNGE: 1W	Is S/T/R in Appendi	x D? Yes <u>X-b</u>	ut not the NHP Wetlan	<u>d</u> No
Ν	Iap of wetland unit	: Figure	Estimated size		_	
		SUMMARY	OF RATING			
Category based on FU	NCTIONS provided	by wetland: I	II	IIIX	IV	
Category	I = Score > 70	Sco	ore for Water Quality Fu	nctions	14	
Category	I = Score 51 - 69		Score for Hydrologic Fu	nctions	8	
Category II	I = Score 30 - 50		Score for Habitat Fu	nctions	23	
Category I	V = Score < 30		TOTAL Score for Fu	nctions	45	
Category based on SPE	CIAL CHARACTER	– RISTCS of Wetland	I II <u>X</u>	Does	s not apply	
	Final Cate	egory (choose the	"highest" category from	above")	II	

Summary of basic information about the wetland unit.

Wetland Unit has Special Characteristics		
Estuarine	Х	
Natural Heritage Wetland		
Bog		
Mature Forest		
Old Growth Forest		
Coastal Lagoon		
Interdunal		
None of the above		

about the wettand unit.		
Wetland HGM Class		
used for Rating		
Depressional	Χ	
Riverine		
Lake-fringe		
Slope		
Flats		
Freshwater Tidal		
Check if unit has multiple	v	
HGM classes present	Х	

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

 Are the water levels in the epiter-sqit usually controlled by tides (i.e. except during floods)? NO = go to 2 (YES _he wetland class is Tidal Fringe NO - Sattwater Tidal Fringe (Estuarine) If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES = Freshwater Tidal Fringe NO - Sattwater Tidal Fringe (Estuarine) If your wetland can be classified as a Troduwater Tidal Fringe use the forms for Riveriae vetlands. If it is a Satiwater Tidal Fringe in the servision. To maintain consistency between editions, the term "Estuarine" wetland is the period estuare in the first and second editions of the ting year are called Sati Water Tidal Fringe in this evision. To maintain consistency between editions, the term "Estuarine" wetland in the characteristics that define Category I and II estuarine wetlands have changed (see p). The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water trunoff far ONT sources-edymetr to the unit. (NO _bot 0 = 3 VES - The wetland class is Flats If your vetland can be classified as a "Flats" wetland, use the form for Depressional wetlands. Does the entric wetland meet both of the following criteria? At least 30% of the open water area is deeper than 6.6 (2 m)? (NO _bot 0 4 VES - The wetland class is Lake-fringe (Lacustrine Fringe) Ox the entric wetland meet and point of the wetland in one direction (unidirectional) and usually comes from seeps. It may flow substrate, as sheeffollow, or in a swall without distinct banks. The water flows through the wetland in class is Slope Does the entire wetland meet all of the following criteria? No _eo to 6 VES - The wetland class is Slope Does the entire wetland located in a very flat area with no obvious depression and n		he hydrologic criteria listed in each question do not apply to ltiple HGM classes. In this case, identify which hydrologic	
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Slope + Lake-fringe Lake-fringe			
			*
Depressional + Kiverine along stream within boundary Depressional			
			*
Depressional + Lake-fringeDepressionalSalt Water Tidal Fringe and any other class ofTreat as ESTUARINE under wetlands with special			*
freshwater wetland any other class of the characteristics characteristics			
If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes	If v		

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

Wetland Rating Form - western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
-	D 1.1 Characteristics of surface water flows out of the wetland:	Figure
	 Unit is a depression with no surface water leaving it (no outlet) points = 3 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 	riguit
	• Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1	
	• Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1	2
	(If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>) YES points = 4 NO points = 0	0
	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):	Б.
	 Wetland has persistent, ungrazed vegetation > = 95% of area	Figure
	• Wetland has persistent, ungrazed vegetation $> = 1/10$ of area	5
	• Wetland has persistent, ungrazed vegetation < 1/10 of areapoints = 0 Map of Cowardin vegetation classes	
	D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at	
	least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 years.	Figure
	• 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 	0
	• Area seasonarry ponded is < 1/4 total area of wetland	
	Total for D 1Add the points in the boxes above	7
D 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 44)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient	
	from the wetland? Note which of the following conditions provide the sources of pollutants. A unit	
	may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft	
	Untreated stormwater discharges to wetland	
	Tilled fields or orchards within 150 ft. of wetland A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed	
	fields, roads, or clear-cut logging	Multiplier
	X Residential, urban areas, golf courses are within 150 ft. of wetland Wetland is fed by groundwater high in phosphorus or nitrogen	wiunipitei
	Other	<u>2</u>
	YES multiplier is 2 NO multiplier is 1 TOTAL – Water Quality Functions Multiply the score from D1 by D2; then add score to table on p. 1	14
-	HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.	14
D 3		(see p.46)
2.0	D 3.1 Characteristics of surface water flows out of the wetland unit	
	 Unit is a depression with no surface water leaving it (no outlet) points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 	
	• Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface	2
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing")	
	 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0 	
	D 3.2 Depth of storage during wet periods. Estimate the height of ponding above the bottom of the outlet. For	
	 units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7 	
	• The wetland is a "headwater" wetland points = 5	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 	
	• Wetland is flat (yes to Q.2 or Q.7 on key)but has small depressions on the surface that trap water points $= 1$	
	• Marks of ponding less than 0.5 ftpoints = 0 D 3.3 Contribution of wetland unit to storage in the watershed: <i>Estimate the ratio of the area of upstream</i>	
	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 unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 	3
	• The area of the basin is more than 100 times the area of the unit	
	Entire unit is in the FLATS class	
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?	8 (see p. 49)
U 4		· · ·
1	it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive	Multiplier
	gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	
	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide	Multiplier

Wetland name or number: B

	groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. Wetland is in a headwater of a river or stream that has flooding problems. Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other YES multiplier is 2 NO multiplier is 1	<u>1</u>
	YES multiplier is 2 NO multiplier is 1	
•	<u>TOTAL</u> – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	8

Thes	se questions apply to wetlands of all HGM classes.	Points	
	HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat.	(only 1 score per box)	
H 1			
	H 1.1 <u>Vegetation structure</u> (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed		
	$\frac{\overline{X}}{\overline{X}} = \frac{\text{Emergent plants}}{\text{Scrub/shrub (areas where shrubs have > 30% cover)}}$ $\frac{\overline{X}}{\overline{If the unit has a forested class check if:}}$	2	
	\underline{X} cover) that each cover 20% within the forested polygon.Map of Cowardin vegetation classes 3 structures points = 4 2 structures points = 1Map of Cowardin vegetation classes 3 structures points = 0		
	H 1.2 <u>Hydroperiods</u> (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods).	Figure	
	X Permanently flooded or inundated 4 or more types present points = 3 Seasonally flooded or inundated 3 or more types present points = 2 Occasionally flooded or inundated 2 types present points = 1 X Saturated only 1 type present points = 0 X 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 Points	2	
	Freshwater tidal wetland = 2 points Map of hydroperiods		
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0	1	
	H 1.4 Interspersion of Habitats (<i>see p. 76</i>): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. Note: If you have 4 or more classes or 3 vegetation classes and	Figure	
	None = 0 points Low = 1 point Moderate = 2 points open water, the rating is always "high".		
	Use map of Cowardin classes High = 3 points Triparian braided channels]	2	
	H 1.5 <u>Special Habitat Features</u> (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.	5	
	X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland	3	
	Xare permanently or seasonally inundated (structures for egg-laying by amphibians)XInvasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error.		
1	H 1 TOTAL Score – potential for providing habitat Add the points in the column above	10	

Wetland name or number: B

Н2	Does the wetland have the <u>opportunity</u> to provide habitat for many species?	(only 1 scor per box)
	H 2.1 Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed". X 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use) points = 5	Figure
	 H 2.2 <u>Corridors and Connections</u> (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR YES = 1 point Within 1 mile of a lake greater than 20 acres? 	2

TOTAL for H 1 from page	8 10
H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.	
• There are no wetlands within 1/2 milepoints =	
• There is at least 1 wetland within 1/2 mile	
within 1/2 milepoints =	
• The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands	
• There are at least 5 other wetrands within 1/2 line, BOT the connections between them are disturbed	_
 wetlands within 1/2 milepoints = There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are 	⁵ 5
• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe watlands within 1/2 mile	5
but connections should NOT be bisected by paved roads, fill, fields, or other developmentpoints =	<mark>5</mark>
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating,	
 H 2.4 <u>Wetland Landscape</u>: Choose the one description of the landscape around the wetland that best fits (see p. 8 There are at least 3 other wetlands within 1/2 mile, and the connections between them are 	·+)
list. Nearby wetlands are addressed in question H 2.4)	(\mathbf{A})
Note: All vegetated wetlands are by definition a priority habitat but are not included in t	his
If wetland has 1 priority habitat = $\frac{1 \text{ point}}{1 \text{ point}}$ No habitats = 0 points	
If wetland has 2 priority habitats = 3 points	
If wetland has 3 or more priority habitats = 4 points	
are $> 30 \text{ cm} (12 \text{ in})$ in diameter at the largest end, and $> 6 \text{ m} (20 \text{ ft})$ long.	
breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs	
<u></u>	
be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	e
relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).	
Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of	
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open	
interact to provide functional life history requirements for instream fish and wildlife resources.	
Instream: The combination of physical, biological, and chemical processes and conditions that	
a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>).	1
Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of	
both aquatic and terrestrial ecosystems which mutually influence each other.	
X Riparian : The area adjacent to aquatic systems with flowing water that contains elements of	
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).	
than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less	
exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that	
trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters	
species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>).	
Biodiversity Areas and Corridors : Areas of habitat that are relatively important to various	
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
Which of the following priority habitats are within 330ft (100m) of the wetland unit? <i>NOTE: the connections do not have to be relatively undisturbed.</i>	
http://wdfw.wa.gov/hab/phslist.htm)	

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	criteria are met.	
C1	Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands?	
	XThe dominant water regime is tidal,XVegetated, and	
	$\frac{1}{X}$ With a salinity greater than 0.5 ppt.	
	$\frac{1}{\text{YES}} = \text{Go to SC 1.1} \qquad \text{NO}$	
	SC 1.1Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?YES = Category INO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?	
	YES = Category I NO = Category II The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has	Cat.
	less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp., are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category 1. Do not, however, exclude the area of Spartina in	Cat. I
	 At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Dual Ratin I/II
22	Natural Heritage Wetlands (see p. 87)	
	Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as	
	either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or	
	Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This question is used to screen out most sites before you need to contact WNHP/DNR.</i>)	
	S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species?	Cat
	YES = Category 1 NO X not a Heritage Wetland	
C3	<u>Bogs</u> (see p. 87) Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use	
	the key below to identify if the wetland is a bog. <i>If you answer yes you will still need to rate the</i>	
	wetland based on its function.	
	 Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? YES = go to question 3 NO = go to question 2 	
	2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over	
	bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or	
	pond? YES = go to question 3 NO = is not a bog for purpose of rating	
	 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 	
	NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is	
	 less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of 	
	the species (or combination of species) on the bog species plant list in Table 3 as a significant	
	component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	Cat.

SC4	Forested Wetlands (see p. 90)	
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland</i>	
	based on its function.	
	Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a	
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)	
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or	
	more).	
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees	
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW	
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old	
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally	
	less than that found in old-growth.	Cat. I
	YES = Category I NO = X not a forested wetland with special characteristics	
SC5	Wetlands in Coastal Lagoons (see p. 91)	
505	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated	
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5	
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the	
	bottom.)	
	YES = Go to SC 5.1NO $X_{_}$ not a wetland in a coastal lagoon	
	SC 5.1 Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has	
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed	~ -
	or un-mowed grassland.	Cat. I
		Cat. II
996	Interdunal Wetlands (see p. 93)	
SC6	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or	
	WBUO)?	
	YES = Go to SC 6.1 NO X not an interdunal wetland for rating	
	If you answer yes you will still need to rate the wetland based on its functions.	
	In practical terms that means the following geographic areas:	
	• Long Beach Peninsula lands west of SR 103	
	 Grayland-Westport lands west of SR 105 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?	
	$\mathbf{YES} = \text{Category II} \qquad \mathbf{NO} = \text{go to SC 6.2}$	Cot II
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	Cat. II
	YES = Category III	Cat. III
	Category of wetland based on Special Characteristics	Cat. 111
	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.	
	If you answered NO for all types enter "Not Applicable" on p. 1	
L	Jack and the second sec	

Wetland	name	or	number:	С
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Version 2 - Updated July 20	006 to inc	RM – WESTERN WASHING rease accuracy and reproducibility an w WDFW definitions for priority habi	nong us		
Name of wetland (if known): Wetland C		Ι	Date of	Site visit: July 26, 2013	
Rated by: <u>J. Dadisman</u> Trained by Ecol	logy? Ye	es X No Date of train	ning:	11/06	
SEC: 8 and 17 TWNSHP: 27N RNG	GE: 1E	Is S/T/R in Appendix D	? Yes	<u>X-but not the NHP Wetland</u> No	1
Map of wetland unit: Fig	ure	Estimated size			
	SUMMA	ARY OF RATING			
Category based on FUNCTIONS provided by w	vetland:	I II <u>X</u>	III	IV	
Category I = Score > 70		Score for Water Quality Function	ons	9	
Category II = Score 51 - 69		Score for Hydrologic Function	ons	24	
Category III = Score 30 – 50		Score for Habitat Function	ons	30	
Category IV = Score < 30		TOTAL Score for Function	ons	63	
Category based on SPECIAL CHARACTERISTO	CS of We	tland I II]	Does not apply <u>X</u>	
Final Categor	y (choos	e the "highest" category from abo	ove")	II	
Summary of basic info	ormation	about the wetland unit.			
Wetland Unit has Special Characteristics		Wetland HGM Class used for Rating			
Estuarine		Depressional	Χ		
Natural Heritage Wetland		Riverine			
Bog		Lake-fringe			
Mature Forest		Slope			
Old Growth Forest		Flats			
Coastal Lagoon Interdunal		Freshwater Tidal			
None of the above	X	Check if unit has multiple HGM classes present			

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

If the hydrologic criteria listed in each question do not apply to multiple HGM classes. In this case, identify which hydrologic	
1. Are the water levels in the entire unit usually controlled by	
(NO - yo to 2) YES – the wetland class is Ti	
If yes, is the salinity of the water during periods of and	
YES – Freshwater Tidal Fringe	NO – Saltwater Tidal Fringe (Estuarine) <i>e use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it</i>
	arine in the first and second editions of the rating system are called Salt
	stuarine wetlands were categorized separately in the earlier editions, and
	istency between editions, the term "Estuarine" wetland is kept. Please
note, however, that the characteristics that define Category I ar	
2. The entire wetland unit is flat and precipitation is only sour	rce (>90%) of water to it. Groundwater and surface water
runoff are NOT sources of water to the unit.	
	vetland class is Flats
If your wetland can be classified as a "Flats" wetland,	use the form for Depressional wetlands.
3. Does the entire wetland meet both of the following criteria	
0 1	ores of a body of permanent open water (without any
vegetation on the surface) where at least 20 ac	
- At least 30% of the open water area is deeper NO – \mathbf{x} to to 4 YES – The \mathbf{y}	
	vetland class is Lake-fringe (Lacustrine Fringe)
4. Does the entire wetland meet all of the following criteria?	and und
The wetland is on a slope (<i>slope can be very g</i>	irection (unidirectional) and usually comes from seeps. It may
flow subsurface, as sheetflow, or in a swale w	
The water leaves the wetland without being i	
	types of wetlands except occasionally in very small and
	pressions are usually <3 ft diameter and less than 1 foot deep).
(NO - yo to 5) YES – The v	vetland class is Slope
5. Does the entire wetland meet all of the following criteria?	
	e it gets inundated by overbank flooding from that stream or
river. The overbank flooding occurs at least once ev	ary two years
	ions that are filled with water when the river is not flooding.
	vetland class is Riverine
6. Is the entire wetland unit in a topographic depression in wh	nich water ponds, or is saturated to the surface, at some time of
the year. This means that any outlet, if present is higher th	an the interior of the wetland.
NO – go to 7 $(YES -)$ The	e wetland class is Depressional
	ious depression and no overbank flooding. The unit does not
pond surface water more than a few inches. The unit seem	s to be maintained by high groundwater in the area. The
wetland may be ditched, but has no obvious natural outlet.	
	e wetland class is Depressional
	ntains 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 SIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT
	Use the following table to identify the appropriate class to use for the
	wetland. NOTE: Use this table only if the class that is recommended in
	vetland unit being rated. If the area of the class listed in column 2 is less
than 10% of the unit, classify the wetland using the class that repres	ents more than 90% of the total area.
HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics
If you are unable still to determine which of the above criteria a	
within a wetland boundary, classify the wetland as Depression	

Wetland Rating Form – western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
	D 1.1 Characteristics of surface water flows out of the wetland:	Figure
	 Unit is a depression with no surface water leaving it (no outlet) points = 3 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 	gui 0
	 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface 	
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1	2
	(If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>)	
	YES points = 4 NO points = 0	4
	 D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed vegetation >= 95% of area points = 5 	Figure
	• Wetland has persistent, ungrazed vegetation $> = 1/2$ of area	3
	 Wetland has persistent, ungrazed vegetation > = 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0 	5
	Map of Cowardin vegetation classes	
	D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently	Figure
	ponded. Estimate area as the average condition 5 out of 10 years.	-
	 Area seasonally ponded is > 1/2 total area of wetland points = 4 Area seasonally ponded is > 1/4 total area of wetland points = 2 	0
	 Area seasonally ponded is < 1/4 total area of wetlandpoints = 0 Map of Hydroperiods 	U
	Total for D 1 Add the points in the boxes above	9
D 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 44)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into	_
	the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? <i>Note which of the following conditions provide the sources of pollutants. A unit</i>	
	may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft	
	Untreated stormwater discharges to wetland	
	Tilled fields or orchards within 150 ft. of wetland A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed	
	fields, roads, or clear-cut logging	Multiplier
	Residential, urban areas, golf courses are within 150 ft. of wetland Wetland is fed by groundwater high in phosphorus or nitrogen	winnpher
	Other	<u>1</u>
	YES multiplier is 2 NO multiplier is 1 TOTAL – Water Quality Functions Multiply the score from D1 by D2; then add score to table on p. 1	9
-	HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.	,
D 3	Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p.46)
	D 3.1 Characteristics of surface water flows out of the wetland unit	
	 Unit is a depression with no surface water leaving it (no outlet) points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 	
	• Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface	4
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (<i>If ditch is not permanently flowing treat unit as "intermittently flowing"</i>)	
-	• Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0	
	D 3.2 Depth of storage during wet periods. Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).	
	• Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7	
	 The wetland is a "headwater" wetland points = 5 Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet points = 5 	5
	 Marks are at least 0.5 ft. to < 2 ft. from surface or bottom of outlet points = 3 Wetland is flat (yes to Q.2 or Q.7 on key)but has small depressions on the surface that trap water points = 1 	
	• Marks of ponding less than 0.5 ft points = 0	
	D 3.3 Contribution of wetland unit to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.	
	• The area of the basin is less than 10 times the area of 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 	5
	• Entire unit is in the FLATS class points = 5	
	Total for D 3 Add the points in the boxes above	12
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity,	(see p. 49)
	it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive	Multiplier
	flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	

Wetland name or number: C

	 groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. Wetland is in a headwater of a river or stream that has flooding problems. Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other 	2
	YES multiplier is 2 NO multiplier is 1	_
•	<u>TOTAL</u> – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	24

The	se questions apply to wetlands of all HGM classes.	Points
	HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.	(only 1 score per box)
H 1	Does the wetland have the <u>potential</u> to provide habitat for many species?	
	 H 1.1 <u>Vegetation structure</u> (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. X Aquatic Bed X Emergent plants 	Figure
	\overline{X} Scrub/shrub (areas where shrubs have > 30% cover) \overline{X} Forested (areas where trees have > 30% cover) 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.Add the number of vegetation types that qualify. If you have:Map of Cowardin vegetation classes4 structures or morepoints = 42 structuresstructures1 structurepoints = 0	
	H 1.2 <u>Hydroperiods</u> (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods).	Figure
	X Permanently flooded or inundated 4 or more types present points = 3 X Seasonally flooded or inundated 3 or more types present points = 1 Occasionally flooded or inundated 2 types present points = 1 X Saturated only 1 type present points = 0 X 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 Points	3
	Freshwater tidal wetland = 2 points Map of hydroperiods	
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0	1
	H 1.4 Interspersion of Habitats (<i>see p. 76</i>): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	
	None = 0 pointsLow = 1 pointModerate = 2 pointsNote: If you have 4 or more classes or 3 vegetation classes and open water, the rating is always "high".	Figure
	Use map of Cowardin classes	3
	H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland	;
	 Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) X 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 turned grey/brown</i>) At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) X Invasive plants cover less than 25% of the wetland area in each stratum of plants <i>NOTE: The 20% stated in early printings of the manual on page 78 is an error</i>. 	4
	H 1 TOTAL Score – potential for providing habitat Add the points in the column above	15

Wetland name or number: C

2 Does	the wetland have the <u>opportunity</u> to provide habitat for many species?	(only 1 sc per box
H 2.1	Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed X 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use)	Figure _ Figure _ Figure _ 5 4 4 3 5 3 5 3 2 2 1 0 1
H 2.2	• •	n at , n to 4

Wetland name or number: C

1	Total Score for Habitat Functions Add the points for H 1 and H 2; then <i>record the result on p. 1</i>	30
L	TOTAL for H 1 from page 8	
╞		15
ſ	H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	15
	• There are no wetlands within 1/2 milepoints = 0	
	• There is at least 1 wetland within 1/2 milepoints = 2	
	• The wetand thinge on a take with disturbance and there are 5 other take-thinge wetands within 1/2 mile	
	 disturbedpoints = 3 The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands 	
	• There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed	3
	wetlands within 1/2 milepoints = 5	5
	• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe	
	but connections should NOT be bisected by paved roads, fill, fields, or other development points = 5	
	• There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating,	
	H 2.4 Wetland Landscape: Choose the one description of the landscape around the wetland that best fits (see p. 84)	
	list. Nearby wetlands are addressed in question H 2.4)	
	Note: All vegetated wetlands are by definition a priority habitat but are not included in this	
	If wetland has 1 priority habitat = $\frac{1 \text{ point}}{1 \text{ point}}$ No habitats = 0 points	
	If we than $has 2$ priority habitats = 3 points	
	If wetland has 3 or more priority habitats = 4 points	
	are $> 30 \text{ cm} (12 \text{ in})$ in diameter at the largest end, and $> 6 \text{ m} (20 \text{ ft}) \log$.	
	breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs	
	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	
	be associated with cliffs.	
	composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May	
_	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
-	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).	
	Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Instream: The combination of physical, biological, and chemical processes and conditions that	
	a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	1
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of	
	both aquatic and terrestrial ecosystems which mutually influence each other.	
	_X Riparian : The area adjacent to aquatic systems with flowing water that contains elements of	
	coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
	than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less	
	exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that	
	species, forming a multi-layered canopy with occasional small openings; with at least 20 frees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters	
	species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrockOld-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
	species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
	connections do not have to be relatively undisturbed.	
	<i>http://wdfw.wa.gov/hab/phslist.htm</i>) Which of the following priority habitats are within 330ft (100m) of the wetland unit? <i>NOTE: the</i>	

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	criteria are met.	
C1	Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and	
	With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO \underline{X}	
	SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?	
	YES = Category I NO = Category II The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp., are only species that non-native that 10% of the wetlaw that the wetland about the species of	Cat. 1 Cat. 1
	that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category 1. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Dual Ratin I/II
C 2	Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This</i>	
	<i>question is used to screen out most sites before you need to contact WNHP/DNR.)</i> S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species? YES = Category 1 NO X_ not a Heritage Wetland	Cat
C3	Bogs (see p. 87)	
C3	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use	
	the key below to identify if the wetland is a bog. <i>If you answer yes you will still need to rate the</i>	
	 wetland based on its function. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identification and the provide a statement of the sector provi	
	 identify organic soils)? YES = go to question 3 NO = go to question 2 2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or 	
	 pond? YES = go to question 3 NO = is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 	
	NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
	4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	
	(1)	Cat.

		1
SC4	Forested Wetlands (see p. 90)	
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish	
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland	
	based on its function.	
	Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a	
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)	
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or	
	more).	
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees	
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW	
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old	
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally	
	less than that found in old-growth.	Cat. I
	$YES = Category I$ $NO = X_n ot a forested wetland with special characteristics$	
SC5	Wetlands in Coastal Lagoons (see p. 91)	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated	
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5	
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the	
	bottom.)	
	YES = Go to SC 5.1NO $X_{_}$ not a wetland in a coastal lagoon	
	SC 5.1 Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has	
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed	
	or un-mowed grassland.	Cat. I
	The wetland is larger than 1/10 acre (4350 square ft.)	
	YES = Category I NO = Category II	Cat. II
SC6	Interdunal Wetlands (see p. 93)	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or	
	WBUO)?	
	YES = Go to SC 6.1 NO X_{-} not an interdunal wetland for rating	
	If you answer yes you will still need to rate the wetland based on its functions.	
	 In practical terms that means the following geographic areas: Long Beach Peninsula lands west of SR 103 	
	 Grayland-Westport lands west of SR 105 	
	• Ocean Shores-Copalis – lands west of SR 115 and SR 109	
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?	
	YES = Category II NO = go to SC 6.2	Cat. II
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	
	YES = Category III	Cat. III
	Category of wetland based on Special Characteristics	
	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.	
	If you answered NO for all types enter "Not Applicable" on p. 1	
L		

	Version 2 - Updated Jul	y 2006 to incl	RM – WESTERN WASHIN rease accuracy and reproducibility and w WDFW definitions for priority hab	nong usei	rs
Name of w	etland (if known): <u>Wetland D</u>			Date of s	site visit: July 25, 2013
Rated by:	J. Dadisman Trained by E	cology? Ye	es X No Date of trai	ning: 11	1/06
SEC: 1	TWNSHP: 27N	RNGE: 1W	Is S/T/R in Appendix D	? Yes <u>X</u>	X-but not the NHP Wetland No
	Map of wetland unit: 1	Figure	Estimated size		
		SUMMA	RY OF RATING		
Category b	based on FUNCTIONS provided by	y wetland:	I II	<u> III <u>x</u></u>	IV
	Category I = Score > 70		Score for Water Quality Funct	ions	12
	Category II = Score 51 - 69		Score for Hydrologic Funct	ions	7
	Category III = Score 30 – 50		Score for Habitat Funct	ions	19
	Category IV = Score < 30		TOTAL Score for Funct	ions	38
Category b	ased on SPECIAL CHARACTERIS	STCS of Wet	tland I II	D.	oes not apply <u>X</u>
	Final Catego	ory (choose	e the "highest" category from ab	ove")	III
	Summary of basic i	nformation	about the wetland unit.		
	Wetland Unit has Special Characteristics		Wetland HGM Class used for Rating		
	Estuarine		Depressional	X	
	Natural Heritage Wetland		Riverine		
	Bog		Lake-fringe		
	Mature Forest		Slope		
	Old Growth Forest		Flats		
	Coastal Lagoon		Freshwater Tidal		
	Interdunal				
	None of the above	Х	Check if unit has multiple HGM classes present		

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.
1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)? NO - yo to 2 YES – the wetland class is Tidal Fringe
If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?
YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were call estuarine in the first and second editions of the rating system are called Salt
Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and
this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please
note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p).
2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
NO - go to 3 YES – The wetland class is Flats
If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3. Does the entire wetland meet both of the following criteria?
The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) where at least 20 acres (8ha) in size;
At least 30% of the open water area is deeper than 6.6 (2 m)?
NO - go to 4 YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4. Does the entire wetland meet all of the following criteria?
The wetland is on a slope (slope can be very gradual).
The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may
flow subsurface, as sheetflow, or in a swale without distinct banks. The water leaves the wetland without being impounded ?
NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and
shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).
NO – so to 5 YES – The wetland class is Slope
5. Does the entire wetland meet all of the following criteria?
The unit is in a valley or stream channel where it gets inundated by overbank flooding from that stream or river.
The overbank flooding occurs at least once every two years.
NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding
NO – yo to 6 YES – The wetland class is Riverine
6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time of the user. This means that any outlet, if present is higher than the interior of the wetland
the year. This means that any outlet, if present is higher than the interior of the wetland. NO – go to 7 (YES –)The wetland class is Depressional
7. Is the entire wetland located in a very flat area with no obvious depression and no overbank flooding. The unit does not
pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The
wetland may be ditched, but has no obvious natural outlet.
No – go to 8 YES – The wetland class is Depressional
8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO
BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT
AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the
rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in
the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less then 10% of the unit 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 ratedHGM Class to Use in RatingSlope + RiverineRiverine
Slope + Depressional Depressional
Slope + Lake-fringe Lake-fringe
Depressional + Riverine along stream within boundary Depressional
Depressional + Lake-fringe Depressional
Salt Water Tidal Fringe and any other class of freshwater wetlandTreat as ESTUARINE under wetlands with special characteristics

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

Wetland Rating Form - western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
	D 1.1 Characteristics of surface water flows out of the wetland:	
	• Unit is a depression with no surface water leaving it (no outlet)	Figure
	 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 	
	• Unit is a "flat" depression (0.7 on key), or in the Flats class, with permanent surface	3
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions)	0
	YESpoints = 4NOpoints = 0D 1.3Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):	Ŭ
	• Wetland has persistent, ungrazed vegetation > = 95% of area points = 5	Figure
	 Wetland has persistent, ungrazed vegetation > = 1/2 of area	5
	 Wetland has persistent, ungrazed vegetation > = 1/10 of area	
	Map of Cowardin vegetation classes	
	D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently	Figure
	ponded. Estimate area as the average condition 5 out of 10 years.	
	 Area seasonally ponded is > 1/2 total area of wetland points = 4 Area seasonally ponded is > 1/4 total area of wetland points = 2 	Λ
	• Area seasonally ponded is < 1/4 total area of wetland points = 0	4
	Map of Hydroperiods Total for D 1 Add the points in the boxes above	12
D 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 44)
D 2	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into	(see p. 44)
	the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient	
	from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.	
	Grazing in the wetland or within 150 ft	
	Untreated stormwater discharges to wetland Tilled fields or orchards within 150 ft. of wetland	
	A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed	
	fields, roads, or clear-cut logging Residential, urban areas, golf courses are within 150 ft. of wetland	Multiplier
	Wetland is fed by groundwater high in phosphorus or nitrogen	
	Other YES multiplier is 2 NO multiplier is 1	<u>1</u>
•	TOTAL – Water Quality Functions Multiply the score from D1 by D2; then <i>add score to table on p. 1</i>	12
	HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.	_
D 3	Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p.46)
	D 3.1 Characteristics of surface water flows out of the wetland unit	
	 Unit is a depression with no surface water leaving it (no outlet) points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 	
	• Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface	4
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (<i>If ditch is not permanently flowing treat unit as "intermittently flowing"</i>)	
	• Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0	
	D 3.2 Depth of storage during wet periods. Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).	
	• Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7	
	 The wetland is a "headwater" wetland points = 5 Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet points = 5 	0
	 Marks of pointing between 2 ft. to < 5 ft. from surface of bottom of outlet	
	• Wetland is flat (yes to $Q.2$ or $Q.7$ on key)but has small depressions on the surface that trap water points = 1	
	• Marks of ponding less than 0.5 ftpoints = 0 D 3.3 Contribution of wetland unit to storage in the watershed: <i>Estimate the ratio of the area of upstream</i>	
	basin contributing surface water to the wetland to the area of the wetland unit itself.	
1	 The area of the basin is less than 10 times the area of unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 	3
	• The area of the basin is more than 100 times the area of the unit	
	• Entire unit is in the FLATS class points = 5	
	Total for D 3 Add the points in the boxes above Desc the method have the experiments to reduce fleading and engine?	7
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity,	(see p. 49)
1	it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive	Multiplier
1	flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	

Wetland name or number: Wetland D

	groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply	<u>1</u>
•	<u>TOTAL</u> – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	7

The	se questions apply to wetlands of all HGM classes.	Points
	HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat.	(only 1 score per box)
H 1	Does the wetland have the <u>potential</u> to provide habitat for many species?	
	H 1.1 Vegetation structure (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed Aquatic Bed X Emergent plants Scrub/shrub (areas where shrubs have > 30% cover) Forested (areas where trees have > 30% cover) If the unit has a forested class check if:	Figure
	The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground- cover) that each cover 20% within the forested polygon. Add the number of vegetation types that qualify. If you have: 4 structures or more points = 4 2 structures points = 1 4 structure points = 0	
	H 1.2 Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present points = 3 X Seasonally flooded or inundated 3 or more types present points = 2 Occasionally flooded or inundated 2 types present points = 1 X 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	Figure 1
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species	1
	 H 1.4 Interspersion of Habitats (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. Note: If you have 4 or more classes or 3 vegetation classes and open water, the rating is always "high". None = 0 points Low = 1 point Moderate = 2 points We map of Cowardin classes Use map of Cowardin classes 	
	H11.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland M Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error.	3
	H 1 TOTAL Score – potential for providing habitat Add the points in the column above	5

Does t	he wetland have the <u>opportunity</u> to provide habitat for many species?		(only 1 sc per box
H 2.1	Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest criterion that applies to the wetland is to be used in the rating. See text for definition of "u X 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use) 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Mo paved areas (except paved trails) or buildings within 25m (80 ft) of wetland > 95% circumference. Light to moderate grazing or lawns are OK. No paved areas of buildings within 50m of wetland for > 50% circumference. Light to moderate grazing or lawns are OK.	<pre> points = 5 points = 4 points = 4 points = 3 points = 3 points = 2 points = 1 points = 0 points = 1</pre>	Figure _
H 2.2	 <u>Corridors and Connections</u> (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eit or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplan least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, pare considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eit or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, an estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? fringe wetland, if it does not have an undisturbed corridor as in the question above YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR 	ther riparian r native nds that are at <i>aved roads</i> , ther riparian nd connects to OR a Lake - e?	4

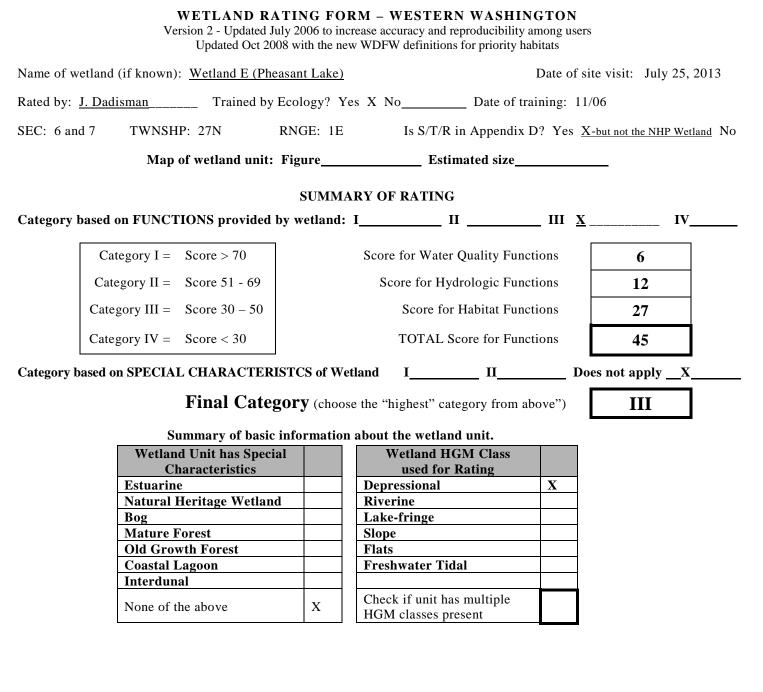
Which of the following priority habitats are within 330ft (100m) of the wetland unit? <i>NOTE: the</i> <i>connections do not have to be relatively undisturbed.</i> Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest. Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>). 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 (<i>full descriptions in WDFW PHS report p. 161</i>). 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. (<i>full descriptions of habitats and the definition of</i>	0
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre)Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>)Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrockOld-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crestOregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>)Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each otherOregon white Or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)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.	0
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L Gast Nearshore and Pliget Nolling Nearshore (till descriptions of nanitals and the definition of	
relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).	
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May	
be associated with cliffs.	
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at	
breast height of $> 51 \text{ cm} (20 \text{ in})$ in western Washington and are $> 2 \text{ m} (6.5 \text{ ft})$ in height. Priority logs	
are $> 30 \text{ cm} (12 \text{ in})$ in diameter at the largest end, and $> 6 \text{ m} (20 \text{ ft})$ long.	
If wetland has 3 or more priority habitats = 4 points	
If wetland has 2 priority habitats = 3 points	
If we than this 1 priority habitat = 1 points If we that has 1 priority habitat = 1 point No habitats = $\frac{0}{0}$ points	
Note: All vegetated wetlands are by definition a priority habitat but are not included in this	
list. Nearby wetlands are addressed in question H 2.4)	
H 2.4 <u>Wetland Landscape</u> : Choose the one description of the landscape around the wetland that best fits (see p. 84)	
 There are at least 3 other wetlands within 1/2 mile, and the connections between them are 	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating,	
but connections should NOT be bisected by paved roads, fill, fields, or other developmentpoints = 5	
• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe	
wetlands within 1/2 milepoints = 5	5
• There are at least 5 other wetlands within 1/2 line, BOT the connections between them are	5
disturbedpoints = 3	
• The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands	
within $1/2$ milepoints = 3	
• There is at least 1 wetland within $1/2$ milepoints = 2	
• There are no wetlands within 1/2 milepoints = 0	
H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	14
TOTAL for H 1 from page 8	5
◆ Total Score for Habitat Functions Add the points for H 1 and H 2; then <i>record the result on p. 1</i>	19

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	Wetland Type – Check off any criteria that apply to the wetland. Circle the Category when the appropriate	
	criteria are met.	
C1	Estuarine wetlands? (see p.86)	
	Does the wetland unit meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and With a solicity greater than 0.5 and	
	With a salinity greater than 0.5 ppt.	
	$\mathbf{YES} = \mathbf{Go} \text{ to } \mathbf{SC} 1.1 \qquad \mathbf{NO} \underline{\mathbf{X}}$	
	SC 1.1Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?YES = Category INO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?	
	YES = Category I NO = Category II	Cat. I
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp, are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh	Cat. II
	 with native species would be a Category 1. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland 	Dual Rating
	The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	I/II
C2	Natural Heritage Wetlands (see p. 87)	
	Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as	
	either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or	
	Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This</i>	
	question is used to screen out most sites before you need to contact WNHP/DNR.)	
	S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species?	Cat I
	YES = Category 1 NO $X_{_}$ not a Heritage Wetland	
C3	Bogs (see p. 87)	
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use	
	the key below to identify if the wetland is a bog. <i>If you answer yes you will still need to rate the</i>	
	wetland based on its function.	
	 Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? YES = go to question 3 NO = go to question 2 	
	2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over	
	bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or	
	pond? YES = go to question 3 NO = is not a bog for purpose of rating	
	3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present,	
	consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?	
	YES = Is a bog for purpose of rating NO = go to question 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is	
	less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western	
	hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of	
	the species (or combination of species) on the bog species plant list in Table 3 as a significant	
	component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? YES = Category I NO = Is not a bog for purpose of rating	Cat. I

SC4	Forested Wetlands (see p. 90)	
~	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish	
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland	
	based on its function.	
	Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a	
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)	
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or	
	more).	
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees	
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW	
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old	
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally	
	less than that found in old-growth.	Cat. I
	$\mathbf{YES} = Category I \qquad \qquad \mathbf{NO} = X _ not a forested wetland with special characteristics$	
SC5	Wetlands in Coastal Lagoons (see p. 91)	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated	
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5	
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the	
	bottom.)	
	YES = Go to SC 5.1 NO $X_{_}$ not a wetland in a coastal lagoon	
	SC 5.1 Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has	
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed	
	or un-mowed grassland.	Cat. I
	The wetland is larger than 1/10 acre (4350 square ft.)	
	YES = Category I NO = Category II	Cat. II
SC6	Interdunal Wetlands (see p. 93)	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or	
	WBUO)?	
	YES = Go to SC 6.1 NO X not an interdunal wetland for rating	
	If you answer yes you will still need to rate the wetland based on its functions.	
	In practical terms that means the following geographic areas:	
	 Long Beach Peninsula lands west of SR 103 Grayland-Westport lands west of SR 105 	
	 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?	
	YES = Category II NO = go to SC 6.2	Cat. II
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	0
	YES = Category III	Cat. III
	Category of wetland based on Special Characteristics	
	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.	
Ť	If you answered NO for all types enter "Not Applicable" on p. 1	



Wetland name or number: Wetland E (Pheasant Lake)

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Wetland name or number: Wetland E (Pheasant Lake)

Classification of Vegetated Wetlands for Western Washington

	Chassification of vegetated vve					
	drologic criteria listed in each question do not apply to HGM classes. In this case, identify which hydrologic	the entire unit being rated, you probably have a unit with criteria in questions 1-7 apply, and go to Question 8.				
1. Are	1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?					
(NO	NO – go to 2 YES – the wetland class is Tidal Fringe					
\sim	If yes, is the salinity of the water during periods of ann					
	YES – Freshwater Tidal Fringe	NO – Saltwater Tidal Fringe (Estuarine)				
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it					
	<i>is rated as an Estuarine wetland.</i> Wetlands that were call estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and					
		istency between editions, the term "Estuarine" wetland is kept. Please				
	note, however, that the characteristics that define Category I ar					
2. The						
	off are NOT sources of water to the unit.	rce (>90%) of water to it. Groundwater and surface water				
Tun		vetland class is Flats				
	If your wetland can be classified as a "Flats" wetland,					
3. Doe	es the entire wetland meet both of the following criteria					
<i>J.</i> D 00	6	bres of a body of permanent open water (without any				
	vegetation on the surface) where at least 20 ac					
	At least 30% of the open water area is deeper					
	$\overline{\text{NO}}$ yo to 4 YES – The v	vetland class is Lake-fringe (Lacustrine Fringe)				
4. Doe	es the entire wetland meet all of the following criteria?					
	The wetland is on a slope (slope can be very g	radual).				
	The water flows through the wetland in one di	rection (unidirectional) and usually comes from seeps. It may				
	flow subsurface, as sheetflow, or in a swale w					
	The water leaves the wetland without being i					
		types of wetlands except occasionally in very small and				
		pressions are usually <3 ft diameter and less than 1 foot deep).				
		vetland class is Slope				
5. Doe	es the entire wetland meet all of the following criteria?					
	The unit is in a valley or stream channel where it gets inundated by overbank flooding from that stream or					
	river. The overbank flooding occurs at least once overy two years					
	The overbank flooding occurs at least once every two years. NOTE: <u>The</u> riverine unit can contain depressions that are filled with water when the river is not flooding					
		vetland class is Riverine				
6. Is the		ich water ponds, or is saturated to the surface, at some time of				
the	year. This means that any outlet, if present is higher th	an the interior of the wetland.				
	NO – go to 7 $(YES -)$ The	e wetland class is Depressional				
7. Is the		ious depression and no overbank flooding. The unit does not				
		s to be maintained by high groundwater in the area. The				
	land may be ditched, but has no obvious natural outlet.	, , , , , , , , , , , , , , , , , , ,				
		wetland class is Depressional				
8. You	r wetland unit seems to be difficult to classify and probably con	tains several different HGM classes. For example, seeps at the base of a				
		a depressional wetland has a zone of flooding along its sides. GO				
		IMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT				
ARI	EAS IN THE UNIT (make a rough sketch to help you decide).	Use the following table to identify the appropriate class to use for the				
		wetland. NOTE: Use this table only if the class that is recommended in				
		vetland unit being rated. If the area of the class listed in column 2 is less				
than	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				
	ope + Riverine	Riverine				
	ope + Depressional	Depressional				
	ope + Lake-fringe	Lake-fringe				
	epressional + Riverine along stream within boundary	Depressional				
	epressional + Lake-fringe	Depressional				
	lt Water Tidal Fringe and any other class of	Treat as ESTUARINE under wetlands with special				
	eshwater wetland	characteristics				
		apply to your wetland, or you have more than 2 HGM classes				
within a	wetland boundary, classify the wetland as Depression	n for the fatting.				

Wetland Rating Form - western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
	D 1.1 Characteristics of surface water flows out of the wetland:	
	• Unit is a depression with no surface water leaving it (no outlet) points = 3	Figure
	 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 	
	• Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface	3
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>)	0
	YESpoints = 4NOpoints = 0 $D = 1 2 C C C C C C C C C C C C C C C C C C$	0
	 D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed vegetation >= 95% of area points = 5 	Figure
	• Wetland has persistent, ungrazed vegetation $> = 1/2$ of area	3
	 Wetland has persistent, ungrazed vegetation > = 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0 	
	Map of Cowardin vegetation classes	
	D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at	Figure
	least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 years.	1 igui e
	• Area seasonally ponded is $> 1/2$ total area of wetland points = 4	
	 Area seasonally ponded is > 1/4 total area of wetlandpoints = 2 Area seasonally ponded is < 1/4 total area of wetlandpoints = 0 	0
	Map of Hydroperiods	
	Total for D 1Add the points in the boxes above	
D 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 44)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient	
	from the wetland? Note which of the following conditions provide the sources of pollutants. A unit	
	may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft	
	Untreated stormwater discharges to wetland	
	Tilled fields or orchards within 150 ft. of wetland A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed	
	fields, roads, or clear-cut logging	A 1.1 11
	Residential, urban areas, golf courses are within 150 ft. of wetland Wetland is fed by groundwater high in phosphorus or nitrogen	Multiplier
	Other	1
	YES multiplier is 2 NO multiplier is 1	
•	<u>TOTAL</u> – Water Quality Functions Multiply the score from D1 by D2; then <i>add score to table on p. 1</i>	6
	HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.	
D 3		(see p.46)
	 D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) points = 4 	
	• Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points $= 2$	
	• Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1	4
	(If ditch is not permanently flowing treat unit as "intermittently flowing")	
	• Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0 D 3.2 Depth of storage during wet periods. <i>Estimate the height of ponding above the bottom of the outlet. For</i>	
	D 3.2 Depth of storage during wet periods. Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).	
	• Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7	
	 The wetland is a "headwater" wetland points = 5 Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet points = 5 	5
	• Marks are at least 0.5 ft. to < 2 ft. from surface or bottom of outlet	
1	 Wetland is flat (yes to Q.2 or Q.7 on key)but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft	
	D 3.3 Contribution of wetland unit to storage in the watershed: <i>Estimate the ratio of the area of upstream</i>	
1	 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 unit points = 5 	
	• The area of the basin is 10 to 100 times the area of the unit points = 3	3
1	• The area of the basin is more than 100 times the area of the unit	
	• Entire unit is in the FLATS class	12
D 4		
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity,	(see p. 49)
1	it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive	Multiplier
1	flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	

Wetland name or number: Wetland E (Pheasant Lake)

groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply	<u>1</u>
TOTAL – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	12

The	se questions apply to wetlands of all HGM classes.	Points
	HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.	(only 1 score per box)
H 1	Does the wetland have the <u>potential</u> to provide habitat for many species?	
	H 1.1 Vegetation structure (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. X Aquatic Bed X Emergent plants X Scrub/shrub (areas where shrubs have > 30% cover) X Forested (areas where trees have > 30% cover) 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.	Figure
	Add the number of vegetation types that qualify. If you have: 4 structures or more points = 4 2 structures points = 1 Map of Cowardin vegetation classes 3 structures	
	H 1.2 Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). X Permanently flooded or inundated 4 or more types present points = 3 X Seasonally flooded or inundated 3 or more types presentpoints = 2 Occasionally flooded or inundated 2 types presentpoints = 1 X Saturated only 1 type presentpoints = 0 Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake-fringe wetland	Figure 2
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species points = 2 5 - 19 species points = 1 List species below if you want to:	1
	 H 1.4 Interspersion of Habitats (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. Note: If you have 4 or more classes or 3 vegetation classes and open water, the rating is always "high". None = 0 points Low = 1 point Moderate = 2 points We map of Cowardin classes Use map of Cowardin classes 	
	 High = 5 points H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error. 	3
	H 1 TOTAL Score – potential for providing habitat Add the points in the column above	13

2 Does t	he wetland have the <u>opportunity</u> to provide habitat for many species?	((only 1 sc per box
H 2.1	Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest criterion that applies to the wetland is to be used in the rating. See text for definition of "un X 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use) 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. 11 Ibuffer does not meet any of the criteria above: No paved areas (except paved trails) or buildings within 25m (80 ft) of wetland > 95% circumference. 12 No paved areas of buildings within 50m of wetland for > 50% circumference. <td< th=""><th><pre>scoring ndisturbed" points = 5 points = 4 points = 4 points = 3 points = 3 points = 2 points = 2 points = 1 points = 0 points = 1</pre></th><th>igure _</th></td<>	<pre>scoring ndisturbed" points = 5 points = 4 points = 4 points = 3 points = 3 points = 2 points = 2 points = 1 points = 0 points = 1</pre>	igure _
H 2.2	Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eith or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplane least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, part are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eith or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, and estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? (fringe wetland, if it does not have an undisturbed corridor as in the question above YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR YES = 1 point 	her riparian native ds that are at <i>aved roads</i> , her riparian d connects to OR a Lake- ?	4

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions	
of WDFW priority habitats, and the counties in which they can be found, in the PHS report	
http://wdfw.wa.gov/hab/phslist.htm)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
connections do not have to be relatively undisturbed.	
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
Biodiversity Areas and Corridors : Areas of habitat that are relatively important to various	
species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>).	
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters	
exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that	
100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less	
than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).	
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 (<i>full descriptions in WDFW PHS report p. 161</i>).	0
Instream: The combination of physical, biological, and chemical processes and conditions that	U
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. (<i>full descriptions of habitats and the definition of</i>	
relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).	
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May	
be associated with cliffs.	
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at	
breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs	
are $> 30 \text{ cm} (12 \text{ in})$ in diameter at the largest end, and $> 6 \text{ m} (20 \text{ ft})$ long.	
If wetland has 3 or more priority habitats = 4 points	
If we land has 2 priority habitats = 3 points	
If wetland has 1 priority habitat = 1 point No habitats = $\frac{0}{0}$ points	
Note: All vegetated wetlands are by definition a priority habitat but are not included in th	i.
list. Nearby wetlands are addressed in question H 2.4)	
H 2.4 <u>Wetland Landscape</u> : Choose the one description of the landscape around the wetland that best fits (see p. 84)	()
 There are at least 3 other wetlands within 1/2 mile, and the connections between them are 	,
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating,	
but connections should NOT be bisected by paved roads, fill, fields, or other developmentpoints = 5	
• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe	
wetlands within 1/2 milepoints = 5	5
• There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are	_
disturbedpoints = 3	
• The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands	
within 1/2 milepoints = 3	
• There is at least 1 wetland within 1/2 mile	
• There are no wetlands within 1/2 milepoints = 0	
H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	14
TOTAL for H 1 from page 8	13
• Total Score for Habitat Functions Add the points for H 1 and H 2; then <i>record the result on p</i> . I	27

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	Wetland Type – Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.				
	Estuarine wetlands? (see p.86)				
C1	Does the wetland unit meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and				
	With a salinity greater than 0.5 ppt. $X = C_0$ to $S_0 = 1$				
	$\mathbf{YES} = \mathbf{Go} \text{ to } \mathbf{SC} 1.1 \qquad \mathbf{NO} \qquad \underline{\mathbf{X}}$				
	SC 1.1Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?YES = Category INO = go to SC 1.2	Cat. 1			
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?				
	YES = Category I NO = Category II The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has	Cat. I			
	less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp, are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh	Cat. II			
	 with native species would be a Category 1. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Dual Rating I/II			
C2	Natural Heritage Wetlands (see p. 87)				
_	Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as				
	either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or				
	Sensitive plant species.				
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This</i>				
	question is used to screen out most sites before you need to contact WNHP/DNR.)				
	S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO				
	YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened				
	• • •				
	$\mathbf{YES} = \text{Category 1} \qquad \mathbf{NO} \text{X_ not a Heritage Wetland}$	Cat I			
~	Bogs (see p. 87)				
C3	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use				
	the key below to identify if the wetland is a bog. <i>If you answer yes you will still need to rate the</i>				
	wetland based on its function.				
	 Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? YES = go to question 3 NO = go to question 2 				
	2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over				
	bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or				
	pond? YES = go to question 3 NO = is not a bog for purpose of rating				
	3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present,				
	consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4				
	NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is				
	 less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of 				
	the species (or combination of species) on the bog species plant list in Table 3 as a significant				
	component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	Cat. I			

SC4	Forested Wetlands (see p. 90)				
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish				
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland				
	based on its function.				
	Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a				
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)				
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or				
	more).				
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees				
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW				
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.				
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old				
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than				
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally				
	less than that found in old-growth.	Cat. I			
	YES = Category I NO = X not a forested wetland with special characteristics				
SC5	Wetlands in Coastal Lagoons (see p. 91)				
500	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?				
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated				
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.				
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5				
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the				
	bottom.)				
	YES = Go to SC 5.1 NO $X_{_}$ not a wetland in a coastal lagoon				
	SC 5.1 Does the wetland meet all of the following three conditions?				
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has				
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).				
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed				
	or un-mowed grassland.				
	The wetland is larger than 1/10 acre (4350 square ft.)				
	YES = Category I NO = Category II				
SC6	Interdunal Wetlands (see p. 93)				
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or				
	WBUO)?				
	YES = Go to SC 6.1 NO X_{-} not an interdunal wetland for rating				
	If you answer yes you will still need to rate the wetland based on its functions.				
	In practical terms that means the following geographic areas:				
	Long Beach Peninsula lands west of SR 103 Creater d Westwart lands west of SR 105				
	 Grayland-Westport lands west of SR 105 Ocean Shores-Copalis – lands west of SR 115 and SR 109 				
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?				
	$\mathbf{YES} = \text{Category II} \qquad \mathbf{NO} = \text{go to SC 6.2}$	Cat. II			
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?				
	YES = Category III	Cat. III			
	Category of wetland based on Special Characteristics	Cat. 111			
•	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.				
•	If you answered NO for all types enter "Not Applicable" on p. 1				
	in you answered the fot an types enter interrepricable on p. 1				

Wetland name or number: Central Conveyor H						
	Version 2 - Updated J	uly 2006 to inc	RM – WESTERN WASHIN rease accuracy and reproducibility and w WDFW definitions for priority had	mong us		
Name of wetland (if k	nown): <u>Wetland H</u>			Date of	site visit: July	25, 2013
Rated by: J. Dadisman	n Trained by	Ecology? Ye	es X No Date of tra	ining:	11/06	
SEC: 6 TV	WNSHP: 27N	RNGE: 1E	1E Is S/T/R in Appendix D? Yes <u>X-but not the NHP Wetland</u> No			Wetland No
	Map of wetland unit:	Figure	Estimated size			
		SUMMA	RY OF RATING			
Category based on F	UNCTIONS provided	by wetland:	I II		<u>X</u>]	IV
Categor	y I = Score > 70		Score for Water Quality Funct	ions	12	
Category	II = Score 51 - 69		Score for Hydrologic Funct	ions	7	_
Category	III = Score 30 - 50		Score for Habitat Funct	ions	16	
Category	IV = Score < 30		TOTAL Score for Funct	ions	35	7
Category based on SP	ECIAL CHARACTER	ISTCS of Wet	tland I II	1	Does not apply	X
	·		e the "highest" category from ab	ove")	III	
			about the wetland unit.		1	
N N	Vetland Unit has Speci	al	Wetland HGM Class			
Est	Characteristics uarine		used for Rating Depressional	X		
	tural Heritage Wetlan	d	Riverine	Λ		
Bog	U	u	Lake-fringe			
	ture Forest		Slope			
	Growth Forest		Flats			
	astal Lagoon		Freshwater Tidal			
	erdunal					
Noi	ne of the above	X	Check if unit has multiple HGM classes present			

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

	If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.					
1.	1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?					
	NO - yo to 2 YES – the wetland class is Tidal Fringe					
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)					
	YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine) If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it					
		arine in the first and second editions of the rating system are called Salt				
		stuarine wetlands were categorized separately in the earlier editions, and				
		istency between editions, the term "Estuarine" wetland is kept. Please				
	note, however, that the characteristics that define Category I ar					
2.	The entire wetland unit is flat and precipitation is only sour	rce (>90%) of water to it. Groundwater and surface water				
	runoff are NOT sources of water to the unit. NO -20 to 3 YES – The wetland class is Flats					
	If your wetland can be classified as a "Flats" wetland,					
3.	Does the entire wetland meet both of the following criteria					
5.		ores of a body of permanent open water (without any				
	vegetation on the surface) where at least 20 ac					
	At least 30% of the open water area is deeper					
		vetland class is Lake-fringe (Lacustrine Fringe)				
4.	Does the entire wetland meet all of the following criteria?					
	The wetland is on a slope (<i>slope can be very g</i>	gradual). irection (unidirectional) and usually comes from seeps. It may				
	flow subsurface, as sheetflow, or in a swale w					
	The water leaves the wetland without being i					
		types of wetlands except occasionally in very small and				
		pressions are usually <3 ft diameter and less than 1 foot deep).				
		vetland class is Slope				
5.	0					
	The unit is in a valley or stream channel where it gets inundated by overbank flooding from that stream or river.					
	The overbank flooding occurs at least once every two years.					
	NOTE: <u>The</u> riverine unit can contain depressions that are filled with water when the river is not flooding.					
	(NO - yo to 6) YES – The v	vetland class is Riverine				
6.		tich water ponds, or is saturated to the surface, at some time of				
	the year. This means that any outlet, if present is higher th					
7		e wetland class is Depressional				
7.	Is the entire wetland located in a very flat area with no obv pond surface water more than a few inches. The unit seems	ious depression and no overbank flooding. The unit does not				
	wetland may be ditched, but has no obvious natural outlet.	s to be maintained by high groundwater in the area. The				
		e wetland class is Depressional				
8.	Your wetland unit seems to be difficult to classify and probably con	tains several different HGM classes. For example, seeps at the base of a				
	slope may grade into a riverine floodplain, or a small stream within					
		IMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT				
		Use the following table to identify the appropriate class to use for the				
		wetland. NOTE: Use this table only if the class that is recommended in vetland unit being rated. If the area of the class listed in column 2 is less				
	than 10% of the unit, classify the wetland using the class that repres					
	HGM Classes within the wetland unit being rated	HGM Class to Use in Rating				
	Slope + Riverine	Riverine				
	Slope + Depressional	Depressional				
	Slope + Lake-fringe	Lake-fringe				
	Depressional + Riverine along stream within boundary	Depressional				
	Depressional + Lake-fringe	Depressional				
	Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special				
If v		characteristics pply to your wetland, or you have more than 2 HGM classes				
11 y	bu are unable still to determine when of the above effective					

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

Wetland Rating Form - western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
	D 1.1 Characteristics of surface water flows out of the wetland:	
	 Unit is a depression with no surface water leaving it (no outlet) points = 3 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 	Figure
	• Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1	
	• Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1	3
	(If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions)	0
	YESpoints = 4NOpoints = 0D 1.3Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):	
	• Wetland has persistent, ungrazed vegetation $> = 95\%$ of area	Figure
	 Wetland has persistent, ungrazed vegetation > = 1/2 of area points = 3 Wetland has persistent, ungrazed vegetation > = 1/10 of area points = 1 	5
	• Wetland has persistent, ungrazed vegetation $< 1/10$ of area	
	Map of Cowardin vegetation classes D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at	
	least 2 months, but dries out sometime during the year. Do not count the area that is permanently	Figure
	 ponded. Estimate area as the average condition 5 out of 10 years. Area seasonally ponded is > 1/2 total area of wetland points = 4 	
	• Area seasonally ponded is $> 1/4$ total area of wetland points $= 2$	4
	• Area seasonally ponded is < 1/4 total area of wetland points = 0 Map of Hydroperiods	-
	Total for D 1 Add the points in the boxes above	12
D 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 44)
D 2	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into	(500 p. 11)
	the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit	
	may have pollutants coming from several sources, but any single source would qualify as opportunity.	
	Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland	
	Tilled fields or orchards within 150 ft. of wetland	
	A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging	
	Residential, urban areas, golf courses are within 150 ft. of wetland	Multiplier
	Wetland is fed by groundwater high in phosphorus or nitrogen Other	1
	YES multiplier is 2 NO multiplier is 1	<u>1</u>
•	<u>TOTAL</u> – Water Quality Functions Multiply the score from D1 by D2; then <i>add score to table on p. 1</i>	12
	HYDROLOGIC FUNCTIONS - Indicators that wetland unit functions to reduce flooding and stream degradation.	1
D 3	Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p.46)
	 D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) points = 4 	
	• Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points $= 2$	
	• Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface	4
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (<i>If ditch is not permanently flowing treat unit as "intermittently flowing"</i>)	
	• Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0	
	D 3.2 Depth of storage during wet periods. Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).	
	• Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7	
	 The wetland is a "headwater" wetland points = 5 Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet points = 5 	0
	• Marks are at least 0.5 ft. to < 2 ft. from surface or bottom of outlet points = 3	
	 Wetland is flat (yes to Q.2 or Q.7 on key)but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft	
	D 3.3 Contribution of wetland unit to storage in the watershed: <i>Estimate the ratio of the area of upstream</i>	
	 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 unit points = 5 	
	• The area of the basin is 10 to 100 times the area of the unit $points = 3$	3
	 The area of the basin is more than 100 times the area of the unit points = 0 Entire unit is in the FLATS class points = 5 	
	• Entrie unit is in the PEATS class	7
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?	(see p. 49)
	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity,	Multiplier
	it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide	manipher
	gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	

Wetland name or number: Central Conveyor H

	groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. Wetland is in a headwater of a river or stream that has flooding problems. Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other YES multiplier is 2 NO multiplier is 1	
۲	TOTAL – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	7

Thes	se questions apply to wetlands of all HGM classes.	Points (only 1 score				
	HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.					
H 1	1 Does the wetland have the <u>potential</u> to provide habitat for many species?					
	H 1.1 Vegetation structure (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class if 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed Aquatic Bed X Emergent plants Scrub/shrub (areas where shrubs have > 30% cover) Forested (areas where trees have > 30% cover) 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. Add the number of vegetation types that qualify. If you have: 4 structures or more points = 4 2 structures points = 1 4 structure points = 0					
	H 1.2 Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present points = 3 X Seasonally flooded or inundated 3 or more types present points = 2 Occasionally flooded or inundated 2 types presentpoints = 1 Saturated only 1 type presentpoints = 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 Map of hydroperiods	Figure O				
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species					
	H 1.4 Interspersion of Habitats (<i>see p. 76</i>): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points Low = 1 point Low = 1 point Low = 1 point Low = 2 points Low = 1 point Low = 1 point Fiparian braided channels]	<u> </u>				
	 H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error. 	1				
	H 1 TOTAL Score – potential for providing habitatAdd the points in the column above	2				

Does t	he wetland have the <u>opportunity</u> to provide habitat for many species?		only 1 s per bo
H 2.1	Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highes criterion that applies to the wetland is to be used in the rating. See text for definition of "uxited variables of the wetland is to be used in the rating. See text for definition of "uxited variables of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use)	<i>t scoring</i> <i>indisturbed</i> ". points = 5 <i>points = 4</i> <i>points = 4</i> <i>points = 3</i> <i>points = 3</i> <i>points = 3</i> <i>points = 3</i> <i>points = 2</i> <i>points = 1</i> <i>points = 1</i> <i>points = 1</i>	gure _
H 2.2	Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (ei or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplant least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, p are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (ei or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, ar estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? fringe wetland, if it does not have an undisturbed corridor as in the question abov YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR 	ther riparian r native nds that are at <i>paved roads</i> , ther riparian nd connects to OR a Lake- e?	4

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	Wetland Type – Check off any criteria that apply to the wetland. Circle the Category when the appropriate	
	criteria are met.	
C1	Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and	
	SC 1.1Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?YES = Category INO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions? YES = Category I NO = Category II	Cat. I
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp, are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with network of Sparting would be rated a Category II while the relatively undisturbed upper marsh	Cat. I
	 with native species would be a Category 1. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Dual Rating I/II
C 2	Natural Heritage Wetlands (see p. 87)Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (This question is used to screen out most sites before you need to contact WNHP/DNR.) (This question is used to screen out most sites before you need to contact WNHP/DNR.) S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species? YES = Category 1 NO X not a Heritage Wetland	Cat]
C3	<u>Bogs</u> (see p. 87) Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use	
	the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its function.	
	 Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? YES = go to question 3 NO = go to question 2 	
	 2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? YES = go to question 3 	
	 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 	
	 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western 	
	hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? YES = Category I NO = Is not a bog for purpose of rating	Cat.]

SC4	Forested Wetlands (see p. 90)					
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish					
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland					
	based on its function.					
	Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a					
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)					
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or					
	more).					
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees					
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW					
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.					
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old					
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than					
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally					
	less than that found in old-growth.	Cat. I				
	YES = Category I $NO = X_{not}$ not a forested wetland with special characteristics					
SC5	Wetlands in Coastal Lagoons (see p. 91)					
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?					
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated					
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.					
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5)					
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the					
	bottom.)					
	YES = Go to SC 5.1 NO $X_{_}$ not a wetland in a coastal lagoon					
	SC 5.1 Does the wetland meet all of the following three conditions?					
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has					
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).					
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed					
	or un-mowed grassland.	Cat. I				
	The wetland is larger than 1/10 acre (4350 square ft.)					
	YES = Category I NO = Category II	Cat. II				
SC6	Interdunal Wetlands (see p. 93)					
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or					
	WBUO)?					
	YES = Go to SC 6.1 NO X not an interdunal wetland for rating					
	If you answer yes you will still need to rate the wetland based on its functions.					
	 In practical terms that means the following geographic areas: Long Beach Peninsula lands west of SR 103 					
	• Grayland-Westport lands west of SR 105					
	 Ocean Shores-Copalis – lands west of SR 115 and SR 109 					
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?					
	YES = Category II NO = go to SC 6.2	Cat. II				
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?					
	YES = Category III	Cat. III				
	Category of wetland based on Special Characteristics					
•	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.					
	If you answered NO for all types enter "Not Applicable" on p. 1					

WETLAND RATING FORM – WESTERN WASHINGTON Version 2 - Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats						
Name of w	etland (if known): <u>Wetland H</u>			Date of	site visit: July 25, 2013	
Rated by:	J. Dadisman Trained by	Ecology? Ye	s X No Date of tra	aining: 1	1/06	
SEC: 1	TWNSHP: 27N	RNGE: 1W	Is S/T/R in Appendix I	D? Yes	X-but not the NHP Wetland No	
	Map of wetland unit:	Figure	Estimated size			
		SUMMA	RY OF RATING			
Category h	oased on FUNCTIONS provided	by wetland:	I II		<u> </u>	
	Category I = Score > 70		Score for Water Quality Func	tions	12	
	Category II = Score 51 - 69		Score for Hydrologic Func	tions	7	
	Category III = Score 30 – 50		Score for Habitat Func	tions	21	
	Category IV = Score < 30		TOTAL Score for Func	tions	40	
Category based on SPECIAL CHARACTERISTCS of Wetl			land I II	I	Does not apply <u>X</u>	
	Final Cates	gory (choose	e the "highest" category from at	oove")	III	
	Summary of basic	information	about the wetland unit.			
	Wetland Unit has Speci Characteristics		Wetland HGM Class			
	Estuarine		used for Rating Depressional	X		
	Natural Heritage Wetland	h	Riverine	Λ		
	Bog		Lake-fringe			
	Mature Forest		Slope			
	Old Growth Forest		Flats			
	Coastal Lagoon		Freshwater Tidal			
	Interdunal					
	None of the above	Х	Check if unit has multiple HGM classes present			

Wetland name or number: Meridian Extraction Wetland H

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	<i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Wetland name or number: Meridian Extraction Wetland H

Classification of Vegetated Wetlands for Western Washington

	he hydrologic criteria listed in each question do not apply to ltiple HGM classes. In this case, identify which hydrologic	
1. (Are the water levels in the entire unit usually controlled by NO - yo to 2 YES - the wetland class is Tie If yes, is the salinity of the water during periods of an YES - Freshwater Tidal Fringe	dal Fringe
	If your wetland can be classified as a Freshwater Tidal Fringe is rated as an Estuarine wetland. Wetlands that were call estu Water Tidal Fringe in the Hydrogeomorphic Classification. E	<i>e use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it</i> narine in the first and second editions of the rating system are called Salt stuarine wetlands were categorized separately in the earlier editions, and istency between editions, the term "Estuarine" wetland is kept. Please
2.	The entire wetland unit is flat and precipitation is only sou	rce (>90%) of water to it. Groundwater and surface water
	runoff are NOT sources of water to the unit. (NO - 20 to 3) YES – The v	vetland class is Flats
	If your wetland can be classified as a "Flats" wetland,	
3.	Does the entire wetland meet both of the following criteria	
		ores of a body of permanent open water (without any
	vegetation on the surface) where at least 20 ac At least 30% of the open water area is deeper	
		vetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland meet all of the following criteria?	
	The wetland is on a slope (<i>slope can be very</i> g	gradual). irectional) and usually comes from seeps. It may
	flow subsurface, as sheetflow, or in a swale w	
	The water leaves the wetland without being i	mpounded?
		types of wetlands except occasionally in very small and pressions are usually <3 ft diameter and less than 1 foot deep).
		vetland class is Slope
5.	Does the entire wetland meet all of the following criteria?	· · · · · · · · · · · · · · · · · · ·
	•	e it gets inundated by overbank flooding from that stream or
	river. The overbank flooding occurs at least once ev	very two years
		sions that are filled with water when the river is not flooding
	NO - yo to 6 YES – The v	vetland class is Riverine
6.	the year. This means that any outlet, if present is higher th	hich water ponds, or is saturated to the surface, at some time of an the interior of the wetland. e wetland class is Depressional
7		ious depression and no overbank flooding. The unit does not
	pond surface water more than a few inches. The unit seem	
	wetland may be ditched, but has no obvious natural outlet.	
0	· · · · · · · · · · · · · · · · · · ·	e wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably con- slope may grade into a riverine floodplain, or a small stream within	ntains several different HGM classes. For example, seeps at the base of a a depressional wetland has a zone of flooding along its sides. GO
		SIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT
		Use the following table to identify the appropriate class to use for the
		wetland. NOTE: Use this table only if the class that is recommended in vetland unit being rated. If the area of the class listed in column 2 is less
	than 10% of the unit, classify the wetland using the class that repres	
	HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
	Slope + Riverine	Riverine
	Slope + Depressional	Depressional
	Slope + Lake-fringe Depressional + Riverine along stream within boundary	Lake-fringe Depressional
	Depressional + Riverine along stream within boundary Depressional + Lake-fringe	Depressional
	Salt Water Tidal Fringe and any other class of	Treat as ESTUARINE under wetlands with special
Τ£	freshwater wetland	characteristics
II Y	ou are unable sum to determine which of the above criteria	apply to your wetland, or you have more than 2 HGM classes

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

Wetland Rating Form - western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
	D 1.1 Characteristics of surface water flows out of the wetland:	
	 Unit is a depression with no surface water leaving it (no outlet) points = 3 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 	Figure
	• Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1	
	• Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1	3
	(If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>)	0
	YESpoints = 4NOpoints = 0D 1.3Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):	
	• Wetland has persistent, ungrazed vegetation $> = 95\%$ of area	Figure
	 Wetland has persistent, ungrazed vegetation > = 1/2 of area	5
	• Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0	
	Map of Cowardin vegetation classes D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at	
	least 2 months, but dries out sometime during the year. Do not count the area that is permanently	Figure
	 ponded. Estimate area as the average condition 5 out of 10 years. Area seasonally ponded is > 1/2 total area of wetland 	
	• Area seasonally ponded is $> 1/4$ total area of wetland points $= 2$	4
	• Area seasonally ponded is < 1/4 total area of wetlandpoints = 0 Map of Hydroperiods	-
	Total for D 1 Add the points in the boxes above	12
D 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 44)
D 2	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into	(500 p. 11)
	the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit	
	may have pollutants coming from several sources, but any single source would qualify as opportunity.	
	Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland	
	Tilled fields or orchards within 150 ft. of wetland	
	A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed	
	fields, roads, or clear-cut logging Residential, urban areas, golf courses are within 150 ft. of wetland	Multiplier
	Wetland is fed by groundwater high in phosphorus or nitrogen	1
	Other YES multiplier is 2 NO multiplier is 1	<u>1</u>
•	TOTAL – Water Quality Functions Multiply the score from D1 by D2; then <i>add score to table on p. 1</i>	12
	HYDROLOGIC FUNCTIONS - Indicators that wetland unit functions to reduce flooding and stream degradation.	7
D 3	Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p.46)
	 D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) points = 4 	
	 Unit is a depression with no surface water reaving it (no outlet)	
	• Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface	4
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing")	
	• Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0	
	D 3.2 Depth of storage during wet periods. Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).	
	• Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7	
	 The wetland is a "headwater" wetland points = 5 Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet points = 5 	0
	• Marks are at least 0.5 ft. to < 2 ft. from surface or bottom of outlet	
	 Wetland is flat (yes to Q.2 or Q.7 on key)but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft	
	D 3.3 Contribution of wetland unit to storage in the watershed: <i>Estimate the ratio of the area of upstream</i>	
	 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 unit points = 5 	
	• The area of the basin is 10 to 100 times the area of the unit	3
	• The area of the basin is more than 100 times the area of the unit points = 0	
	• Entire unit is in the FLATS class	
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?	(see p. 49)
4	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity,	· •
	it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide	Multiplier
	gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	

Wetland name or number: Meridian Extraction Wetland H

	 groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. Wetland is in a headwater of a river or stream that has flooding problems. Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other 	1
	YES multiplier is 2 NO multiplier is 1	<u>+</u>
٠	TOTAL – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	7

The	se questions apply to wetlands of all HGM classes.	Points
	HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.	(only 1 score per box)
H 1	Does the wetland have the potential to provide habitat for many species?	
	 H 1.1 Vegetation structure (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed X Emergent plants X Scrub/shrub (areas where shrubs have > 30% cover) Forested (areas where trees have > 30% cover) 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- 	Figure 1
	Cover) that each cover 20% within the forested polygon.Add the number of vegetation types that qualify. If you have:4 structures or more points = 42 structures points = 11 structure points = 0	
	H 1.2 Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present points = 3 X Seasonally flooded or inundated 3 or more types present points = 2 Occasionally flooded or inundated 2 types present points = 1 X 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	Figure
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species points = 2 5 - 19 species points = 1 List species below if you want to:	1
	H 1.4 Interspersion of Habitats (<i>see p. 76</i>): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points None = 0 points Low = 1 point Moderate = 2 points Wether the rating is always "high". Use map of Cowardin classes	
	 H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error. 	3
	H 1 TOTAL Score – potential for providing habitat Add the points in the column above	7

2 Does t	he wetland have the <u>opportunity</u> to provide habitat for many species?	(only per
H 2.1	Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturb X 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use)	Figure ed ". Figure $a = 3$ a = 4 a = 4 a = 3 a = 3 a = 3 a = 2 a = 2 a = 1 a = 0 a = 1
H 2.2	 <u>Corridors and Connections</u> (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either ripa or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that a least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, paved road are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either ripa or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, and conne estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a L fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR YES = 1 point 	rian are at <i>ids,</i> rian cts to

	H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions	
	of WDFW priority habitats, and the counties in which they can be found, in the PHS report	
	http://wdfw.wa.gov/hab/phslist.htm)	
	Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
	connections do not have to be relatively undisturbed.	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
	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 p. 152).	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
	species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
	trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters	
	exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less	
	than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
	coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).	
	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 (<i>full descriptions in WDFW PHS report p. 161</i>).	0
	Instream: The combination of physical, biological, and chemical processes and conditions that	U
	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. (<i>full descriptions of habitats and the definition of</i>	
	relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
	composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May	
	be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
	decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at	
	breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs	
	are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.	
	If wetland has 3 or more priority habitats = 4 points	
	If wetland has 2 priority habitats = 3 points	
	If wetland has 1 priority habitat = 1 point No habitats = $\frac{0}{2}$ points	
	Note: All vegetated wetlands are by definition a priority habitat but are not included in this	
	list. Nearby wetlands are addressed in question H 2.4)	
	H 2.4 <u>Wetland Landscape</u> : Choose the one description of the landscape around the wetland that best fits (see p. 84)	
	• There are at least 3 other wetlands within 1/2 mile, and the connections between them are	
	relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating,	
	but connections should NOT be bisected by paved roads, fill, fields, or other developmentpoints = 5	
	• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe moints = 5	
	wetlands within $1/2$ mile	5
	• There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed	•
	disturbedpoints = 3	
	• The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within 1/2 mile	
	 There is at least 1 wetland within 1/2 milepoints = 2 	
	1.	
	• There are no wetlands within 1/2 milepoints = 0	
	H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	14
	TOTAL for H 1 from page 8	7
•	Total Score for Habitat FunctionsAdd the points for H 1 and H 2; then record the result on p. 1	21

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	criteria are met.	
C1	Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt.	
	$\mathbf{YES} = \text{Go to SC } 1.1 \qquad \text{NO} \underline{X}$	
	SC 1.1Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?YES = Category INO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?	
	YES = Category I NO = Category II The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp,. are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II).	Cat. I Cat. I
	The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category 1. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed	Dual Rating
	or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	I/II
C2	Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (This question is used to screen out most sites before you need to contact WNHP/DNR.) (This question is used to screen out most sites before you need to contact WNHP/DNR.) S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES X YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species? YES = Category 1 NO X not a Heritage Wetland	Cat]
C3	<u>Bogs</u> (see p. 87)	
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. <i>If you answer yes you will still need to rate the</i>	
	wetland based on its function.	
	 Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? YES = go to question 3 NO = go to question 2 	
	 Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? YES = go to question 3 NO = is not a bog for purpose of rating 	
	 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 	
	 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western 	
	hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	Cat.]

SC4	Forested Wetlands (see p. 90)	
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish	
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland	
	based on its function.	
	Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a	
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)	
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or	
	more).	
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees	
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW	
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old	
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally	
	less than that found in old-growth.	Cat. I
	YES = Category I $NO = X_{not}$ not a forested wetland with special characteristics	
SC5	Wetlands in Coastal Lagoons (see p. 91)	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated	
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5	
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the	
	bottom.)	
	YES = Go to SC 5.1 NO $X_{_}$ not a wetland in a coastal lagoon	
	SC 5.1 Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has	
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed	
	or un-mowed grassland.	Cat. I
	The wetland is larger than 1/10 acre (4350 square ft.)	
	YES = Category INO = Category II	Cat. II
SC6	Interdunal Wetlands (see p. 93)	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or	
	WBUO)?	
	YES = Go to SC 6.1 NO $X_{_}$ not an interdunal wetland for rating	
	If you answer yes you will still need to rate the wetland based on its functions.	
	In practical terms that means the following geographic areas:	
	 Long Beach Peninsula lands west of SR 103 Grayland-Westport lands west of SR 105 	
	 Grayland-westport lands west of SR 105 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?	
	$\mathbf{YES} = \text{Category II} \qquad \mathbf{NO} = \text{go to SC 6.2}$	Cat. II
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	Cat. 11
	YES = Category III	Cat. III
	Category of wetland based on Special Characteristics	Cut 111
•	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.	
•	If you answered NO for all types enter "Not Applicable" on p. 1	
	in jou answered ine for an types enter interreprivation on p. 1	

		Version 2 - Updated J	uly 2006 to in	PRM – WESTERN Icrease accuracy and repro- ew WDFW definitions for	oducibility among u		
Name of w	etland (if know	vn): <u>Wetland I</u>			Date of	of site visit: July	25, 2013
Rated by:	J. Dadisman	Trained by	Ecology? Y	es X No	Date of training:	11/06	
SEC: 7	TWN	SHP: 27N	RNGE: 1E	Is S/T/R in A	Appendix D? Yes	S X-but not the NHP	Wetland No
	Ma	ap of wetland unit:	Figure	Estimat	ted size		
			SUMM	ARY OF RATING			
Category I	based on FUN	CTIONS provided	by wetland:	: I II _	III	<u>X</u>]	[V
	Category I	= Score > 70		Score for Water Qu	ality Functions	10	
	Category II	= Score 51 - 69		Score for Hydrol	logic Functions	7	
	Category III	= Score 30 – 50		Score for Ha	bitat Functions	17	_
	Category IV	= Score < 30		TOTAL Scor	e for Functions	34	
Category b	ased on SPEC	IAL CHARACTER	ISTCS of W	etland I	_ II	Does not apply	_X
		Final Cates	gory (choo	ose the "highest" catego	ory from above")	III	7
		Summary of basic	informatio	n about the wetland u	nit.		
	Wetl	and Unit has Speci Characteristics	al	Wetland HGM used for Rat			
	Estuar			Depressional	X		
	Natura	al Heritage Wetlan	d	Riverine			
	Bog			Lake-fringe			
		e Forest		Slope			
	-	rowth Forest		Flats			
		l Lagoon		Freshwater Tidal		4	
	Interd None of	unal of the above	X	Check if unit has m HGM classes prese	1]	

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

Clussification of Vegetated VV	shunds for Western Wushington
If the hydrologic criteria listed in each question do not apply to multiple HGM classes. In this case, identify which hydrologic	
1. Are the water levels in the entire unit usually controlled by	y tides (i.e. except during floods)?
(NO - go to 2) YES – the wetland class is Ti	
If yes, is the salinity of the water during periods of an	
YES – Freshwater Tidal Fringe	NO – Saltwater Tidal Fringe (Estuarine)
	e use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it
	uarine in the first and second editions of the rating system are called Salt
	Estuarine wetlands were categorized separately in the earlier editions, and sistency between editions, the term "Estuarine" wetland is kept. Please
note, however, that the characteristics that define Category I a	
2. The entire wetland unit is flat and precipitation is only sou	
runoff are NOT sources of water to the unit.	nee (290%) of water to it. Groundwater and surface water
	wetland class is Flats
If your wetland can be classified as a "Flats" wetland,	
3. Does the entire wetland meet both of the following criteria	
	ores of a body of permanent open water (without any
vegetation on the surface) where at least 20 a	
At least 30% of the open water area is deepen	
$\overline{\text{NO}-\text{go to }4}$ YES – The	wetland class is Lake-fringe (Lacustrine Fringe)
4. Does the entire wetland meet all of the following criteria?	
The wetland is on a slope (<i>slope can be very</i>	
	lirection (unidirectional) and usually comes from seeps. It may
flow subsurface, as sheetflow, or in a swale w	
The water leaves the wetland without being	
	types of wetlands except occasionally in very small and
	pressions are usually <3 ft diameter and less than 1 foot deep).
	wetland class is Slope
5. Does the entire wetland meet all of the following criteria?	
	re it gets inundated by overbank flooding from that stream or
river. The overbank flooding occurs at least once e	very two veers
	sions that are filled with water when the river is not flooding.
	wetland class is Riverine
	hich water ponds, or is saturated to the surface, at some time of
the year. This means that any outlet, if present is higher th	han the interior of the wetland.
NO – go to 7 $(YES –)Th$	e wetland class is Depressional
	vious depression and no overbank flooding. The unit does not
pond surface water more than a few inches. The unit seem	
wetland may be ditched, but has no obvious natural outlet.	
•	e wetland class is Depressional
8. Your wetland unit seems to be difficult to classify and probably co	ntains several different HGM classes. For example, seeps at the base of a
slope may grade into a riverine floodplain, or a small stream withir	
	GIMES 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
	wetland. NOTE: Use this table only if the class that is recommended in
	wetland unit being rated. If the area of the class listed in column 2 is less
than 10% of the unit, classify the wetland using the class that repre	sents more than 90% of the total area.
HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of	Treat as ESTUARINE under wetlands with special
freshwater wetland	characteristics
If you are unable still to determine which of the above criteria within a wetland boundary, classify the wetland as Depression	

Wetland Rating Form – western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
	 D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) points = 3 	Figure
	 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing 	3
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>) YES points = 4 NO points = 0	0
	 D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed vegetation >= 95% of area	Figure
	 Wetland has persistent, ungrazed vegetation > = 1/2 of areapoints = 3 Wetland has persistent, ungrazed vegetation > = 1/10 of areapoints = 1 Wetland has persistent, ungrazed vegetation < 1/10 of areapoints = 0 Map of Cowardin vegetation classes 	3
	 D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 years. Area seasonally ponded is > 1/2 total area of wetland	Figure
	 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland points = 0 Map of Hydroperiods 	4
	Total for D 1Add the points in the boxes above	10
D 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 44)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields or orchards within 150 ft. of wetland	
	A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging Residential, urban areas, golf courses are within 150 ft. of wetland Wetland is fed by groundwater high in phosphorus or nitrogen Other	Multiplier <u>1</u>
	YES multiplier is 2 NO multiplier is 1	
	TOTAL – Water Quality Functions Multiply the score from D1 by D2; then <i>add score to table on p. 1</i>	10
D 2	HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p.46)
<u>D</u> 3	 D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (<i>If ditch is not permanently flowing treat unit as "intermittently flowing"</i>) Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0 	4
	 D 3.2 Depth of storage during wet periods. Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are 3 ft. or more above the surface or bottom of the outlet	0
	 D 3.3 Contribution of wetland unit to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire unit is in the FLATS class	3
	Total for D 3Add the points in the boxes above	7
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	(see p. 49) Multiplier

Wetland name or number: I

	groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply	1
•	<u>TOTAL</u> – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	7

The	se questions apply to wetlands of all HGM classes.	Points
	HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.	(only 1 score per box)
H 1	Does the wetland have the <u>potential</u> to provide habitat for many species?	
	H 1.1 <u>Vegetation structure</u> (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed Emergent plants	Figure
	X Scrub/shrub (areas where shrubs have > 30% cover) Forested (areas where trees have > 30% cover) 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.Add the number of vegetation types that qualify. If you have:Map of Cowardin vegetation classes4 structures or more points = 43 structures points = 22 structures points = 11 structure points = 0	
	H 1.2 <u>Hydroperiods</u> (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present points = 3	Figure
	X Seasonally flooded or inundated 3 or more types present points = 2 Occasionally flooded or inundated 2 types present points = 1 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	0
	Freshwater tidal wetland = 2 points Map of hydroperiods	
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0	1
	H 1.4 Interspersion of Habitats (<i>see p. 76</i>): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. Note: If you have 4 or more classes or 3 vegetation classes and	Figure
	None = 0 points Low = 1 point Moderate = 2 points open water, the rating is always "high".	
	Use map of Cowardin classes	s 0
	 H 1.5 <u>Special Habitat Features</u> (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) 	
	 X Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) 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 turned grey/brown</i>) At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) Invasive plants cover less than 25% of the wetland area in each stratum of plants 	2
	Invasive plants cover less than 25% of the wethand area in cach statian of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error. H1 TOTAL Score – potential for providing habitat Add the points in the column above	3

Wetland name or number: I

2 Does	the wetland have the <u>opportunity</u> to provide habitat for many species?	(only 1 sc per box
H 2.1	Buffers (see P. 80): Image: the	Figure
H 2.2		at

Wetland name or number: I

+	Total Score for Habitat FunctionsAdd the points for H 1 and H 2; then record the result on p. 1	17
1	IUIAL for H I from page 8	3
+	TOTAL for H 1 from page 8	3
\dagger	H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	14
	 There are no wetlands within 1/2 milepoints = 0 	
	 There is at least 1 wetland within 1/2 milepoints = 2 	
	• The wetland fringe on a lake with disturbance and there are 5 other lake-fringe wetlands within 1/2 mile	
	 disturbedpoints = 3 The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands 	
1	• There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed	5
	wetlands within 1/2 milepoints = 5	5
	• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe	
	but connections should NOT be bisected by paved roads, fill, fields, or other development $points = 5$	
	• There are at least 5 other wetlands within 1/2 line, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating,	
	 H 2.4 <u>Wetland Landscape</u>: Choose the one description of the landscape around the wetland that best fits (see p. 84) There are at least 3 other wetlands within 1/2 mile, and the connections between them are 	
+	list. Nearby wetlands are addressed in question H 2.4)	
	Note: All vegetated wetlands are by definition a priority habitat but are not included in this	
	If wetland has 1 priority habitat = 1 point No habitats = 0 points	
	If wetland has 2 priority habitats = 3 points	
	If wetland has 3 or more priority habitats = 4 points	
	are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.	
	breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs	
	decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
	be associated with cliffs.	
í	composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May	
,	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).	
	Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Instream: The combination of physical, biological, and chemical processes and conditions that	-
	a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	0
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of	
	both aquatic and terrestrial ecosystems which mutually influence each other.	
	Riparian: The area adjacent to aquatic systems with flowing water that contains elements of	
	coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
	than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less	
	exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that	
	trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters	
	species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>).	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre). Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
	connections do not have to be relatively undisturbed.	
	Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
	http://wdfw.wa.gov/hab/phslist.htm)	

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	criteria are met.	
C1	Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and With a selicitie protection then 0.5 and	
	With a salinity greater than 0.5 ppt.YES = Go to SC 1.1NO	
	SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?	
	YES = Category I NO = Category II The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has	Cat.
	less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp, are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category 1. Do not, however, exclude the area of Spartina in	Cat.]
	 determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Dual Ratin I/II
C2	Natural Heritage Wetlands (see p. 87)Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This question is used to screen out most sites before you need to contact WNHP/DNR.</i>) S/T/R information from Appendix D or accessed from WNHP/DNR web site X	
	YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species? NO X not a Heritage Wetland	Cat
C3	Bogs (see p. 87)	
	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use	
	the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the	
	 wetland based on its function. 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify enseries as its?) 	
	 identify organic soils)? YES = go to question 3 NO = go to question 2 2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? YES = go to question 3 NO = is not a bog for purpose of rating 	
	 pond? YES = go to question 3 NO = is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 	
	 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western 	
	hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	Cat.
	$\mathbf{YES} = \text{Category I} \qquad \mathbf{NO} = \text{Is not a bog for purpose of rating}$	

~ ~ ·	Expected Wetlands (see p. 00)	
SC4	Forested Wetlands (see p. 90) Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish	
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland	
	based on its function.	
	Old-growth forests : (west of Cascade Crest) Stands of at least two three species forming a	
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)	
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or	
	more).	
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees	
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW	
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old	
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally	
	less than that found in old-growth.	Cat. I
	YES = Category I NO = X_{int} not a forested wetland with special characteristics	Cat. I
	Wetlands in Coastal Lagoons (see p. 91)	
SC5	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated	
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5	
	ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the</i>	
	bottom.)	
	YES = Go to SC 5.1 NO $X_{\text{not a wetland in a coastal lagoon}$	
	SC 5.1 Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has	
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed	
	or un-mowed grassland.	Cat. I
	The wetland is larger than 1/10 acre (4350 square ft.)	
	$\mathbf{YES} = Category I \qquad \mathbf{NO} = Category II$	Cat. II
SC6	Interdunal Wetlands (see p. 93)	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or	
	WBUO)?	
	YES = Go to SC 6.1 NO X_{-} not an interdunal wetland for rating	
	If you answer yes you will still need to rate the wetland based on its functions.	
	In practical terms that means the following geographic areas:	
	• Long Beach Peninsula lands west of SR 103	
	 Grayland-Westport lands west of SR 105 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?	
	$\mathbf{YES} = \text{Category II} \qquad \mathbf{NO} = \text{go to SC 6.2}$	Cat. II
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	
	YES = Category III	Cat. III
	Category of wetland based on Special Characteristics	
	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.	
▼	If you answered NO for all types enter "Not Applicable" on p. 1	
	n you answered we for an types enter not Applicable on p. 1	

	Version 2 - Updated J	uly 2006 to inc		among use	ers
Name of w	etland (if known): <u>Wetland J</u>			Date of	site visit: July 25, 2013
Rated by:	J. Dadisman Trained by	Ecology? Ye	es X No Date of tr	aining: 1	1/06
SEC: 6	TWNSHP: 27N	RNGE: 1E	Is S/T/R in Appendix	D? Yes	X-but not the NHP Wetland No
	Map of wetland unit:	Figure	Estimated size		
		SUMMA	RY OF RATING		
Category	based on FUNCTIONS provided	by wetland:	I II	_ III <u>_</u>	<u> </u>
	Category I = Score > 70]	Score for Water Quality Fund	ctions	11
	Category II = Score 51 - 69		Score for Hydrologic Fun	ctions	5
	Category III = Score 30 – 50		Score for Habitat Fund	ctions	17
	Category IV = Score < 30		TOTAL Score for Fund	ctions	33
Category b	oased on SPECIAL CHARACTER	ISTCS of Wet	tland I II	I	Does not apply <u>X</u>
	Final Cate	gory (choos	e the "highest" category from a	bove")	III
	Summary of basic	e information	about the wetland unit.		
	-	ial	Wetland HGM Class		
				x	
		d			
	Bog				
			Slope		
	Old Growth Forest		Flats		
	Coastal Lagoon		Freshwater Tidal		
	Map of wetland unit: Figure Estimated size SUMMARY OF RATING Category based on FUNCTIONS provided by wetland: I II III X P Category I = Score > 70 Score for Water Quality Functions Category II = Score > 70 Score for Hydrologic Functions Category III = Score 30 - 50 Score for Hydrologic Functions Category IV = Score < 30				
	None of the above	X	×		

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

	Clussification of Vegetated Ve	ands for western washington
	hydrologic criteria listed in each question do not apply to ble HGM classes. In this case, identify which hydrologic of	
1. A	re the water levels in the entire unit usually controlled by	tides (i.e. except during floods)?
(N	IO - go to 2 YES – the wetland class is Tid	al Fringe
\sim	-If yes, is the salinity of the water during periods of ann	ual low flow below 0.5 ppt (parts per thousand)?
	YES – Freshwater Tidal Fringe	NO – Saltwater Tidal Fringe (Estuarine)
		use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it
		arine in the first and second editions of the rating system are called Salt
		tuarine wetlands were categorized separately in the earlier editions, and
		stency between editions, the term "Estuarine" wetland is kept. Please
_	note, however, that the characteristics that define Category I an	d II estuarine wetlands have changed (see p).
	he entire wetland unit is flat and precipitation is only sour	ce (>90%) of water to it. Groundwater and surface water
ru	anoff are NOT sources of water to the unit.	
		vetland class is Flats
	If your wetland can be classified as a "Flats" wetland,	use the form for Depressional wetlands.
3. D	oes the entire wetland meet both of the following criteria:	
		pres of a body of permanent open water (without any
	vegetation on the surface) where at least 20 ac	
	At least 30% of the open water area is deeper	
		retland class is Lake-fringe (Lacustrine Fringe)
4. D	boes the entire wetland meet all of the following criteria?	
	X The wetland is on a slope (slope can be very g	
		rection (unidirectional) and usually comes from seeps. It may
	flow subsurface, as sheetflow, or in a swale w	
	The water leaves the wetland without being in	
		types of wetlands except occasionally in very small and
		pressions are usually <3 ft diameter and less than 1 foot deep).
		retland class is Slope
5. D	boes the entire wetland meet all of the following criteria?	
		e it gets inundated by overbank flooding from that stream or
	river.	
	The overbank flooding occurs at least once ev	
		ions that are filled with water when the river is not flooding.
		vetland class is Riverine
		ich water ponds, or is saturated to the surface, at some time of
th	he year. This means that any outlet, if present is higher that	an the interior of the wetland.
	NO – go to 7 (YES) – The	
		ous depression and no overbank flooding. The unit does not
	ond surface water more than a few inches. The unit seems	to be maintained by high groundwater in the area. The
W	retland may be ditched, but has no obvious natural outlet.	
	No – go to 8 YES – The	wetland class is Depressional
		tains several different HGM classes. For example, seeps at the base of a
	ope may grade into a riverine floodplain, or a small stream within	
		IMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT
		Use the following table to identify the appropriate class to use for the
		wetland. NOTE: Use this table only if the class that is recommended in
		retland unit being rated. If the area of the class listed in column 2 is less
th	an 10% of the unit, classify the wetland using the class that represent	ents more than 90% of the total area.
	HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
;	Slope + Riverine	Riverine
	Slope + Depressional	Depressional
	Slope + Lake-fringe	Lake-fringe
	Depressional + Riverine along stream within boundary	Depressional
	Depressional + Lake-fringe	Depressional
	Salt Water Tidal Fringe and any other class of	Treat as ESTUARINE under wetlands with special
	freshwater wetland	characteristics
		pply to your wetland, or you have more than 2 HGM classes
within	n a wetland boundary, classify the wetland as Depressiona	I for the rating.

Wetland Rating Form - western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
	D 1.1 Characteristics of surface water flows out of the wetland:	
	• Unit is a depression with no surface water leaving it (no outlet) points = 3	Figure
	 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 	
	• Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface	2
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions)	0
	YESpoints = 4NOpoints = 0D 1.3Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):	0
	• Wetland has persistent, ungrazed vegetation >= 95% of area	Figure
	• Wetland has persistent, ungrazed vegetation $> = 1/2$ of area	5
	 Wetland has persistent, ungrazed vegetation > = 1/10 of area	_
	Map of Cowardin vegetation classes	
	D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently	Figure
	ponded. Estimate area as the average condition 5 out of 10 years.	8
	 Area seasonally ponded is > 1/2 total area of wetland	
	 Area seasonally ponded is < 1/4 total area of wetland	4
	Map of Hydroperiods	
	Total for D 1 Add the points in the boxes above	
D 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 44)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient	
	from the wetland? Note which of the following conditions provide the sources of pollutants. A unit	
	may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft	
	Untreated stormwater discharges to wetland	
	Tilled fields or orchards within 150 ft. of wetland A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed	
	fields, roads, or clear-cut logging	Multiplior
	Residential, urban areas, golf courses are within 150 ft. of wetland Wetland is fed by groundwater high in phosphorus or nitrogen	Multiplier
	Other	<u>1</u>
	YES multiplier is 2 NO multiplier is 1	11
	TOTAL – Water Quality FunctionsMultiply the score from D1 by D2; then add score to table on p. 1HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.	11
D 3	Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p.46)
D 3	D 3.1 Characteristics of surface water flows out of the wetland unit	(see prio)
	• Unit is a depression with no surface water leaving it (no outlet) points = 4	
	 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface 	2
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1	_
	 (If ditch is not permanently flowing treat unit as "intermittently flowing") Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0 	
	D 3.2 Depth of storage during wet periods. Estimate the height of ponding above the bottom of the outlet. For	
	 units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7 	
	 Marks of pointing are 5 ft. of more above the surface of bottom of the outlet points = 7 The wetland is a "headwater" wetland	0
	• Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet points = 5	0
	 Marks are at least 0.5 ft. to < 2 ft. from surface or bottom of outlet points = 3 Wetland is flat (yes to Q.2 or Q.7 on key)but has small depressions on the surface that trap water points = 1 	
	• Marks of ponding less than 0.5 ft	
	D 3.3 Contribution of wetland unit to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.	
	• The area of the basin is less than 10 times the area of unit points = 5	3
	 The area of the basin is 10 to 100 times the area of the unit	5
	Entire unit is in the FLATS class	
	Total for D 3Add the points in the boxes above	5
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?	(see p. 49)
	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive	Multiplier
	flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide	
	gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	

Wetland name or number: J

	groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. Wetland is in a headwater of a river or stream that has flooding problems. Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other YES multiplier is 2 NO multiplier is 1	<u>1</u>
•	TOTAL – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	5

Thes	se questions apply to wetlands of all HGM classes.	Points
	HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.	(only 1 score per box)
H 1	Does the wetland have the <u>potential</u> to provide habitat for many species?	
	H 1.1 <u>Vegetation structure</u> (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed Emergent plants	Figure
	Scrub/shrub (areas where shrubs have > 30% cover) \overline{X} Forested (areas where trees have > 30% cover)If the unit has a forested class check if: \overline{X} The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-	
	cover) that each cover 20% within the forested polygon.Add the number of vegetation types that qualify. If you have:Map of Cowardin vegetation classes4 structures or more points = 43 structures points = 22 structures points = 11 structure points = 0	
	H 1.2 <u>Hydroperiods</u> (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods).	Figure
	Permanently flooded or inundated 4 or more types present points = 3 X Seasonally flooded or inundated 3 or more types present points = 2 Occasionally flooded or inundated 2 types present points = 1 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	0
	Freshwater tidal wetland = 2 points Map of hydroperiods	
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0	1
	H 1.4 Interspersion of Habitats (<i>see p. 76</i>): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	
	None = 0 pointsLow = 1 pointModerate = 2 pointsNote: If you have 4 or more classes or 3 vegetation classes and open water, the rating is always "high".	Figure
	Use map of Cowardin classes	s 0
	H 1.5 <u>Special Habitat Features</u> (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.	5
	 Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) 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 turned grey/brown</i>) At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) X 	1
	NOTE: The 20% stated in early printings of the manual on page 78 is an error.H 1 TOTAL Score – potential for providing habitatAdd the points in the column above	3

Wetland name or number: J

2 Does t	he wetland have the <u>opportunity</u> to provide habitat for many species?	(only 1 per b
H 2.1	Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest criterion that applies to the wetland is to be used in the rating. See text for definition of "unX	scoring ndisturbed". points = 5 points = 4 points = 4 points = 3 points = 3 points = 3 points = 2 points = 1 points = 1
H 2.2	 <u>Corridors and Connections (see p. 81)</u> H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eith or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplane least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, part are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eith or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, and estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? (fringe wetland, if it does not have an undisturbed corridor as in the question above YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR YES = 1 point 	her riparian native ds that are at <i>ived roads</i> , her riparian d connects to OR a Lake - ?

Wetland name or number: J

TOTAL for H 1 from	page 8	3
H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3		14
• There are no wetlands within 1/2 mile		11
• There is at least 1 wetland within 1/2 mile		
within 1/2 milepoin		
• The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands		
disturbedpoin	nts = 3	
 wetlands within 1/2 milepoin There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are 	ns = 3	5
• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 mile	nte = 5	
but connections should NOT be bisected by paved roads, fill, fields, or other developmentpoin	<mark>nts = 5</mark>	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating,		
H 2.4 <u>Wetland Landscape</u> : Choose the one description of the landscape around the wetland that best fits (see • There are at least 3 other wetlands within 1/2 mile, and the connections between them are	e p. 84):	
list. Nearby wetlands are addressed in question H 2.4)		
Note: All vegetated wetlands are by definition a priority habitat but are not included	d in this	
If wetland has 1 priority habitat = 1 point No habitats = $\frac{0}{0}$ points		
If wetland has 2 priority habitats = 3 points		
If wetland has 3 or more priority habitats = 4 points		
are $> 30 \text{ cm} (12 \text{ in})$ in diameter at the largest end, and $> 6 \text{ m} (20 \text{ ft})$ long.	050	
breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority 1		
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficien decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter a		
be associated with cliffs.	t	
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings.	May	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	Mari	
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.		
earth in soils, rock, ice, or other geological formations and is large enough to contain a human.		
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages und	er the	
relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).	.4	
Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of		
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, O	pen	
interact to provide functional life history requirements for instream fish and wildlife resources.		
Instream: The combination of physical, biological, and chemical processes and conditions	that	3
a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>).		0
Westside Prairies: Herbaceous, non-forested plant communities that can either take the for	m of	
both aquatic and terrestrial ecosystems which mutually influence each other.	/1	
Riparian : The area adjacent to aquatic systems with flowing water that contains elements of	of	
coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).	РУ	
than that found in old-growth; 80 - 200 years old west of the Cascade crest. Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where cano	nv	
100%; decay, decadence, numbers of snags, and quantity of large downed material is generally le	ess	
exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that		
trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diame	eters	
species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha		
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	(2)	
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.		
species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>).		
Real Stands: Full of mixed stands of aspen greater than 0.4 nd (1 deto). Biodiversity Areas and Corridors : Areas of habitat that are relatively important to various	5	
<i>connections do not have to be relatively undisturbed.</i> Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).		
Which of the following priority habitats are within 330ft (100m) of the wetland unit? <i>NOTE: the</i>		
http://wdfw.wa.gov/hab/phslist.htm)		

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	criteria are met.	
C1	Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt.	
	$\mathbf{YES} = \text{Go to SC } 1.1 \qquad \text{NO} \underline{X}$	
	SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?	
	YES = Category I NO = Category II The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has	Cat.
	less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category 1. Do not, however, exclude the area of Spartina in	Cat. I
	 At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Dual Ratin I/II
C2	Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This</i>	
	<i>question is used to screen out most sites before you need to contact WNHP/DNR.)</i> S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species? YES = Category 1 NO X_ not a Heritage Wetland	Cat
C 3		
_3	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use	
	the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the	
	 wetland based on its function. 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to 	
	identify organic soils)? YES = go to question 3 NO = go to question 2	
	 Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? YES = go to question 3 NO = is not a bog for purpose of rating 	
	 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 	
	NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
	 4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant 	
	component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	Cat.
	$\mathbf{YES} = \text{Category I} \qquad \mathbf{NO} = \text{Is not a bog for purpose of rating}$	

SC4	Forested Wetlands (see p. 90)					
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish					
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland					
	based on its function.					
	Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a					
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)					
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or					
	more).					
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees					
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW					
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.					
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old					
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than					
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally					
	less than that found in old-growth.	Cat. I				
	$YES = Category I$ $NO = X_n ot a forested wetland with special characteristics$					
SC5	Wetlands in Coastal Lagoons (see p. 91)					
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?					
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated					
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.					
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5					
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the					
	bottom.)					
	YES = Go to SC 5.1NO $X_{_}$ not a wetland in a coastal lagoon					
	SC 5.1 Does the wetland meet all of the following three conditions?					
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has					
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).					
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed					
	or un-mowed grassland.	Cat. I				
	The wetland is larger than 1/10 acre (4350 square ft.)					
	YES = Category INO = Category II	Cat. II				
SC6	Interdunal Wetlands (see p. 93)					
~	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or					
	WBUO)?					
	YES = Go to SC 6.1 NO $X_{\text{not an interdunal wetland for rating}}$					
	If you answer yes you will still need to rate the wetland based on its functions. In practical terms that means the following geographic areas: • Long Beach Peninsula lands west of SR 103 • Grayland-Westport lands west of SR 105 • Ocean Shores-Copalis – lands west of SR 115 and SR 109					
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?					
	$\mathbf{YES} = \text{Category II} \qquad \mathbf{NO} = \text{go to SC 6.2}$	Cat. II				
SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre						
	YES = Category III	Cat III				
	Category of wetland based on Special Characteristics	Cat. III				
	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.					
•	If you answered NO for all types enter "Not Applicable" on p. 1					
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	Version 2 - Updated	July 2006 to inc	RM – WESTERN WASHIN crease accuracy and reproducibility w WDFW definitions for priority ha	among users	i
Name of w	etland (if known): <u>Wetland K</u>			Date of si	te visit: July 26, 2013
Rated by:	J. Dadisman Trained b	y Ecology? Ye	es X No Date of tr	aining: 11/	/06
SEC: 17	TWNSHP: 27N	RNGE: 1E	Is S/T/R in Appendix	D? Yes _	No <u>X</u>
	Map of wetland unit	t: Figure	Estimated size		
		SUMMA	ARY OF RATING		
Category I	based on FUNCTIONS provide	d by wetland:	I II	<u> III <u>x</u> </u>	IV
	Category I = Score > 70	7	Score for Water Quality Fund	ctions	12
	Category II = Score 51 - 69		Score for Hydrologic Fund	ctions	7
	Category III = Score 30 – 50		Score for Habitat Functions		18
	Category IV = Score < 30		TOTAL Score for Fund	ctions	37
Category based on SPECIAL CHARACTERISTCS of We			tland I II	Do	es not apply <u>X</u>
	Final Cate	egory (choos	se the "highest" category from a	bove")	III
	Summary of bas	ic information	about the wetland unit.	<u> </u>	
	Wetland Unit has Spe Characteristics	cial	Wetland HGM Class used for Rating		
	Estuarine		Depressional	X	
	Natural Heritage Wetla	nd	Riverine		
	Bog		Lake-fringe		
	Mature Forest		Slope		
	Old Growth Forest		Flats		
	Coastal Lagoon		Freshwater Tidal		
	Interdunal None of the above	X	Check if unit has multiple HGM classes present		

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

 Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)? NO to 0 YES - the wethand class is Total Fringe NO - Sattwater Tidal Fringe (Estuarine). If your wethand can be classified as a Freshwater Tidal Fringe with the software relations of the string stringe in the Hydrogeomethic Classification. Estuarine wethands were categorized segmeted in the carbic relations, and this segment in the Hydrogeomethic Classification. Estuarine wethands were categorized segmeted in the carbic relations, and this segment in the Hydrogeomethic Classification. Estuarine wethands were categorized segmeted in the carbic relations, and this segmention is being begin in this revision. To maintain consistency between enditions, the term "Estuarine" wethand is kept. Please note, however, that the characteristics that define Category I and II estuarine wethands have changed (see p
If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe is the forms for Riverine wetlands. If is a Subneter Tidal Fringe is the source of the first and second diftions of the rating system are called Salt. Water Tidal Fringe is the the endine wetland. Water wetlands that were call estuarine in the first and second diftions of the rating system are called Salt. Water Tidal Fringe is the characteristics that define Calegory 1 and It estuarine wetlands were calegorized separately in the earlier editions, and this separation is heing kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please mote, however, that the characteristics that define Calegory 1 and It estuarine wetlands were calegorized separately in the earlier editions, and this separation is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are vetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runof are vetland. The be classified as "Hats" wetland, use the form for Depressional wetlands. 3. Does the entire wetland meet both of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) where at least 30 cares (kha) in size. At least 30% of the open water are is deeper than 6.6 (2 m)? X
YES - Freshwater Tidal Fringe NO - Saltwater Tidal Fringe (Estuarine) If your wethand can be classified as a Freshwater Tidal Fringe in the first and scond editions of the traing system are called Salt. Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wethands have changed (see p). It is a sidentiation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wethand is kept. Please note, however, that the characteristics that define Category I and II estuarine wethands have changed (see p). It me entire wethand mit is flat and precipitation is only source (>90%) of water to it. Groundwatter and surface water run of a NOTS ources + Swatter to the unit. NO = boto 3 YES - The wethand class is Flats If your wethand meet both of the following criteria? The entire wethand meet both of the following criteria?
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is rated as an Estuarine verland. Wetlands that were call estuarine in the first and second editions of the rating system are called Salt. Water Tubal Fringe in the Hydrogeomorphic Classification. Estuarine verlands were categorized separately in the cardier editions, and this separation is heing kept in this revision. To maintain consistency between editions, the term "Fistmaire" wetland is kept. Please note, however, that the characteristics that define Category 1 and II estuarine wetlands have changed (see p). 2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwatter and surface water runoff are NOT sources-6-suiter to the unit. (NO
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 The overbank flooding occurs at least once every two years. NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding NO - to to 6 YES - The wetland class is Riverine 6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time of the year. This means that any outlet, if present is higher than the interior of the wetland. NO - go to 7 YES - The wetland class is Depressional 7. Is the entire wetland located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. No - go to 8 YES - The wetland class is Depressional 8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class listed in column 2 is less than 10% of the unit, classify the wetland unit being rated MGM Class to Use in Rating Slope + Riverine Slope + Riverine Slope + Nerverine Slope + Lake-fringe Lake-fringe
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Depressional + Lake-fringe Depressional
Salt Water Tidal Fringe and any other class of Treat as ESTUARINE under wetlands with special
freshwater wetland characteristics
If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes
within a wetland boundary, classify the wetland as Depressional for the rating.

Wetland Rating Form – western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
	D 1.1 Characteristics of surface water flows out of the wetland:	
	• Unit is a depression with no surface water leaving it (no outlet)	Figure
	 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 	
	• Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface	3
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions)	0
	YESpoints = 4NOpoints = 0D 1.3Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):	Ű
	• Wetland has persistent, ungrazed vegetation $> = 95\%$ of area	Figure
	• Wetland has persistent, ungrazed vegetation $> = 1/2$ of area	5
	 Wetland has persistent, ungrazed vegetation > = 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0 	
	Map of Cowardin vegetation classes	
	D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently	Figure
	ponded. Estimate area as the average condition 5 out of 10 years.	gui •
	• Area seasonally ponded is $> 1/2$ total area of wetland	
	 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland points = 0 	4
	Map of Hydroperiods	
	Total for D 1Add the points in the boxes above	12
D 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 44)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient	
	from the wetland? Note which of the following conditions provide the sources of pollutants. A unit	
	may have pollutants coming from several sources, but any single source would qualify as opportunity.	
	Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland	
	Tilled fields or orchards within 150 ft. of wetland	
	A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed	
	fields, roads, or clear-cut logging Residential, urban areas, golf courses are within 150 ft. of wetland	Multiplier
	Wetland is fed by groundwater high in phosphorus or nitrogen	_
	Other YES multiplier is 2 NO multiplier is 1	<u>1</u>
	TOTAL – Water Quality Functions Multiply the score from D1 by D2; then add score to table on p. 1	12
•	HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.	12
D 3	Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p.46)
20	D 3.1 Characteristics of surface water flows out of the wetland unit	
	• Unit is a depression with no surface water leaving it (no outlet)	
	 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface 	4
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1	
	(If ditch is not permanently flowing treat unit as "intermittently flowing")	
	 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0 D 3.2 Depth of storage during wet periods. <i>Estimate the height of ponding above the bottom of the outlet. For</i> 	
	units with no outlet measure from the surface of permanent water or deepest part (if dry).	
	• Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7 The wetland is a "basedwater" wetland	
	 The wetland is a "headwater" wetland points = 5 Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet points = 5 	0
	• Marks are at least 0.5 ft. to < 2 ft. from surface or bottom of outlet	
	 Wetland is flat (yes to Q.2 or Q.7 on key)but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft	
	D 3.3 Contribution of wetland unit to storage in the watershed: <i>Estimate the ratio of the area of upstream</i>	
	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 unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 	3
	• The area of the basin is more than 100 times the area of the unit	
	• Entire unit is in the FLATS class	
	Total for D 3Add the points in the boxes above	7
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?	(see p. 49)
	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive	Multiplier
	flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide	
	gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	

Wetland name or number: K

groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. Wetland is in a headwater of a river or stream that has flooding problems. Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other YES multiplier is 2 NO multiplier is 1	
TOTAL – Hydrologic Functions Multiplier is 2	7

The	se questions apply to wetlands of all HGM classes.	Points (only 1 score			
	HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.				
H 1	1 Does the wetland have the <u>potential</u> to provide habitat for many species?				
	H 1.1 Vegetation structure (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class i 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed X Emergent plants Scrub/shrub (areas where shrubs have > 30% cover) Forested (areas where trees have > 30% cover) 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. Add the number of vegetation types that qualify. If you have: 4 structures or more points = 4 2 structures points = 1 4 structure points = 0				
	H 1.2 Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present points = 3 X Seasonally flooded or inundated 3 or more types presentpoints = 2 Occasionally flooded or inundated 2 types presentpoints = 1 Saturated only 1 type presentpoints = 0 Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake-fringe wetland	Figure O			
	Freshwater tidal wetland = 2 points Map of hydroperiods				
	H 1.3 <u>Richness of Plant Species</u> (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species points = 2 List species below if you want to: 	1			
	H 1.4 Interspersion of Habitats (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Low = 1 point Moderate = 2 points Note: If you have 4 or more classes and open water, the rating is always "high".	Figure			
	Use map of Cowardin classes	0			
	H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error.	3			
	H 1 TOTAL Score – potential for providing habitat Add the points in the column above	4			

Wetland name or number: K

Н2	Does the wetland have the <u>opportunity</u> to provide habitat for many species?	(only 1 scor per box)
	H 2.1 Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed" X 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use)	5
	 H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are a least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, and connects t estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR YES = 1 point Within 1 mile of a lake greater than 20 acres? 	t o 4

Wetland name or number: K

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	Wetland Type – Check off any criteria that apply to the wetland. Circle the Category when the appropriate		
	criteria are met.		
SC1 Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands? The dominant water regime is tidal,			
	SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO = go to SC 1.2	Cat. 1	
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions? YES = Category I NO = Category II	Cat. I	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp,, are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh	Cat. II	
	 with native species would be a Category 1. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Dual Rating I/II	
SC2	Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.		
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This question is used to screen out most sites before you need to contact WNHP/DNR.</i>) S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO X		
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species? YES = Category 1 NO X not a Heritage Wetland	Cat I	
SC3	 Bogs (see p. 87) Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its function. 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that 		
	 compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? YES = go to question 3 NO = go to question 2 2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over 		
	 bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? YES = go to question 3 NO = is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, 		
	consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is		
	 less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant 		
	component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? YES = Category I NO = Is not a bog for purpose of rating	Cat. I	

weu						
SC4	Forested Wetlands (see p. 90)					
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish					
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland					
	based on its function.					
	Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a					
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)					
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or					
	more).					
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees					
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW					
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.					
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old					
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than					
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally					
	less than that found in old-growth.	Cat. I				
	$YES = Category I$ $NO = X_n ot a forested wetland with special characteristics$					
SC5	Wetlands in Coastal Lagoons (see p. 91)					
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?					
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated					
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.					
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5					
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the					
	bottom.)					
	YES = Go to SC 5.1 NO $X_{_}$ not a wetland in a coastal lagoon					
	SC 5.1 Does the wetland meet all of the following three conditions?					
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has					
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).					
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed					
	or un-mowed grassland.	Cat. I				
	The wetland is larger than 1/10 acre (4350 square ft.)	~				
	YES = Category I NO = Category II	Cat. II				
SC6	Interdunal Wetlands (see p. 93)					
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBLO)2					
	WBUO)?					
	YES = Go to SC 6.1 NO X not an interdunal wetland for rating					
	If you answer yes you will still need to rate the wetland based on its functions.					
	In practical terms that means the following geographic areas: • Long Beach Peninsula lands west of SR 103					
	• Grayland-Westport lands west of SR 105					
	 Ocean Shores-Copalis – lands west of SR 115 and SR 109 					
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?					
	YES = Category II NO = go to SC 6.2	Cat. II				
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?					
	YES = Category III	Cat. III				
]	Category of wetland based on Special Characteristics					
	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.					
1	If you answered NO for all types enter "Not Applicable" on p. 1					

	Version 2 - Updated J	uly 2006 to incr	RM – WESTERN WASHIN rease accuracy and reproducibility a wWDFW definitions for priority ha	among user	'S
Name of w	etland (if known): <u>Wetland M</u>			Date of s	ite visit: July 26, 2013
Rated by:	J. Dadisman Trained by	Ecology? Ye	s X No Date of tra	aining: 11	/06
SEC: 17	TWNSHP: 27N	RNGE: 1E	Is S/T/R in Appendix	D? Yes _	_No <u>X</u>
	Map of wetland unit:	Figure	Estimated size		
		SUMMA	RY OF RATING		
Category b	oased on FUNCTIONS provided	by wetland:	I II	_ III <u>x</u>	IV
	Category I = Score > 70		Score for Water Quality Func	tions	12
	Category II = Score 51 - 69		Score for Hydrologic Func	tions	7
	Category III = Score 30 – 50		Score for Habitat Functions		18
	Category IV = Score < 30		TOTAL Score for Func	tions	37
Category b	ased on SPECIAL CHARACTER	ISTCS of Wet	land I II	D	oes not apply <u>X</u>
	Final Cate	gory (choose	e the "highest" category from al	bove")	III
	Summary of basic	information	about the wetland unit.		
	Wetland Unit has Speci Characteristics	al	Wetland HGM Class used for Rating		
	Estuarine		Depressional	X	
	Natural Heritage Wetlan	d	Riverine		
	Bog		Lake-fringe		
	Mature Forest		Slope		
	Old Growth Forest		Flats		
	Coastal Lagoon		Freshwater Tidal		
	Interdunal None of the above	X	Check if unit has multiple HGM classes present		

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

	e hydrologic criteria listed in each question do not apply to iple HGM classes. In this case, identify which hydrologic of	
_	<i>is rated as an Estuarine wetland.</i> Wetlands that were call estu Water Tidal Fringe in the Hydrogeomorphic Classification. Est	lal Fringe uual low flow below 0.5 ppt (parts per thousand)? NO – Saltwater Tidal Fringe (Estuarine) use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it arine in the first and second editions of the rating system are called Salt stuarine wetlands were categorized separately in the earlier editions, and istency between editions, the term "Estuarine" wetland is kept. Please
2.	The entire wetland unit is flat and precipitation is only sour	
	runoff are NOT sources of water to the unit.	vetland class is Flats
3.	vegetation on the surface) where at least 20 ac At least 30% of the open water area is deeper	pres of a body of permanent open water (without any eres (8ha) in size;
4.	Does the entire wetland meet all of the following criteria?	Chand chass is Dane tringe (Dacaset no Tringe)
	X The wetland is on a slope (slope can be very g X The water flows through the wetland in one di flow subsurface, as sheetflow, or in a swale w The water leaves the wetland without being in NOTE: Surface water does not pond in these shallow depressions or behind hummocks (dep NO - go to 5 YES - The w	rection (unidirectional) and usually comes from seeps. It may ithout distinct banks.
5.	Does the entire wetland meet all of the following criteria?	
	river. The overbank flooding occurs at least once ev NOTE: <u>The riverine unit can contain depress</u>	e it gets inundated by overbank flooding from that stream or ery two years. <i>ions that are filled with water when the river is not flooding</i> yetland class is Riverine
	the year. This means that any outlet, if present is higher that	ich water ponds, or is saturated to the surface, at some time of an the interior of the wetland. e wetland class is Depressional
]	pond surface water more than a few inches. The unit seems wetland may be ditched, but has no obvious natural outlet.	ious depression and no overbank flooding. The unit does not s to be maintained by high groundwater in the area. The e wetland class is Depressional
-	Your wetland unit seems to be difficult to classify and probably con slope may grade into a riverine floodplain, or a small stream within BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REG AREAS IN THE UNIT (make a rough sketch to help you decide). rating system if you have several HGM classes present within your the second column represents 10% or more of the total area of the w than 10% of the unit, classify the wetland using the class that represent	tains several different HGM classes. For example, seeps at the base of a a depressional wetland has a zone of flooding along its sides. GO IMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT Use the following table to identify the appropriate class to use for the wetland. NOTE: Use this table only if the class that is recommended in zetland unit being rated. If the area of the class listed in column 2 is less ents more than 90% of the total area.
	HGM Classes within the wetland unit being rated	HGM Class to Use in Rating Riverine
	Slope + Riverine Slope + Depressional	Depressional
	Slope + Lake-fringe	Lake-fringe
	Depressional + Riverine along stream within boundary	Depressional
	Depressional + Lake-fringe	Depressional
	Salt Water Tidal Fringe and any other class of	Treat as ESTUARINE under wetlands with special
If vo	freshwater wetland	characteristics pply to your wetland, or you have more than 2 HGM classes
ii yo	a are anable sum to acternate which of the above efficita a	ippiy to your wettand, or you have more than 2 more tasses

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

Wetland Rating Form - western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
	D 1.1 Characteristics of surface water flows out of the wetland:	
	• Unit is a depression with no surface water leaving it (no outlet)	Figure
	 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 	
	• Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface	3
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions)	0
	YESpoints = 4NOpoints = 0D 1.3Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):	Ű
	• Wetland has persistent, ungrazed vegetation $> = 95\%$ of area	Figure
	• Wetland has persistent, ungrazed vegetation $> = 1/2$ of area	5
	 Wetland has persistent, ungrazed vegetation > = 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0 	
	Map of Cowardin vegetation classes	
	D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently	Figure
	ponded. Estimate area as the average condition 5 out of 10 years.	gui •
	• Area seasonally ponded is $> 1/2$ total area of wetland	
	 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland points = 0 	4
	Map of Hydroperiods	
	Total for D 1Add the points in the boxes above	12
D 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 44)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient	
	from the wetland? Note which of the following conditions provide the sources of pollutants. A unit	
	may have pollutants coming from several sources, but any single source would qualify as opportunity.	
	Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland	
	Tilled fields or orchards within 150 ft. of wetland	
	A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed	
	fields, roads, or clear-cut logging Residential, urban areas, golf courses are within 150 ft. of wetland	Multiplier
	Wetland is fed by groundwater high in phosphorus or nitrogen	_
	Other YES multiplier is 2 NO multiplier is 1	<u>1</u>
	TOTAL – Water Quality Functions Multiply the score from D1 by D2; then add score to table on p. 1	12
•	HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.	12
D 3	Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p.46)
20	D 3.1 Characteristics of surface water flows out of the wetland unit	
	• Unit is a depression with no surface water leaving it (no outlet)	
	 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface 	4
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1	
	(If ditch is not permanently flowing treat unit as "intermittently flowing")	
	 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0 D 3.2 Depth of storage during wet periods. <i>Estimate the height of ponding above the bottom of the outlet. For</i> 	
	units with no outlet measure from the surface of permanent water or deepest part (if dry).	
	• Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7 The wetland is a "basedwater" wetland	
	 The wetland is a "headwater" wetland points = 5 Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet points = 5 	0
	• Marks are at least 0.5 ft. to < 2 ft. from surface or bottom of outlet	
	 Wetland is flat (yes to Q.2 or Q.7 on key)but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft	
	D 3.3 Contribution of wetland unit to storage in the watershed: <i>Estimate the ratio of the area of upstream</i>	
	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 unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 	3
	• The area of the basin is more than 100 times the area of the unit	
	• Entire unit is in the FLATS class	
	Total for D 3Add the points in the boxes above	7
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?	(see p. 49)
	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive	Multiplier
	flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide	
	gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	

Wetland name or number: M

	groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply	1
•	<u>TOTAL</u> – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	7

HARITAT FUNCTIONS - Indicators that wetland functions to provide important habitat	(only 1 score	
HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.		
H 1 Does the wetland have the <u>potential</u> to provide habitat for many species?	per box)	
H 1.1 <u>Vegetation structure</u> (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each ch 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed <u>X</u> Emergent plants	ss is Figure	
Scrub/shrub (areas where shrubs have > 30% cover) Forested (areas where trees have > 30% cover) If the unit has a forested class check if: The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/groun)	-	
cover) that each cover 20% within the forested polygon.Add the number of vegetation types that qualify. If you have:4 structures or more points = 42 structures points = 11 structure point	=2	
H 1.2 Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods Permanently flooded or inundated X Seasonally flooded or inundated 3 or more types present young	= 3	
Occasionally flooded or inundated 2 types presentpoints Saturated only 1 type presentpoints Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake-fringe wetland	= 1 = 0	
Freshwater tidal wetland = 2 points Map of hydrope	ods	
H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species points = 5 - 19 species points = List species below if you want to: < 5 species points =	1	
H 1.4 Interspersion of Habitats (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1) the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. Note: If you have 4 or more co or 3 vegetation classes a	asses Figure	
None = 0 pointsLow = 1 pointModerate = 2 pointsopen water, the rating is always "high".		
Use map of Cowardin of High = 3 points [riparian braided channels]	asses 0	
H 1.5 <u>Special Habitat Features</u> (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long)	oints	
X Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that has not yet turned grey/brown) At least 1/4 ever of shire	<i>ye</i> 3	
At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in area are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error. H 1 TOTAL Score – potential for providing habitat Add the points in the column of		

Wetland name or number: M

H 2 Does	the wetland have the <u>opportunity</u> to provide habitat for many species?		(only 1 sco per box)
H 2.1	Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest sc criterion that applies to the wetland is to be used in the rating. See text for definition of "undit X	points = 5 $points = 4$ $points = 4$ $points = 4$ $points = 3$ $points = 3$ $points = 2$ $points = 2$ $points = 1$ $points = 0$ $points = 1$	Figure
H 2.2		r riparian ative that are at <i>ed roads</i> , r riparian connects to	4

Wetland name or number: M

	Add the points for H 1 and H 2; then <i>record the result on p. 1</i>	18
	IUTAL IOF FLIFFOM DAVE &	
	TOTAL for H 1 from page 8	4
	H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	14
	• There are no wetlands within 1/2 mile	
	 There is at least 1 wetland within 1/2 mile	
	• The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within 1/2 mile	
	 disturbedpoints = 3 The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands 	
	• There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed	5
	wetlands within 1/2 milepoints = 5	5
	• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe	
	but connections should NOT be bisected by paved roads, fill, fields, or other development points = 5	
	• There are at least 5 other wetlands within 1/2 mile, and the connections between meth are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating,	
H 2.4	 4 <u>Wetland Landscape</u>: Choose the one description of the landscape around the wetland that best fits (see p. 84) • There are at least 3 other wetlands within 1/2 mile, and the connections between them are 	
	list. Nearby wetlands are addressed in question H 2.4)	
	Note: All vegetated wetlands are by definition a priority habitat but are not included in this	
If we	etland has 1 priority habitat = 1 point No habitats = <mark>0 points</mark>	
	etland has 2 priority habitats = 3 points	
	etland has 3 or more priority habitats = 4 points	
	> 30 cm (12 in) in diameter at the largest end, and $> 6 m (20 ft)$ long.	
	is the light of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs	
deca	ay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
	ssociated with cliffs.	
com	posed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
carti	_Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
earth	h in soils, rock, ice, or other geological formations and is large enough to contain a human.	
reidi	_Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	tively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).	
$\overline{\mathbf{C}_{\mathbf{O}\mathbf{O}}}$	st Nearshore, and Puget Sound Nearshore. (<i>full descriptions of habitats and the definition of</i>	
mer	Nearshore : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open	
into:	Instream: The combination of physical, biological, and chemical processes and conditions that ract to provide functional life history requirements for instream fish and wildlife resources.	
a dry	y prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>).	0
0 1	_Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of	Δ
Doth	a aquatic and terrestrial ecosystems which mutually influence each other.	
		
cove	erage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
than	that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	%; decay, decadence, numbers of snags, and quantity of large downed material is generally less	
	eeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that	
	s/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters	
	cies, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
	_Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
	_Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
spec	ties of native fish and wildlife (full descriptions in WDFW PHS report p. 152).	
	_Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
	_Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
	nections do not have to be relatively undisturbed.	
Whi	ch of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
	://wdfw.wa.gov/hab/phslist.htm)	

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	criteria are met.	
C1	Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and With the set of the 0.5 minutes of 5	
	With a salinity greater than 0.5 ppt.YES = Go to SC 1.1NO	
	SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?	
	YES = Category I NO = Category II The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp., are only species	Cat. I
	that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category 1. Do not, however, exclude the area of Spartina in	Cat. 1
	 determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Dual Ratin I/II
C2	Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This</i>	
	<i>question is used to screen out most sites before you need to contact WNHP/DNR.)</i> S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO X	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species? YES = Category 1 NO X not a Heritage Wetland	Cat
C3		
CJ	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use	
	the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the	
	 wetland based on its function. 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to be a field	
	 identify organic soils)? YES = go to question 3 NO = go to question 2 2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or 	
	 pond? YES = go to question 3 NO = is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? 	
	YES = Is a bog for purpose of rating $NO = go to question 4$ NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
	4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	
	COMPONENT OF THE BEOMOD COVER IN SUME COVARAGE OF THE TOTAL SHEW/herhaceous cover \mathcal{V}	Cat.

wett						
SC4	Forested Wetlands (see p. 90)					
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland</i>					
	based on its function. Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a					
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)					
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm					
	more).					
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees					
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW					
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.					
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old					
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than					
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally					
	less than that found in old-growth.	Cat. I				
	YES = Category I NO = X_{not} not a forested wetland with special characteristics					
SC5	Wetlands in Coastal Lagoons (see p. 91)					
500	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?					
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated					
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.					
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5					
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the					
	bottom.)					
	YES = Go to SC 5.1 NO $X_{\text{not a wetland in a coastal lagoon}}$					
	SC 5.1 Does the wetland meet all of the following three conditions?					
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has					
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).					
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed					
	or un-mowed grassland.	Cat. I				
	The wetland is larger than 1/10 acre (4350 square ft.)					
	YES = Category INO= Category II	Cat. II				
SC6	Interdunal Wetlands (see p. 93)					
~ ~ ~ ~	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or					
	WBUO)?					
	YES = Go to SC 6.1 NO $X_{\text{not an interdunal wetland for rating}}$					
	If you answer yes you will still need to rate the wetland based on its functions.					
	In practical terms that means the following geographic areas:					
	Long Beach Peninsula lands west of SR 103 Createred Westmatter lands west of SR 105					
	 Grayland-Westport lands west of SR 105 Ocean Shores-Copalis lands west of SR 115 and SR 109 					
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?					
	$\mathbf{YES} = \text{Category II} \qquad \mathbf{NO} = \text{go to SC 6.2}$	Cat. II				
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	Cal. II				
	YES = Category III	Cat. III				
	Category of wetland based on Special Characteristics	Cat , 111				
	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.					
	If you answered NO for all types enter "Not Applicable" on p. 1					
1	in you answered into for an types enter interpritedore on p. 1					

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

Date of sit	e visit: July 25, 2013				
Rated by:	J. Dadisman	_ Trained b	y Ecology? Yes X_ No	Date of t	raining: 11/06
SEC: 12	TWNSHP: 27N	RNGE: 1W	Is S/T/R in Appendix	D? Yes <u>X</u>	L-but not the NHP Wetland No
	Map of wetland unit:	Figure	Estimated size		
		SUMMA	RY OF RATING		
Category	based on FUNCTIONS provided b	by wetland:	I II	III	X IV
	Category I = Score > 70		Score for Water Quality Fund	ctions	5
	Category II = Score 51 - 69		Score for Hydrologic Fund	ctions	16
	Category III = Score 30 – 50		Score for Habitat Fund	ctions	21
	Category IV = Score < 30		TOTAL Score for Fun	ctions	42
Category	based on SPECIAL CHARACTERI	STCS of Wet	tland I II	D	oes not apply <u>X</u>
	Final Categ	Orv (abaaa	.1	1 ??)	TTT
		gor y (choos	e the "highest" category from a	(bove)	III
	C			ibove")	
	C	<u>information</u>	about the wetland unit. Wetland HGM Class used for Rating		
	Summary of basic Wetland Unit has Specia Characteristics Estuarine	information al	about the wetland unit. Wetland HGM Class used for Rating Depressional		
	Summary of basic Wetland Unit has Specia Characteristics Estuarine Natural Heritage Wetland	information al	about the wetland unit. Wetland HGM Class used for Rating Depressional Riverine		
	Summary of basic Wetland Unit has Specia Characteristics Estuarine Natural Heritage Wetland Bog	information al	about the wetland unit. Wetland HGM Class <u>used for Rating</u> Depressional Riverine Lake-fringe		
	Summary of basic Wetland Unit has Specia Characteristics Estuarine Natural Heritage Wetland Bog Mature Forest	information al	about the wetland unit. Wetland HGM Class used for Rating Depressional Riverine Lake-fringe Slope	X	
	Summary of basic Wetland Unit has Specia Characteristics Estuarine Natural Heritage Wetland Bog Mature Forest Old Growth Forest	information al	about the wetland unit. Wetland HGM Class used for Rating Depressional Riverine Lake-fringe Slope Flats		
	Summary of basic Wetland Unit has Specia Characteristics Estuarine Natural Heritage Wetland Bog Mature Forest Old Growth Forest Coastal Lagoon	information al	about the wetland unit. Wetland HGM Class used for Rating Depressional Riverine Lake-fringe Slope		
	Summary of basic Wetland Unit has Specia Characteristics Estuarine Natural Heritage Wetland Bog Mature Forest Old Growth Forest	information al	about the wetland unit. Wetland HGM Class used for Rating Depressional Riverine Lake-fringe Slope Flats		

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

Classification of Vegetated V	venanus for vvestern vvasinngton
If the hydrologic criteria listed in each question do not apply multiple HGM classes. In this case, identify which hydrolog	
1. Are the water levels in the entire unit usually controlled	by tides (i.e. except during floods)?
(NO - yo to 2) YES – the wetland class is '	0
is rated as an Estuarine wetland. Wetlands that were call e	annual low flow below 0.5 ppt (parts per thousand)? NO – Saltwater Tidal Fringe (Estuarine) <i>nge use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it</i> estuarine in the first and second editions of the rating system are called Salt Estuarine wetlands were categorized separately in the earlier editions, and
	onsistency between editions, the term "Estuarine" wetland is kept. Please
note, however, that the characteristics that define Category	
	ource (>90%) of water to it. Groundwater and surface water
runoff are NOT sources of water to the unit.	ource (>90%) of water to it. Groundwater and surface water
	e wetland class is Flats
If your wetland can be classified as a "Flats" wetlan	
e	shores of a body of permanent open water (without any
vegetation on the surface) where at least 20	
At least 30% of the open water area is deep	
	e wetland class is Lake-fringe (Lacustrine Fringe)
4. Does the entire wetland meet all of the following criteria	
4. Does the entire wettand meet an of the following enterna $X_{}$ The wetland is on a slope (<i>slope can be ver</i>	
	e direction (unidirectional) and usually comes from seeps. It may
flow subsurface, as sheetflow, or in a swale	
X The water leaves the wetland without bein	
	se types of wetlands except occasionally in very small and
	depressions are usually <3 ft diameter and less than 1 foot deep).
NO – go to 5 (YES) The	e wetland class is Slope
5. Does the entire wetland meet all of the following criteria	1?
	nere it gets inundated by overbank flooding from that stream or
river.	
The overbank flooding occurs at least once	
	essions that are filled with water when the river is not flooding
	e wetland class is Riverine
	which water ponds, or is saturated to the surface, at some time of
the year. This means that any outlet, if present is higher	
NO – go to 7 YES – 7	
	bvious depression and no overbank flooding. The unit does not
	ems to be maintained by high groundwater in the area. The
wetland may be ditched, but has no obvious natural outle	
	The wetland class is Depressional
	contains several different HGM classes. For example, seeps at the base of a
	hin a depressional wetland has a zone of flooding along its sides. GO
	EGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT
	e). Use the following table to identify the appropriate class to use for the pur wetland. NOTE: Use this table only if the class that is recommended in
	e wetland unit being rated. If the area of the class listed in column 2 is less
than 10% of the unit, classify the wetland using the class that rep	
HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe Salt Water Tidal Fringe and any other class of	Depressional Treat as ESTUARINE under wetlands with special
freshwater wetland	characteristics
	a apply to your wetland, or you have more than 2 HGM classes
within a wetland boundary, classify the wetland as Depressi	
within a wetrand boundary, classify the wetrand as Depression	onar for the facing.

Wetland Rating Form – western Washington, version 2 (7/06)

S	Slope Wetlands	Points	
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)	
S 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.64)	
	S 1.1 Characteristics of average slope of unit: • Slope is 1% or less (a 1% slope has a 1 ft. vertical drop in elevation for every 100 ft. horizontal distance) points = 3 • Slope is 1% - 2% • Slope is 2% - 5% • Slope is greater than 5%	2	
	S 1.2 The soil 2 inches below the surface (or duff layer) is clay, organic (<i>Use NRCS definitions</i>). YES = 3 points NO = $\frac{0}{2}$ points	0	
	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants	Figure	
	 are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 6 Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 	3	
	 Dense, woody, vegetation > 1/2 of area		
	Aerial photo or map with vegetation polygons		
	Total for S 1Add the points in the boxes above		
S 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 67)	
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity Grazing in the wetland or within 150 ft		
	 Untreated stormwater discharges to wetland Tilled fields, logging, or orchards within 150 ft. of wetland Residential, urban areas, or golf courses are within 150 ft. upslope of wetland 	Multiplier <u>1</u>	
	Other YES multiplier is 2 NO multiplier is 1		
	TOTAL – Water Quality Functions Multiply the score from S1 by S2; then add score to table on p. 1	5	
•	HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream erosion.	5	
S 3	Does the wetland have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)	
	 S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland (stems of plants should be thick enough (usually > 1/8in), or dense enough to remain erect during surface flows). Dense, uncut, rigid vegetation covers > 90% of the area of the wetland	6	
	S 3.2Characteristics of slope wetland that holds back small amounts of flood flows. The slope has small surface depressions that can retain water over at least 10% of its area.YES = 2 pointsNO = 0 points	2	
-	Add the points in the boxes above	8	
S 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply.</i>	(see p. 70)	
	<u>X</u> Wetland has surface runoff that drains to a river or stream that has flooding problems Other	Multiplier	
	(Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam)YES multiplier is 2NO multiplier is 1	<u>2</u>	
	<u>TOTAL</u> – Hydrologic Functions Multiply the score from S3 by S4; then <i>add score to table on p. 1</i>	16	

The	se questions apply to wetlands of all HGM classes.	Points	
	HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.	(only 1 score per box)	
H 1			
	H 1.1 Vegetation structure (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres.		
	If the unit has a forested class check if: \underline{X} The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon.Add the number of vegetation types that qualify. If you have:Map of Cowardin vegetation classes4 structures or more9 points = 42 structures9 points = 1		
	H 1.2 Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present points = 3 X Seasonally flooded or inundated 3 or more types present points = 2 Occasionally flooded or inundated 2 types present points = 1 X Saturated only 1 type present points = 0 X Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake-fringe wetland	Figure 2	
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species	1	
	H 1.4 Interspersion of Habitats (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points None = 0 points Low = 1 point Moderate = 2 points High = 3 points [riparian braided channels]		
	H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error. H 1 TOTAL Score – potential for providing habitat Add the points in the column above	3	

Does t	he wetland have the <u>opportunity</u> to provide habitat for many species?		(only 1 sc per box
H 2.1	Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest criterion that applies to the wetland is to be used in the rating. See text for definition of "uX_100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use) 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Mo paved areas (except paved trails) or buildings within 25m (80 ft) of wetland > 95% circumference. No paved areas of buildings within 50m of wetland for > 50% circumference. Light to moderate grazing or lawns are OK. Heavy grazing in buffer	<pre> points = 5 points = 4 points = 4 points = 4 points = 3 points = 3 points = 2 points = 2 points = 1 points = 0 points = 1</pre>	Figure _
H 2.2	Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (ei or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplar least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, p are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (ei or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, an estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? fringe wetland, if it does not have an undisturbed corridor as in the question above YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR 	ther riparian r native nds that are at <i>aved roads</i> , ther riparian nd connects to OR a Lake- e?	4

	of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm) Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
	connections do not have to be relatively undisturbed.	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
	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 p. 152).	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
	species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
	trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters	
	exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less	
	than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
	coverage of the oak component is important (full descriptions in WDFW PHS report p. 158).	
	Riparian: The area adjacent to aquatic systems with flowing water that contains elements of	
	both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of	
	a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	0
	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open	
	Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of	
	relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
	composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May	
	be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
	decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at	
	breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs	
	are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.	
	If wetland has 3 or more priority habitats = 4 points	
	If wetland has 2 priority habitats = 3 points	
	If wetland has 1 priority habitat = 1 point No habitats = 0 points	
	Note: All vegetated wetlands are by definition a priority habitat but are not included in this	
	list. Nearby wetlands are addressed in question H 2.4)	
	H 2.4 <u>Wetland Landscape</u> : Choose the one description of the landscape around the wetland that best fits (see p. 84)	
	• There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating,	
	but connections should NOT be bisected by paved roads, fill, fields, or other developmentpoints = 5	
	• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe	
	wetlands within $1/2$ mile	_
	• There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are	5
	disturbedpoints = 3	
	• The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands	
	within 1/2 milepoints = 3	
	• There is at least 1 wetland within 1/2 milepoints = 2	
	• There are no wetlands within 1/2 milepoints = 0	
	H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	14
	TOTAL for H 1 from page 8	7
•	Total Score for Habitat FunctionsAdd the points for H 1 and H 2; then record the result on p. 1	21
•	Add the points for 11 1 and 11 2, then record the result on p. 1	

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	Wetland Type – Check off any criteria that apply to the wetland. Circle the Category when the appropriate	
	criteria are met.	
SC1	Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and	
	SC 1.1Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?YES = Category INO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions? YES = Category I The wetland is relatively undicturbed (here no dilying dilating filling, aultivation, grazing, and here	Cat. I
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp,. are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category 1. Do not, however, exclude the area of Spartina in	Cat. II
	 At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Dual Rating I/II
SC2	Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (This question is used to screen out most sites before you need to contact WNHP/DNR.) (This question is used to screen out most sites before you need to contact WNHP/DNR.) S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species? YES = Category 1 NO X not a Heritage Wetland	Cat I
SC3	 Bogs (see p. 87) Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. <i>If you answer yes you will still need to rate the wetland based on its function.</i> 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? YES = go to question 3 NO = go to question 2 2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? YES = go to question 3 NO = is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 	
	 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? YES = Category I NO = Is not a bog for purpose of rating 	Cat. I

	-				
SC4	Forested Wetlands (see p. 90)				
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish				
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland				
	based on its function.				
	Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a				
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)				
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or				
	more).				
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees				
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.				
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old				
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than				
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally				
	less than that found in old-growth.	Cat. I			
	YES = Category I NO = X_{max} not a forested wetland with special characteristics				
0.07	$\frac{\mathbf{Wetlands in Coastal Lagoons (see p. 91)}{\mathbf{Wetlands in Coastal Lagoons (see p. 91)}}$				
SC5	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?				
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated				
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.				
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5				
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the				
	bottom.)				
	YES = Go to SC 5.1 NO X not a wetland in a coastal lagoon				
	SC 5.1 Does the wetland meet all of the following three conditions?				
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has				
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).				
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed				
	or un-mowed grassland.				
	The wetland is larger than 1/10 acre (4350 square ft.)				
	YES = Category I NO = Category II	Cat. II			
SC6	Interdunal Wetlands (see p. 93)				
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or				
	WBUO)?				
	YES = Go to SC 6.1NO X not an interdunal wetland for ratingIf you answer yes you will still need to rate the wetland based on its functions.				
	If you answer yes you will still need to rate the wetland based on its functions. In practical terms that means the following geographic areas:				
	 Long Beach Peninsula lands west of SR 103 				
	• Grayland-Westport lands west of SR 105				
	 Ocean Shores-Copalis – lands west of SR 115 and SR 109 				
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?				
	$\mathbf{YES} = \text{Category II} \qquad \mathbf{NO} = \text{go to SC 6.2}$	Cat. II			
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?				
	YES = Category III	Cat. III			
	Category of wetland based on Special Characteristics				
	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.				
	If you answered NO for all types enter "Not Applicable" on p. 1				

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

Name of w	etland (if known): <u>Wetland P</u>			-	
Date of site	e visit: July 25, 2013				
Rated by:	J. Dadisman	_ Trained by	y Ecology? Yes X_ No	Date of t	raining: 11/06
SEC: 12	TWNSHP: 27N	RNGE: 1W	Is S/T/R in Appendix	D? Yes <u>X</u>	-but not the NHP Wetland No
	Map of wetland unit:	Figure	Estimated size		
		SUMMA	RY OF RATING		
Category b	oased on FUNCTIONS provided			III	IV X
	Category I = Score > 70		Score for Water Quality Fund	ctions	5
	Category II = Score 51 - 69		Score for Hydrologic Fun	ctions	2
	Category III = Score 30 – 50		Score for Habitat Fun	ctions	16
	Category IV = Score < 30		TOTAL Score for Fund	ctions	23
Category b	ased on SPECIAL CHARACTER	ISTCS of Wet	land I II	Do	es not apply <u>X</u>
	Final Categ	gory (choose	e the "highest" category from a	bove")	IV
	Summary of basic	information	about the wetland unit.		
	Wetland Unit has Speci Characteristics		Wetland HGM Class used for Rating		
	Estuarine		Depressional		
	Natural Heritage Wetlan	d	Riverine		
	Bog		Lake-fringe		
	Mature Forest		Slope	X	
	Old Growth Forest		Flats		
	Coastal Lagoon		Freshwater Tidal		
	Interdunal				
	None of the above	X	Check if unit has multiple HGM classes present		

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

If the hydrologic criteria listed in each question do not apply to multiple HGM classes. In this case, identify which hydrologic	
1. Are the water levels in the entire unit usually controlled by	y tides (i.e. except during floods)?
(NO - yo to 2) YES – the wetland class is Ti	
If yes, is the salinity of the water during periods of an	
YES – Freshwater Tidal Fringe	NO – Saltwater Tidal Fringe (Estuarine)
	<i>e use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it</i> uarine in the first and second editions of the rating system are called Salt
	Estuarine wetlands were categorized separately in the earlier editions, and
	sistency between editions, the term "Estuarine" wetland is kept. Please
note, however, that the characteristics that define Category I a	nd II estuarine wetlands have changed (see p).
2. The entire wetland unit is flat and precipitation is only sou	arce (>90%) of water to it. Groundwater and surface water
runoff are NOT sources of water to the unit.	
NO - go to 3 YES – The If your wetland can be classified as a "Flats" wetland,	wetland class is Flats
3. Does the entire wetland meet both of the following criteria	nores of a body of permanent open water (without any
vegetation on the surface) where at least 20 a	
At least <u>30%</u> of the open water area is deeper	
(NO - yo to 4) YES – The	wetland class is Lake-fringe (Lacustrine Fringe)
4. Does the entire wetland meet all of the following criteria?	
X The wetland is on a slope (slope can be very	
X The water flows through the wetland in one of flow subsurface, as sheetflow, or in a swale w	lirection (unidirectional) and usually comes from seeps. It may
X The water leaves the wetland without being	
	types of wetlands except occasionally in very small and
shallow depressions or behind hummocks (de	pressions are usually <3 ft diameter and less than 1 foot deep).
	wetland class is Slope
5. Does the entire wetland meet all of the following criteria?	
The unit is in a valley or stream channel whe river.	re it gets inundated by overbank flooding from that stream or
The overbank flooding occurs at least once e	very two years
	sions that are filled with water when the river is not flooding
$\overline{\text{NO}}$ - yo to 6 $\overline{\text{YES}}$ - The	wetland class is Riverine
	hich water ponds, or is saturated to the surface, at some time of
the year. This means that any outlet, if present is higher the	
	e wetland class is Depressional
7. Is the entire wetland located in a very flat area with no ob- pond surface water more than a few inches. The unit seen	
wetland may be ditched, but has no obvious natural outlet.	
	e wetland class is Depressional
8. Your wetland unit seems to be difficult to classify and probably co	ntains 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
	GIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT
	Use the following table to identify the appropriate class to use for the
	wetland. NOTE: Use this table only if the class that is recommended in wetland unit being rated. If the area of the class listed in column 2 is less
than 10% of the unit, classify the wetland using the class that repre	
HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics
	apply to your wetland, or you have more than 2 HGM classes

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

Wetland Rating Form - western Washington, version 2 (7/06)

S	Slope Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
S 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.64)
	S 1.1 Characteristics of average slope of unit: • Slope is 1% or less (a 1% slope has a 1 ft. vertical drop in elevation for every 100 ft. horizontal distance) points = 3 • Slope is 1% - 2% • Slope is 2% - 5% • Slope is greater than 5%	2
	S 1.2 The soil 2 inches below the surface (or duff layer) is clay, organic (<i>Use NRCS definitions</i>). YES = 3 points NO = 0 points	0
	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants	Figure
	 are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 6 Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 	3
	 Dense, woody, vegetation > 1/2 of area	
	Aerial photo or map with vegetation polygons	
	Total for S 1 Add the points in the boxes above	
S 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 67)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity Grazing in the wetland or within 150 ft	
	 Untreated stormwater discharges to wetland Tilled fields, logging, or orchards within 150 ft. of wetland Residential, urban areas, or golf courses are within 150 ft. upslope of wetland 	Multiplier
	Other YES multiplier is 2 NO multiplier is 1	<u>1</u>
	TOTAL – Water Quality Functions Multiply the score from S1 by S2; then add score to table on p. 1	5
•	HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream erosion.	5
S 3	Does the wetland have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)
	 S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland (stems of plants should be thick enough (usually > 1/8in), or dense enough to remain erect during surface flows). Dense, uncut, rigid vegetation covers > 90% of the area of the wetland points = 6 Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3 Dense, uncut, rigid vegetation > 1/4 area points = 1 More than 1/4 of area is grazed, mowed, tilled, or vegetation is not rigid points = 0 	1
	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows. The slope has small surface depressions that can retain water over at least 10% of its area. YES = 2 points NO = $\frac{0}{0}$ points	0
	Add the points in the boxes above	1
S 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply.</i>	(see p. 70)
	X Wetland has surface runoff that drains to a river or stream that has flooding problems Other	Multiplier
	(Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam)YES multiplier is 2NO multiplier is 1	<u>2</u>
•	<u>TOTAL</u> – Hydrologic Functions Multiply the score from S3 by S4; then <i>add score to table on p. 1</i>	2

The	se questions apply to wetlands of all HGM classes.	Points
	HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.	(only 1 score per box)
H 1	Does the wetland have the <u>potential</u> to provide habitat for many species?	
	H 1.1 Vegetation structure (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed X Emergent plants Scrub/shrub (areas where shrubs have > 30% cover) Forested (areas where trees have > 30% cover)	Figure O
	If the unit has a forested class check if:	
	H 1.2 Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present points = 3 X Seasonally flooded or inundated 3 or more types presentpoints = 2 Occasionally flooded or inundated 2 types presentpoints = 1 Saturated only 1 type presentpoints = 0 Permanently flowing stream or river in, or adjacent to, the wetland	Figure O
	Lake-fringe wetland	
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species	1
	 H 1.4 Interspersion of Habitats (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point L	
	 H 1.5 <u>Special Habitat Features</u> (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error. 	1
	H 1 TOTAL Score – potential for providing habitat Add the points in the column above	2

Wetland name or number: Wetland P

2 Does	the wetland have the <u>opportunity</u> to provide habitat for many species?	((only 1 so per boy
H 2.1	Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest criterion that applies to the wetland is to be used in the rating. See text for definition of "uxing in the set of the criteria applies to the wetland is to be used in the rating. See text for definition of "uxing in the set of the criteria applies to the wetland is to be used in the rating. See text for definition of "uxing in the set of the criteria applies to the wetland is to be used in the rating. See text for definition of "uxing intervention of criterian applies to the wetland is to be used in the rating. See text for definition of "uxing intervention of criterian applies to the wetland is to be used in the rating. See text for definition of "uxing intervention of criterian applies to the wetland is to be used in the rating. See text for definition of "uxing intervention of criterian applies to the wetland is to be used in the rating. See text for definition of "uxing intervention of criterian applies to the wetland is to be used in the rating. See text for definition of "uxing intervention of criterian applies to the wetland is to be used in the rating. See text for definition of "uxing intervention of criterian applies to the wetland unit. The highest criterian applies to the wetland is to be used in the rating. See text for definition of "uxing intervention of criterian applies to the undisturbed vegetated areas, rocky areas, or open water > 50% circumference.	<pre>ndisturbed" points = 5 points = 4 points = 4 points = 3 points = 3 points = 2 points = 2 points = 1 points = 0 points = 1</pre>	jigure _
H 2.2	 <u>Corridors and Connections</u> (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eir or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplar least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, pare considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eir or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, an estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? fringe wetland, if it does not have an undisturbed corridor as in the question above YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR 	ther riparian r native nds that are at <i>aved roads</i> , ther riparian nd connects to OR a Lake- e?	4

 etland has 3 or more priority habitats = 4 points etland has 2 priority habitats = 3 points etland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4) 4 Wetland Landscape: Choose the one description of the landscape around the wetland that best fits (see p. 84) • There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other developmentpoints = 5 • The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 milepoints = 5 • There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbedpoints = 3 • The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within 1/2 mile	5 <u>14</u> <u>2</u> 16
 etland has 3 or more priority habitats = 4 points etland has 2 priority habitats = 3 points etland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4) 4 Wetland Landscape: Choose the one description of the landscape around the wetland that best fits (see p. 84) • There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other developmentpoints = 5 • The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 mile	14
 etland has 3 or more priority habitats = 4 points etland has 2 priority habitats = 3 points etland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4) 4 Wetland Landscape: Choose the one description of the landscape around the wetland that best fits (see p. 84) There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other developmentpoints = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 mile, BUT the connections between them are disturbedpoints = 3 The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within 1/2 mile	
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etland has 3 or more priority habitats = 4 points	
> 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.	
is the height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long	
ay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at height $a_1 > 51$ am (20 in) in western Weshington and $a_2 > 2$ m (6.5 ft) in height. Priority loss	
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
ssociated with cliffs.	
posed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May	
_Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
_Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
h in soils, rock, ice, or other geological formations and is large enough to contain a human.	
_Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
tively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).	
st Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of	
_ Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open	
ract to provide functional life history requirements for instream fish and wildlife resources.	
_Instream: The combination of physical, biological, and chemical processes and conditions that	
y prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	0
_Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of	~
aquatic and terrestrial ecosystems which mutually influence each other.	
	
erage of the oak component is important (full descriptions in WDFW PHS report p. 158).	
_ Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
that found in old-growth; 80 - 200 years old west of the Cascade crest.	
%; decay, decadence, numbers of snags, and quantity of large downed material is generally less	
eeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that	
s/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters	
ties, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
_Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
_Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
ties of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>).	
Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
_Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
nections do not have to be relatively undisturbed.	
VDFW ://wdfw ich of th	or adjacent to other priority habitats listed by WDFW (see new and complete descriptions priority habitats, and the counties in which they can be found, in the PHS report y.wa.gov/hab/phslist.htm) he following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	Wetland Type – Check off any criteria that apply to the wetland. Circle the Category when the appropriate	
	criteria are met.	
SC1	Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands? The dominant water regime is tidal,	
	Vegetated, and With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO X_	
	SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions? YES = Category I NO = Category II The method defined of the following conditions?	Cat. I
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp,. are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category 1. Do not, however, exclude the area of Spartina in	Cat. II
	 At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Dual Rating I/II
SC2	Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (This question is used to screen out most sites before you need to contact WNHP/DNR.) (This question is used to screen out most sites before you need to contact WNHP/DNR.) S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species? YES = Category 1 NO X not a Heritage Wetland	Cat I
SC3	 Bogs (see p. 87) Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its function. 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that 	
	 compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? YES = go to question 3 NO = go to question 2 2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or 	
	 pond? YES = go to question 3 NO = is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 	
	 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of 	
	the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? YES = Category I NO = Is not a bog for purpose of rating	Cat. I

SC4	Forested Wetlands (see p. 90)	
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish	
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland	
	based on its function.	
	Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a	
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)	
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or	
	more).	
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees	
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW	
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old	
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally	
	less than that found in old-growth.	Cat. I
	YES = Category I NO = X not a forested wetland with special characteristics	
SC5	Wetlands in Coastal Lagoons (see p. 91)	
BC3	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated	
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5	
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the	
	bottom.)	
	YES = Go to SC 5.1 NO X not a wetland in a coastal lagoon	
	SC 5.1 Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has	
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed	
	or un-mowed grassland.	Cat. I
	The wetland is larger than 1/10 acre (4350 square ft.)	
	$\mathbf{YES} = Category I \qquad \mathbf{NO} = Category II$	Cat. II
SC6	Interdunal Wetlands (see p. 93)	
500	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or	
	WBUO)?	
	YES = Go to SC 6.1 NO X not an interdunal wetland for rating	
	If you answer yes you will still need to rate the wetland based on its functions.	
	In practical terms that means the following geographic areas:	
	• Long Beach Peninsula lands west of SR 103	
	• Grayland-Westport lands west of SR 105	
	• Ocean Shores-Copalis – lands west of SR 115 and SR 109	
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?	
	$\mathbf{YES} = \text{Category II} \qquad \mathbf{NO} = \text{go to SC 6.2}$	Cat. II
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	
	YES = Category III	Cat. III
	Category of wetland based on Special Characteristics	
◆	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.	
	If you answered NO for all types enter "Not Applicable" on p. 1	

Wetland name or number: Wetland Q (Los	t Lake)						
Version 2 - U	pdated July 2006	6 to increa	1 – WESTERN V se accuracy and repro VDFW definitions for	oducibility am	ong use	rs	
Name of wetland (if known): Wetland	l Q (Lost Lake)		E	Date of	site visit: July 2, 2	013
Rated by: J. Dadisman Trai	ined by Ecolog	gy? Yes	X No 1	Date of trair	ning: 1	1/06	
SEC: 7 TWNSHP: 27N	RNGE	: 1E	Is S/T/R in A	Appendix D	Yes	X-but not the NHP Wet	and No
Map of wetlan	d unit: Figure	e	Estimat	ed size			
	SU	MMAR	Y OF RATING				
Category based on FUNCTIONS pre-	ovided by wet	land: I_	II <u>X</u>		III _	IV	
Category I = Score >	70		Score for Water Qu	ality Functio	ons	6	
Category II = Score 51	- 69		Score for Hydrol	logic Functio	ons	24	
Category III = Score 30	- 50		Score for Ha	bitat Functio	ons	27	
Category IV = Score < 3	30		TOTAL Score	e for Functio	ons	57	
Category based on SPECIAL CHARA	CTERISTCS	of Wetla	nd I	П	п		
			he "highest" catego				
					ve)	II	
		nation at	bout the wetland u				
Wetland Unit ha Characteris	-		Wetland HGM used for Rat				
Estuarine			Depressional	ung	X		
Natural Heritage	Wetland		Riverine				
Bog			Lake-fringe				
Mature Forest			Slope				
Old Growth Fores	t]	Flats				
Coastal Lagoon]	Freshwater Tidal				
Interdunal							
None of the above	У		Check if unit has m HGM classes preser				

Wetland name or number: Wetland Q (Lost Lake)

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Wetland name or number: Wetland Q (Lost Lake)

Classification of Vegetated Wetlands for Western Washington

runoff are NOT sources-ef-water to the unit. NO to to 3 YES - The wetland class is Flats If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands. 3. Does the entire wetland meet both of the following criteria?		ne hydrologic criteria listed in each question do not apply to tiple HGM classes. In this case, identify which hydrologic	
 is rated as an Estuarine welfand. Wetlands that were call estuarine in the first and second editions of the nating system are called Satt Water Tidal Fridge in the Hydrogemorphic Classification. Estuarine wetlands have changed (see p). The entire wetland units in flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources-estwater to the unit. No o to 3 YES – The wetland class is Flats If your wetland on the classified as a "Flats" wetland, use the form for Depressional wetlands. Does the entire wetland meet both of the following criteria? At teast 30% of the open water area is deeper than 6.6 (2 m)? At teast 30% of the open water area is deeper than 6.6 (2 m)? At teast 30% of the open water area is deeper than 6.6 (2 m)? The wetter flows through the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) where at least 20 acres (8ha) in size: At teast 30% of the open water area is deeper than 6.6 (2 m)? The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow substrafee, as sheetflow, or in a swale without distinct banks. The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow substrafee, as sheetflow, or in a swale without distinct banks. NO to 5 YES – The wetland class is Slope Does the entire wetland flow of the following criteria? The water leaves the wetland without being impounde? NOT: Surface water does not pond in these types of wetlands except occasionally in very small and shallow degressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep). NO to 10 YES – The wetland class is Slope Does the entire wetland floot the follow	1. (NO – yo to 2 If yes, is the salinity of the water during periods of ann YES – Freshwater Tidal Fringe	<pre>dal Fringe nual low flow below 0.5 ppt (parts per thousand)? NO – Saltwater Tidal Fringe (Estuarine)</pre>
runoff are NOT source-of-gater to the unit. NO 0 0 3 YES - The wetland class is Flats If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands. 3. 3. Does the entire wetland meet both of the following criteria?		<i>is rated as an Estuarine wetland.</i> Wetlands that were call estu Water Tidal Fringe in the Hydrogeomorphic Classification. E this separation is being kept in this revision. To maintain cons	arine in the first and second editions of the rating system are called Salt stuarine wetlands were categorized separately in the earlier editions, and istency between editions, the term "Estuarine" wetland is kept. Please
(NO → 0 to 3 YES - The wetland class is Flats If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands. 3. Does the entire wetland meet both of the following criteria?	2.		rce (>90%) of water to it. Groundwater and surface water
If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands. 3. Does the entire wetland meet both of the following criteria?			uster d class 's Flate
 3. Does the entire wetland meet both of the following criteria?The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) where at least 20 acres (8ha) in size;At least 30% of the open water area is deeper than 6.6 (2 m)?No_to to 4 YES - The wetland class is Lake-fringe (Lacustrine Fringe) 4. Does the entire wetland meet all of the following criteria?The wetland is on a slope (<i>slope can be very gradual</i>)The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, ori a swale without distinct banksThe water leaves the wetland without being impounded? NOTE: Surface water does not pond in these trypes of wetlands except occasionally in very small and shallow degressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep)NO_E to 15 YES - The wetland class is Slope 5. Does the entire wetland meet all of the following criteria?The overbank flooding occurs at least once every two yearsThe overbank flooding occurs at least once every two yearsThe overbank flooding occurs at least once every two yearsThe overbank flooding occurs at least once every two yearsThe overbank flooding occurs at least once every two yearsThe overbank flooding occurs at least once every two yearsThe overbank flooding occurs at least once every two yearsThe wetland class is Depressional 7. Is the entire wetland unit in a topographic depression which water ponds, or is saturated to the surface, at some time of the year. This means that any outlet, if present is higher than the interior of the wetland			
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If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes	If v		

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

Wetland Rating Form - western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
	D 1.1 Characteristics of surface water flows out of the wetland:	
	• Unit is a depression with no surface water leaving it (no outlet) points = 3	Figure
	 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 	
	• Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface	3
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	
-	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>)	0
-	YESpoints = 4NOpoints = 0D 1.3Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):	0
	 D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed vegetation >= 95% of area points = 5 	Figure
	• Wetland has persistent, ungrazed vegetation $> = 1/2$ of area	3
	 Wetland has persistent, ungrazed vegetation > = 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0 	
	Map of Cowardin vegetation classes	
	D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently	Figure
	ponded. Estimate area as the average condition 5 out of 10 years.	
	 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	0
-	Map of Hydroperiods	
	Total for D 1 Add the points in the boxes above	
D 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 44)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient	
	from the wetland? Note which of the following conditions provide the sources of pollutants. A unit	
	may have pollutants coming from several sources, but any single source would qualify as opportunity.	
	Untreated stormwater discharges to wetland	
	Tilled fields or orchards within 150 ft. of wetland A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed	
	fields, roads, or clear-cut logging	Multiplier
	Residential, urban areas, golf courses are within 150 ft. of wetland Wetland is fed by groundwater high in phosphorus or nitrogen	wiunipitei
	Other	<u>1</u>
	YES multiplier is 2 NO multiplier is 1	
•	TOTAL – Water Quality FunctionsMultiply the score from D1 by D2; then add score to table on p. 1HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.	6
D 3	Does the wetland have the potential to reduce flooding and erosion?	(see p.46)
D 3	D 3.1 Characteristics of surface water flows out of the wetland unit	(see p.40)
	• Unit is a depression with no surface water leaving it (no outlet)points = 4	
	 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface 	4
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1	+
	(If ditch is not permanently flowing treat unit as "intermittently flowing")	
	• Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0 D 3.2 Depth of storage during wet periods. <i>Estimate the height of ponding above the bottom of the outlet. For</i>	
	units with no outlet measure from the surface of permanent water or deepest part (if dry).	
	 Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7 The wetland is a "headwater" wetland	
	• Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet	5
	 Marks are at least 0.5 ft. to < 2 ft. from surface or bottom of outlet points = 3 Wetland is flat (yes to Q.2 or Q.7 on key)but has small depressions on the surface that trap water points = 1 	
	 We had is flat (yes to Q.2 of Q.7 of Rey)but has small depressions of the surface that thap water points = 1 Marks of ponding less than 0.5 ft	
	D 3.3 Contribution of wetland unit to storage in the watershed: <i>Estimate the ratio of the area of upstream</i>	
1	 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 unit points = 5 	
1	• The area of the basin is 10 to 100 times the area of the unit $points = 3$	3
1	 The area of the basin is more than 100 times the area of the unit	
	Total for D 3 Add the points in the boxes above	12
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?	(see p. 49)
[- ·	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity,	Multiplier
	it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide	
	gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	

Wetland name or number: Wetland Q (Lost Lake)

groundwater in areas where damaging groundwater flooding does not occur. <i>Note which of the following indicators of opportunity apply.</i>	
Wetland is in a headwater of a river or stream that has flooding problems.	
 Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or 	
stream that has flooding problems	
X Other adjacent manmade resources could be damaged by flooding YES multiplier is 2 NO multiplier is 1	<u>2</u>
	24
<u>TOTAL</u> – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	24

H1 Does the wetland have the patchild to provide habitat for many species? H1.1 Vestation structure (see P. 72): Check the types of vegetation classes present (is defined by Cowardin) - Size threshold for each class is Figure	Thes	se questions apply to wetlands of all HGM classes.	Points
III.1. Vegetation staticture (see P. 72): Check the types of vegetation classes present (as defined by Cowordin) - Size threshold for each class is A quarte Bed Scrub-Strub clares where shares have > 30% cover) Scrub-Strub clares where shares have > 30% cover) Scrub-Strub clares where the share > 30% cover) H 1.2 Hudopeniads (see 15.3); Check the types of water regimes (hydroperiods) present within the velland. The water regime has to cover more than 10% of the vertication of the struct trees in deck-strub motils = 3 Seasonally flooded or inundated Saturated only Saturated only		HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.	(only 1 score per box)
Image: Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is frequence than 10% of the area if unit is smaller than 2.5 acres. 4 Image: Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is the Energy of the area check if: The transmission of the types of the cover) 4 Image: Check the types of vegetation types that gaulify. If you have: Map of Cowardin vegetation classes of the types of vegetation types that gaulify. If you have: Map of Cowardin vegetation classes of the types of vegetation types that gaulify. If you have: Map of Cowardin vegetation classes of the types of vegetation types that gaulify. If you have: Map of Cowardin vegetation classes of the types of vegetation types the taget of the type of the	H 1		
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 10% within the forested polygon. Map of Covardin vegetation classes 2 Add the number of vegetation types that guadity. (J you have: Map of Covardin vegetation classes 2 1 Structures 2 structures points = 0 1 structure points = 0 H1.2 Hudpopriod (see p. 73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland 3 or more types present points = 3 Saturated only 1 3 or more types present points = 1 2 Coccasionally flooded or inundated 3 or more types present points = 0 2 Saturated only mode the vetland 1 type present points = 0 H1.3 Richness of Plant species in the wetland that cover at least 10 ft² (different patches of the same species on the size threaded) 1 structure > 19 species 1 You do not have to name the species. Do not include Drawsian Milpit. reed canary graver, points = 0 1 showstrift, Canadian Thistle. 1 you countel: > 19 species 1 M1.4 Interspersion of Habitatis (see p. 76): Coccasion points = 0 1 showstor if points = 0 1 <th></th> <th>Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is $1/4$ acre or more than 10% of the area if unit is smaller than 2.5 acres. X Aquatic Bed X Emergent plants X Scrub/shrub (areas where shrubs have > 30% cover)</th> <th>Figure 4</th>		Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is $1/4$ acre or more than 10% of the area if unit is smaller than 2.5 acres. X Aquatic Bed X Emergent plants X Scrub/shrub (areas where shrubs have > 30% cover)	Figure 4
H1.2 Istractures		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. Add the number of vegetation types that qualify. If you have: Map of Cowardin vegetation classes	
Check the types of vater regimes (hydroperiods) present within the welland. The weter regime has to cover more than 10% of the weterand of 14 acre to count (see text for descriptions of hydroperiods). X = Permanently flooded or inundated 3 or more types present points = 3 are former types present points = 1 type present points = 1 type present points = 0 2 Saturated only		2 structures points = 1 1 structure points = 0	
H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different parches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistie. 1 If you countel: - 19 species		Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). X Permanently flooded or inundated 4 or more types present points = 3 X Seasonally flooded or inundated 3 or more types present points = 2 Occasionally flooded or inundated 2 types present points = 1 X 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	Figure 2
Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thiste. If you counted: > 19 species			
Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. Image: Comparison of the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. Image: Comparison of the classes and open water or mudflats) is high, medium, low, or none. Image: Comparison of the classes and open water, the rating is always "high". Image: Comparison of the classes of the classes. Image: Comparison of the classes of the classes. Image: Comparison of the classes of the classes of the classes of the classes of the classes. Image: Classes of the classes. Image: Classes of the classes. Image: Classes of the classes. Image: Classes of the classes. Image: Classes of the classes. Image: Classes of the class		Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species points = 2 5 - 19 species points = 1	1
H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) 3 X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) 3 3 M Standing snags (diameter at the bottom > 4 inches) in the wetland 3 10(100) Y Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) 3 M At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) 3 X Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error. 3		Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. Note: If you have 4 or more classes or 3 vegetation classes and open water, the rating is	Figure
H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) 3 Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) 3 At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error.		Use map of Cowardin classes	5 3
H 1 TOTAL Score – potential for providing habitat Add the points in the column above 13		H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland — Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m)	3

2 Does t	he wetland have the <u>opportunity</u> to provide habitat for many species?		(only 1 s per bo
H 2.1	Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest so criterion that applies to the wetland is to be used in the rating. See text for definition of "und X	points = 5 points = 5 points = 4 points = 4 points = 3 points = 3 points = 2 points = 1 points = 0 points = 1	Figure 5
H 2.2	 <u>Corridors and Connections</u> (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or nundisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, pave are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, and estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? Of fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR YES = 1 points NO = 0 points 	ative s that are at ed roads, er riparian connects to R a Lake-	4

of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdy.we.ago/hab/hslit.htm) Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the councertions do not have to be relatively undisturbed.		H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions	
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the connections do not have to be relatively undisturbed.		of WDFW priority habitats, and the counties in which they can be found, in the PHS report	
		http://wdfw.wa.gov/hab/phslist.htm)	
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acrc).		Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species on native fish and wildite (full descriptions in WDFW PHS report p. 152). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings: with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years of west of the Cascade crest. Orgon white Oak: Woodlands Stands of pure could over any be less that 100%; crown cover may be less that 100%; iter species, forgon white Oak: Woodlands Stands of pure could over that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Orgon white Oak: Woodlands Stands of pure cound on advortimal is determined of a dy priarie or a wet praine (full descriptions in MDFW PHS report p. 16).		connections do not have to be relatively undisturbed.	
species of native fish and wildlife (full descriptions in WDFW PHIS report p. 152).		Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
		Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
Old_growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years of age. (Mature forests) Stands with a recan each other.		species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).	
<pre>species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crestOregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>)Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems would plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)Intermar: The combination of physical, biological, and Chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resourcesNearshore: Relatively undisturbed nearshore (<i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A)Caves: A naturally occurring caves/or (<i>sub</i>; crowd, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a humanClffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft</i></pre>		Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less that not found in old-growth; 80 - 200 years old west of the Cascade crest.		Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.			
100% : dcay, 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.		trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters	
Image: the set of the case of the c		exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that	
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).		100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less	
coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).		than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
		Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
both aquatic and terrestrial coosystems which mutually influence each other.		coverage of the oak component is important (full descriptions in WDFW PHS report p. 158).	
Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>). Onter 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: <i>ppl 07-169 and glossary in Appendix A</i>). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft. Taus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long. If wetland has 3 priority habitats = 3 points		Riparian: The area adjacent to aquatic systems with flowing water that contains elements of	
a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>). 0			
<pre>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. (<i>full descriptions of habitats and the definition of</i> relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. CLiffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft. Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 1 priority habitats = 3 points If wetland has 2 priority habitats = 3 points If wetland has 2 priority habitats = 3 points Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4) H 2.4 Wetland Landscape: Choose the one description of the landscape around the wetland that best fits (see p. 84) • There are at least 3 other wetlands With in 1/2 mile, BUT the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisceted by paved roads, fill, fields, or other developmentpoints = 5 • There are at least 3 other wetlands</pre>			0
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (<i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A</i>). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft. Tabus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.			
Coast Nearshore, and Puget Sound Nearshore. (<i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A</i>). 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. Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long. If wetland has 3 priority habitats = 3 points If wetland has 1 priority habitats = 3 points Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4) H 2.4 Wetland Landscape: Choose the one description of the landscape around the wetland that best fits (see p. 84) • There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light			
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	•	Total Score for Habitat FunctionsAdd the points for H 1 and H 2; then record the result on p. 1	27

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

SC1	Wetland Type – <i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i>	
SC1		
501	Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt.	
	YES = Go to SC 1.1 NO \underline{X}	
	SC 1.1Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?YES = Category INO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?	
	YES = Category I NO = Category II The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has	Cat. I
	The wertand is relatively undisturbed (has no diking, unterning, cuttivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp., are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category 1. Do not, however, exclude the area of Spartina in	Cat. II
	determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water,	Dual Rating I/II
~~•	or contiguous freshwater wetlands.	
SC2	<u>Natural Heritage Wetlands</u> (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This</i>	
	question is used to screen out most sites before you need to contact WNHP/DNR.)	
	S/T/R information from Appendix D or accessed from WNHP/DNR web site X	
	YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species? YES = Category 1 NO X not a Heritage Wetland	Cat I
SC3	Bogs (see p. 87)	
505	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use	
	the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the	
	wetland based on its function.	
	 Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? YES = go to question 3 NO = go to question 2 	
	 Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? YES = go to question 3 NO = is not a bog for purpose of rating 	
	 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 	
	NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
	4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant	
	component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? YES = Category I NO = Is not a bog for purpose of rating	Cat. I

SC4	Forested Wetlands (see p. 90)	
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish	
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland	
	<i>based on its function.</i> Old-growth forests : (west of Cascade Crest) Stands of at least two three species forming a	
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)	
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or	
	more).	
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees	
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW	
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old	
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally	
	less than that found in old-growth.	Cat. I
	YES = Category I $NO = X_{not}$ not a forested wetland with special characteristics	
SC5	Wetlands in Coastal Lagoons (see p. 91)	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated	
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5	
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the	
	bottom.) YES = Go to SC 5.1 NO X not a wetland in a coastal lagoon	
	YES = Go to SC 5.1NOX_not a wetland in a coastal lagoonSC 5.1Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has	
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed	
	or un-mowed grassland.	Cat. I
	The wetland is larger than 1/10 acre (4350 square ft.)	Cuti I
	$\mathbf{YES} = \mathbf{C} ategory \ \mathbf{I} \qquad \qquad \mathbf{NO} = \mathbf{C} ategory \ \mathbf{II}$	Cat. II
SC6	Interdunal Wetlands (see p. 93)	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or	
	WBUO)?	
	YES = Go to SC 6.1 NO X_{-} not an interdunal wetland for rating	
	If you answer yes you will still need to rate the wetland based on its functions.	
	In practical terms that means the following geographic areas: • Long Beach Peninsula lands west of SR 103	
	• Grayland-Westport lands west of SR 105	
	 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?	
	$\mathbf{YES} = \text{Category II} \qquad \mathbf{NO} = \text{go to SC 6.2}$	Cat. II
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	a
	YES = Category III	Cat. III
	Category of wetland based on Special Characteristics	
	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.	
	If you answered NO for all types enter "Not Applicable" on p. 1	

Version 2 - Updated J	ATING FORM – WESTERN WASHINGTO July 2006 to increase accuracy and reproducibility among 2008 with the new WDFW definitions for priority habitats	
Name of wetland (if known): Wetland R		
Date of site visit: October 30, 2013		
Rated by: <u>J. Dadisman</u>	Trained by Ecology? Yes X_ No Date	of training: 11/06
SEC: 19 TWNSHP: 27N	RNGE: 1W Is S/T/R in Appendix D? Y	es X-but not the NHP Wetland No
Map of wetland unit:	Figure Estimated size	
	SUMMARY OF RATING	
Category based on FUNCTIONS provided	by wetland: I II II	I _X IV
Category I = Score > 70	Score for Water Quality Functions	14
Category II = Score 51 - 69	Score for Hydrologic Functions	8
Category III = Score 30 – 50	Score for Habitat Functions	23
Category IV = Score < 30	TOTAL Score for Functions	45
Category based on SPECIAL CHARACTER	ISTCS of Wetland I II <u>X</u>	Does not apply
Final Cate	gory (choose the "highest" category from above") II
Summary of basic	e information about the wetland unit.	

Wetland Unit has Special	
Characteristics	
Estuarine	Х
Natural Heritage Wetland	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	

Wetland HGM Class	
used for Rating	
Depressional	Х
Riverine	
Lake-fringe	
Slope	
Flats	
Freshwater Tidal	
Check if unit has multiple	v
HGM classes present	Х

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		Х
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

	he hydrologic criteria listed in each question do not apply to ltiple HGM classes. In this case, identify which hydrologic	
1.	Are the water levels in the entire-unit usually controlled by	
	NO – go to 2 (YES – the wetland class is Tic	
	If yes, is the salinity of the water during periods of anr	
	YES – Freshwater Tidal Fringe	NO – Saltwater Tidal Fringe (Estuarine)
		use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it
		narine in the first and second editions of the rating system are called Salt
		stuarine wetlands were categorized separately in the earlier editions, and
	note, however, that the characteristics that define Category I ar	istency between editions, the term "Estuarine" wetland is kept. Please
2.	The entire wetland unit is flat and precipitation is only sour	rce (>90%) of water to it. Groundwater and surface water
	runoff are NOT sources of water to the unit. NO $-$ zo to 3 YES $-$ The v	vetland class is Flats
	If your wetland can be classified as a "Flats" wetland,	
2		-
3.	Does the entire wetland meet both of the following criteria The vegetated part of the wetland is on the sh	ores of a body of permanent open water (without any
	vegetation on the surface) where at least 20 ac	
	At least 30% of the open water area is deeper	
		vetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland meet all of the following criteria?	
	X The wetland is on a slope (slope can be very g	
		irection (unidirectional) and usually comes from seeps. It may
	flow subsurface, as sheetflow, or in a swale w	
	The water leaves the wetland without being i	<i>types of wetlands except occasionally in very small and</i>
		pressions are usually <3 ft diameter and less than 1 foot deep).
		vetland class is Slope
5.	Does the entire wetland meet all of the following criteria?	
0.		e it gets inundated by overbank flooding from that stream or
	river.	
	The overbank flooding occurs at least once ev	very two years.
		ions that are filled with water when the river is not flooding
	(NO - yo to 6) YES – The v	vetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in wh	nich water ponds, or is saturated to the surface, at some time of
	the year. This means that any outlet, if present is higher th	
	× × ×	e wetland class is Depressional
7.	•	ious depression and no overbank flooding. The unit does not
	pond surface water more than a few inches. The unit seem	s to be maintained by high groundwater in the area. The
	wetland may be ditched, but has no obvious natural outlet.	
		e wetland class is Depressional
8.		tains several different HGM classes. For example, seeps at the base of a
	slope may grade into a riverine floodplain, or a small stream within	
		SIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT
		Use the following table to identify the appropriate class to use for the water of NOTE: Use this table only if the aloss that is recommended in
		wetland. NOTE: Use this table only if the class that is recommended in vetland unit being rated. If the area of the class listed in column 2 is less
	than 10% of the unit, classify the wetland using the class that repres	
		-
	HGM Classes within the wetland unit being rated Slope + Riverine	HGM Class to Use in Rating Riverine
	Slope + Depressional	Depressional
	Slope + Lake-fringe	Lake-fringe
	Depressional + Riverine along stream within boundary	Depressional
	Depressional + Kiverine along stream within boundary Depressional + Lake-fringe	Depressional
	Salt Water Tidal Fringe and any other class of	Treat as ESTUARINE under wetlands with special
	freshwater wetland	characteristics
If y		apply to your wetland, or you have more than 2 HGM classes

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

Wetland Rating Form - western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
	D 1.1 Characteristics of surface water flows out of the wetland:	
	 Unit is a depression with no surface water leaving it (no outlet) points = 3 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 	Figure
	• Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1	
	• Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1	2
	(If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>) YES points = 4 NO points = 0	0
	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):	
	 Wetland has persistent, ungrazed vegetation > = 95% of area points = 5 Wetland has persistent, ungrazed vegetation > = 1/2 of area points = 3 	Figure
	• Wetland has persistent, ungrazed vegetation $> = 1/10$ of area	5
	• Wetland has persistent, ungrazed vegetation < 1/10 of area	
-	D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at	
	least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 years.	Figure
	• 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 	0
	• Area seasonarry ponded is < 1/4 total area of wetrand	
	Total for D 1Add the points in the boxes above	7
D 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 44)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient	
	from the wetland? Note which of the following conditions provide the sources of pollutants. A unit	
	may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft	
	Untreated stormwater discharges to wetland	
	Tilled fields or orchards within 150 ft. of wetland A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed	
	fields, roads, or clear-cut logging	Multiplier
	<u>X</u> Residential, urban areas, golf courses are within 150 ft. of wetland Wetland is fed by groundwater high in phosphorus or nitrogen	muniphor
	Other	<u>2</u>
	YES multiplier is 2 NO multiplier is 1 TOTAL – Water Quality Functions Multiply the score from D1 by D2; then add score to table on p. 1	14
-	HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.	
D 3		(see p.46)
	D 3.1 Characteristics of surface water flows out of the wetland unit	_
	 Unit is a depression with no surface water leaving it (no outlet) points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 	
	• Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface	2
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing")	
	• Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0	
	D 3.2 Depth of storage during wet periods. Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).	
	• Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7	
	 The wetland is a "headwater" wetland points = 5 Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet points = 5 	3
	• Marks are at least 0.5 ft. to < 2 ft. from surface or bottom of outlet	
	 Wetland is flat (yes to Q.2 or Q.7 on key)but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft	
<u> </u>	D 3.3 Contribution of wetland unit to storage in the watershed: <i>Estimate the ratio of the area of upstream</i>	
	 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 unit points = 5 	
1	• The area of the basin is 10 to 100 times the area of the unit $1000000000000000000000000000000000000$	3
1	 The area of the basin is more than 100 times the area of the unit points = 0 Entire unit is in the FLATS class points = 5 	
	Total for D 3 Add the points in the boxes above	8
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?	(see p. 49)
1	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity,	Multiplier
1	it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide	r
	gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	

	groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. Wetland is in a headwater of a river or stream that has flooding problems. Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other YES multiplier is 2 NO multiplier is 1	<u>1</u>
	YES multiplier is 2 NO multiplier is 1	
•	<u>TOTAL</u> – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	8

The	se questions apply to wetlands of all HGM classes.	Points
	HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.	(only 1 score per box)
H 1	Does the wetland have the potential to provide habitat for many species?]
	H 1.1 Vegetation structure (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed X Emergent plants Scrub/shrub (areas where shrubs have > 30% cover)	Figure 2
	\overline{X} Forested (areas where trees have > 30% cover) \overline{If} the unit has a forested class check if: \underline{X} The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon.Add the number of vegetation types that qualify.If you have:4 structures or moreMap of Cowardin vegetation classes3 structures or more9000000000000000000000000000000000000	
	$2 \text{ structures} \text{points} = 1 \qquad 1 \text{ structure} \text{points} = 0$	
	H 1.2 Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). X Permanently flooded or inundated 4 or more types present points = 3 Seasonally flooded or inundated 3 or more types present points = 2 Occasionally flooded or inundated 2 types present points = 1 X Saturated only 1 type present	Figure 2
	Freshwater tidal wetland = 2 points Map of hydroperiods	
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species	1
	H 1.4 Interspersion of Habitats (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Low = 1 point Low = 2 points Low = 2 points	Figure
	Use map of Cowardin classes	2
	H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland M Outer of a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error.	3
	H 1 TOTAL Score – potential for providing habitat Add the points in the column above	10

H 2	Does the wetland have the <u>opportunity</u> to provide habitat for many species?	(only 1 sco per box)
	H 2.1 Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed". X 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed vagetated areas, rocky areas, or open water > 50% circumference. points = 5	Figure
	 H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR YES = 1 point Within 1 mile of a lake greater than 20 acres? 	2

	H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions	
	of WDFW priority habitats, and the counties in which they can be found, in the PHS report	
	http://wdfw.wa.gov/hab/phslist.htm)	
	Which of the following priority habitats are within 330ft (100m) of the wetland unit? <i>NOTE: the</i>	
	connections do not have to be relatively undisturbed.	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
	species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>).	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
	species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
	trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters	
	exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less	
	than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
	coverage of the oak component is important (full descriptions in WDFW PHS report p. 158).	
	_X _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).	1
	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open	
	Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of	
	relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May	
	be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
	decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at	
	breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs	
	are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.	
	If wetland has 3 or more priority habitats = 4 points	
	If we that has 2 priority habitats = 3 points $\frac{1}{2}$	
	If wetland has 1 priority habitat = $\frac{1 \text{ point}}{1 \text{ point}}$ No habitats = 0 points	
	Note: All vegetated wetlands are by definition a priority habitat but are not included in this	
	list. Nearby wetlands are addressed in question H 2.4)	
	H 2.4 <u>Wetland Landscape</u> : Choose the one description of the landscape around the wetland that best fits (see p. 84)	
	• There are at least 3 other wetlands within 1/2 mile, and the connections between them are	
	relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other developmentpoints = 5	
	• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe	
	wetlands within 1/2 milepoints = 5	_
	• There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are	5
	disturbedpoints = 3	
	• The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands	
	within 1/2 milepoints = 3	
	• There is at least 1 wetland within 1/2 milepoints = 2	
	• There are no wetlands within 1/2 milepoints = 0	
	H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	13
	TOTAL for H 1 from page 8	10
	Total Score for Habitat FunctionsAdd the points for H 1 and H 2; then record the result on p. 1	23
_		

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	criteria are met.	
C1	Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands? X The dominant water regime is tidal,	
	$\frac{X}{X} = Vegetated, and \frac{X}{YES} = Go to SC 1.1 = NO $	
	SC 1.1Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?YES = Category INO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?	
	YES = Category I NO = Category II The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has	Cat.
	less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp, are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category 1. Do not, however, exclude the area of Spartina in	Cat.]
	 determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Dual Ratin I/II
22	Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This</i>	
	<i>question is used to screen out most sites before you need to contact WNHP/DNR.)</i> S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species? YES = Category 1 NO X not a Heritage Wetland	Cat 1
C3	Bogs (see p. 87)	
05	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use	
	the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the	
	wetland based on its function.	
	 Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? YES = go to question 3 NO = go to question 2 	
	 Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? YES = go to question 3 NO = is not a bog for purpose of rating 	
	 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 	
	NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
	 4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant 	
	component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	Cat.
	$\mathbf{YES} = \text{Category I} \qquad \mathbf{NO} = \text{Is not a bog for purpose of rating}$	

SC4	Forested Wetlands (see p. 90)						
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish						
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland						
	based on its function.						
	Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a						
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)						
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or						
	more).						
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees						
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW						
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.						
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old						
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than						
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally						
	less than that found in old-growth.	Cat. I					
	YES = Category I NO = X not a forested wetland with special characteristics						
SC5	Wetlands in Coastal Lagoons (see p. 91)						
500	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?						
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated						
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.						
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5						
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the						
	bottom.)						
	YES = Go to SC 5.1 NO X not a wetland in a coastal lagoon						
	SC 5.1 Does the wetland meet all of the following three conditions?						
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has						
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).						
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed						
	or un-mowed grassland.	Cat. I					
	The wetland is larger than 1/10 acre (4350 square ft.)						
	YES = Category INO = Category II	Cat. II					
SC6	Interdunal Wetlands (see p. 93)						
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or						
	WBUO)?						
	YES = Go to SC 6.1 NO X not an interdunal wetland for rating						
	If you answer yes you will still need to rate the wetland based on its functions.						
	In practical terms that means the following geographic areas:						
	Long Beach Peninsula lands west of SR 103 Createred Westmatter lands west of SR 105						
	 Grayland-Westport lands west of SR 105 Ocean Shores-Copalis – lands west of SR 115 and SR 109 						
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?						
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	Cat. II					
	YES = Category III	Cat. III					
	Category of wetland based on Special Characteristics	Cut 111					
	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.						
▼	If you answered NO for all types enter "Not Applicable" on p. 1						

WETLAND RATING FORM – WESTERN WASHINGTON Version 2 - Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats							
Name of we	Name of wetland (if known):Wetland W1Date of site visit:July 25, 2013						
Rated by:]	J. Dadisman Trained by	Ecology? Y	Yes X No Date of tra	ining: 11/06			
SEC: 6	TWNSHP: 27N	RNGE: 1E	Is S/T/R in Appendix I	D? Yes <u>X</u> No			
	Map of wetland unit:	Figure	Estimated size				
		SUMM	ARY OF RATING				
Category b	based on FUNCTIONS provided l	by wetland:	I II	_ III <u>X</u> IV			
	Category I = Score > 70		Score for Water Quality Funct	ions 16			
	Category II = Score 51 - 69		Score for Hydrologic Funct	ions 10			
	Category III = Score 30 – 50		Score for Habitat Funct	ions 20			
	Category IV = Score < 30		TOTAL Score for Funct	ions 46			
Category b	ased on SPECIAL CHARACTERI	STCS of Wo	etland I X II	Does not apply			
	Final Categ	gory (choo	se the "highest" category from ab	ove") I			
	Summary of basic	information	n about the wetland unit.				
	Wetland Unit has Specia Characteristics	al	Wetland HGM Class used for Rating				
	Estuarine		Depressional	X			
	Natural Heritage Wetland	ı X	Riverine				
	Bog		Lake-fringe				
Mature Forest			Slope				
Old Growth Forest			Flats	+			
	Coastal Lagoon		Freshwater Tidal	+			
	Interdunal						
	None of the above		Check if unit has multiple HGM classes present				

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	Х	
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.					
1. Are the water levels in the entire unit usually controlled by					
(NO - yo to 2) YES – the wetland class is Ti					
If yes, is the salinity of the water during periods of an					
YES – Freshwater Tidal Fringe	NO – Saltwater Tidal Fringe (Estuarine)				
	<i>e use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it</i> uarine in the first and second editions of the rating system are called Salt				
	Estuarine wetlands were categorized separately in the earlier editions, and				
	sistency between editions, the term "Estuarine" wetland is kept. Please				
note, however, that the characteristics that define Category I a					
	arce (>90%) of water to it. Groundwater and surface water				
runoff are NOT sources of water to the unit.					
	wetland class is Flats				
If your wetland can be classified as a "Flats" wetland,	use the form for Depressional wetlands.				
3. Does the entire wetland meet both of the following criteria	n?				
	nores of a body of permanent open water (without any				
vegetation on the surface) where at least 20 a					
At least 30% of the open water area is deeper					
	wetland class is Lake-fringe (Lacustrine Fringe)				
4. Does the entire wetland meet all of the following criteria?					
The wetland is on a slope (<i>slope can be very</i>					
flow subsurface, as sheetflow, or in a swale v	lirection (unidirectional) and usually comes from seeps. It may				
The water leaves the wetland without being					
	e types of wetlands except occasionally in very small and				
	pressions are usually <3 ft diameter and less than 1 foot deep).				
	wetland class is Slope				
5. Does the entire wetland meet all of the following criteria?					
	re it gets inundated by overbank flooding from that stream or				
river.					
The overbank flooding occurs at least once e					
	sions that are filled with water when the river is not flooding				
	wetland class is Riverine				
	hich water ponds, or is saturated to the surface, at some time of				
the year. This means that any outlet, if present is higher the NO – go to 7 (YES –)The transformation YES –)The transformation of the transformation of transformation of the transformation of transformatio	e wetland class is Depressional				
7. Is the entire wetland located in a very flat area with no ob pond surface water more than a few inches. The unit seen					
wetland may be ditched, but has no obvious natural outlet.					
	e wetland class is Depressional				
	ntains several different HGM classes. For example, seeps at the base of a				
	a depressional wetland has a zone of flooding along its sides. GO				
	GIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT				
	Use the following table to identify the appropriate class to use for the				
rating system if you have several HGM classes present within you	r wetland. NOTE: Use this table only if the class that is recommended in				
	wetland unit being rated. If the area of the class listed in column 2 is less				
than 10% of the unit, classify the wetland using the class that repre	sents more than 90% of the total area.				
HGM Classes within the wetland unit being rated	HGM Class to Use in Rating				
Slope + Riverine	Riverine				
Slope + Depressional	Depressional				
Slope + Lake-fringe	Lake-fringe				
Depressional + Riverine along stream within boundary	Depressional				
Depressional + Lake-fringe	Depressional				
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics				
If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as Depressional for the rating.					
Watland Pating Form wastern Washington version 2 (7/06)	Bage 2 of 10				

Wetland Rating Form – western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points		
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)		
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)		
	D 1.1 Characteristics of surface water flows out of the wetland:			
	• Unit is a depression with no surface water leaving it (no outlet)	Figure		
	 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 			
	• Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface	3		
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing			
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>)	4		
	YES points = 4 NO points = 0 1.2 Characteristic fraction for the base of the fraction of the set of the	+		
	 D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed vegetation >= 95% of area	Figure		
	• Wetland has persistent, ungrazed vegetation $> = 1/2$ of area	5		
	 Wetland has persistent, ungrazed vegetation > = 1/10 of area			
	Map of Cowardin vegetation classes			
	D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently	Figure		
	ponded. Estimate area as the average condition 5 out of 10 years.	8		
	 Area seasonally ponded is > 1/2 total area of wetland			
	• Area seasonally ponded is < 1/4 total area of wetland points = 0	4		
	Map of Hydroperiods			
	Total for D 1 Add the points in the boxes above			
D 2	Does the wetland have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into	(see p. 44)		
	the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient			
	from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.			
	Grazing in the wetland or within 150 ft			
	Untreated stormwater discharges to wetland Tilled fields or orchards within 150 ft. of wetland			
	A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed			
	fields, roads, or clear-cut logging Residential, urban areas, golf courses are within 150 ft. of wetland			
	Wetland is fed by groundwater high in phosphorus or nitrogen			
	Other YES multiplier is 2 NO multiplier is 1	<u>1</u>		
	TOTAL – Water Quality Functions Multiply the score from D1 by D2; then add score to table on p. 1	16		
•	HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.	10		
D 3		(see p.46)		
	D 3.1 Characteristics of surface water flows out of the wetland unit			
	 Unit is a depression with no surface water leaving it (no outlet) points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 			
	• Unit is a "flat" depression (0.7 on key) or in the Flats class, with permanent surface	4		
	outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing")			
	• Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0			
	D 3.2 Depth of storage during wet periods. Estimate the height of ponding above the bottom of the outlet. For			
	 units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7 			
	• The wetland is a "headwater" wetland points = 5	3		
	 Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet			
	• Wetland is flat (yes to Q.2 or Q.7 on key)but has small depressions on the surface that trap water $points = 1$			
	 Marks of ponding less than 0.5 ftpoints = 0 D 3.3 Contribution of wetland unit to storage in the watershed: <i>Estimate the ratio of the area of upstream</i> 			
	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 unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 	3		
	• The area of the basin is more than 100 times the area of the unit			
	• Entire unit is in the FLATS class points = 5	10		
	Total for D 3 Add the points in the boxes above	10		
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity,	(see p. 49)		
	it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive	Multiplier		
	flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from			

	groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. Wetland is in a headwater of a river or stream that has flooding problems. Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other YES multiplier is 2 NO multiplier is 1	<u>1</u>
	YES multiplier is 2 NO multiplier is 1	
•	<u>TOTAL</u> – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	10

HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat. H 1 Does the wetland have the potential to provide habitat for many species? H 1.1 Vegetation structure (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed Emergent plants X Scrub/shrub (areas where shrubs have > 30% cover) Forested (areas where trees have > 30% cover)	(only 1 score per box) Figure 0
H 1.1 Vegetation structure (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed Emergent plants X Scrub/shrub (areas where shrubs have > 30% cover)	
Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed Emergent plants X Scrub/shrub (areas where shrubs have > 30% cover)	
\overline{X} Scrub/shrub (areas where shrubs have > 30% cover)	U
<i>If the unit has a forested class check if:</i> The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-	
cover) that each cover 20% within the forested polygon.Add the number of vegetation types that qualify. If you have:Map of Cowardin vegetation classes4 structures or more9 or more2 structures9 or more1 structure9 or more2 structures9 or more1 structure9 or m	ļ
H 1.2 Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). X Permanently flooded or inundated 4 or more types present points = 3	Figure
X Seasonally flooded or inundated 3 or more types presentpoints = 2 Occasionally flooded or inundated 2 types presentpoints = 1 X Saturated only 1 type presentpoints = 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
Freshwater tidal wetland = 2 points Map of hydroperiods	
H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species points = 2 5 - 19 species points = 1 List species below if you want to:	1
H 1.4 Interspersion of Habitats (<i>see p. 76</i>): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. Note: If you have 4 or more classes	Figure
None = 0 points Low = 1 point Moderate = 2 points None = 0 points <t< th=""><th></th></t<>	
Use map of Cowardin classes	0
H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland	
Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) 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</i> <i>not yet turned grey/brown</i>)	3
At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error. H 1 TOTAL Score – potential for providing habitat Add the points in the column above	6

Does t	he wetland have the <u>opportunity</u> to provide habitat for many species?		(only 1 so per box
H 2.1	Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest criterion that applies to the wetland is to be used in the rating. See text for definition of "u.X	<pre> points = 5 points = 5 points = 4 points = 4 points = 3 points = 3 points = 2 points = 1 points = 0 points = 1</pre>	jigure _
H 2.2	 <u>Corridors and Connections (see p. 81)</u> H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eit or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplan least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, performed breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eit or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, an estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? fringe wetland, if it does not have an undisturbed corridor as in the question above YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR YES = 1 point 	ther riparian e native ads that are at <i>aved roads</i> , ther riparian ad connects to OR a Lake - e?	4

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions	
of WDFW priority habitats, and the counties in which they can be found, in the PHS report	
http://wdfw.wa.gov/hab/phslist.htm)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
connections do not have to be relatively undisturbed.	
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
Biodiversity Areas and Corridors : Areas of habitat that are relatively important to various	
species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>).	
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters	
exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that	
100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less	
than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).	
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).	0
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. (<i>full descriptions of habitats and the definition of</i>	
<i>relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).</i> Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May	
be associated with cliffs.	
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at	
breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs	
are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.	
If wetland has 3 or more priority habitats = 4 points	
If we than has 2 priority habitats = 3 points If we than has 1 priority habitats = 1 point Na habitata = 0 points	
If wetland has 1 priority habitat = 1 point No habitats = <mark>0 points</mark> Note: All vegetated wetlands are by definition a priority habitat but are not included in this	
list. Nearby wetlands are addressed in question H 2.4)	
H 2.4 Wetland Landscape: Choose the one description of the landscape around the wetland that best fits (see p. 84)	
 There are at least 3 other wetlands within 1/2 mile, and the connections between them are 	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating,	
but connections should NOT be bisected by paved roads, fill, fields, or other developmentpoints = 5	
• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 milepoints = 5	
 There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are 	5
disturbed	
• The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands	
within 1/2 milepoints = 3	
• There is at least 1 wetland within 1/2 milepoints = 2	
• There are no wetlands within 1/2 milepoints = 0	
H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	14
TOTAL for H 1 from page 8	6
Total Score for Habitat Functions Add the points for H 1 and H 2; then <i>record the result on p. 1</i>	20

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	Wetland Type – <i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate</i>	
	criteria are met.	
5C1	Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt.	
	YES = Go to SC 1.1 NO \underline{X}	
	SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?	
	YES = Category I NO = Category II	Cat. I
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp., are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with patient and the cottage of the path of the area of Spartine in a species.	Cat. II
	 with native species would be a Category 1. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	Dual Rating I/II
SC2	Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This</i>	
	question is used to screen out most sites before you need to contact WNHP/DNR.) S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species? YES = Category 1 NO not a Heritage Wetland	Cat I
SC3	Bogs (see p. 87)	
sC3	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. <i>If you answer yes you will still need to rate the</i> <i>wetland based on its function.</i>	
	 Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? YES = go to question 3 NO = go to question 2 	
	 Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? YES = go to question 3 NO = is not a bog for purpose of rating 	
	 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 	
	 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of 	
	the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? YES = Category I NO = Is not a bog for purpose of rating	Cat. I

	Forested Wetlands (see p. 90)						
SC4	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish						
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland						
	<i>based on its function.</i> Old-growth forests : (west of Cascade Crest) Stands of at least two three species forming a						
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)						
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or						
	more).						
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees						
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW						
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.						
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old						
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than						
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally						
	less than that found in old-growth.	Cat. I					
	YES = Category I $NO = X_{not}$ not a forested wetland with special characteristics	cut I					
C5	Wetlands in Coastal Lagoons (see p. 91)						
5	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?						
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated						
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.						
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5						
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the						
	bottom.)						
	YES = Go to SC 5.1 NO X_{not} not a wetland in a coastal lagoon						
	SC 5.1 Does the wetland meet all of the following three conditions?						
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has						
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).						
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed						
	or un-mowed grassland.	Cat. I					
	The wetland is larger than 1/10 acre (4350 square ft.)	0					
	$\mathbf{YES} = \mathbf{Category} \ \mathbf{I} \qquad \qquad \mathbf{NO} \ = \mathbf{Category} \ \mathbf{II}$	Cat. II					
C6	Interdunal Wetlands (see p. 93)						
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or						
	WBUO)?						
	YES = Go to SC 6.1NO $X_{_}$ not an interdunal wetland for rating						
	If you answer yes you will still need to rate the wetland based on its functions.						
	In practical terms that means the following geographic areas:						
	 Long Beach Peninsula lands west of SR 103 Grayland-Westport lands west of SR 105 						
	 Ocean Shores-Copalis – lands west of SR 115 and SR 109 						
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?						
	YES = Category II NO = go to SC 6.2	Cat. II					
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?						
	YES = Category III	Cat. III					
	Category of wetland based on Special Characteristics						
	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.						
V I							

WETLAND RATING FORM – WESTERN WASHINGTON Version 2 - Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats							
Name of w	vetland (if known): <u>Wetland W2</u>			Date of site visit: July 25, 2013			
Rated by:	J. Dadisman Trained by	Ecology? Y	Tes X No Date of tra	ining: 11/06			
SEC: 6	TWNSHP: 27N	RNGE: 1E	Is S/T/R in Appendix I	D? Yes <u>X</u> No			
	Map of wetland unit:	Figure	Estimated size				
		SUMMA	ARY OF RATING				
Category	based on FUNCTIONS provided	by wetland:	I II	_ III <u>X</u> IV			
	Category I = Score > 70		Score for Water Quality Funct	ions 16			
	Category II = Score 51 - 69		Score for Hydrologic Funct	ions 10			
	Category III = Score 30 – 50		Score for Habitat Funct	ions 20			
	Category IV = Score < 30		TOTAL Score for Funct	ions 46			
Category b	based on SPECIAL CHARACTER	ISTCS of We	etland IX II	Does not apply			
			se the "highest" category from ab				
	Summary of basic	information	n about the wetland unit.				
	Wetland Unit has Specia Characteristics	al	Wetland HGM Class used for Rating				
	Estuarine		Depressional	X			
	Natural Heritage Wetland	d X	Riverine				
	Bog		Lake-fringe				
	Mature Forest		Slope				
	Old Growth Forest		Flats				
	Coastal Lagoon		Freshwater Tidal				
	Interdunal						
	None of the above		Check if unit has multiple HGM classes present				

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	Х	
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

		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 un						
NO – yo to 2 YES – the wetland class is Tidal Fringe If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?						
	vater Tidal Fringe	NO – Saltwater Tidal Fringe (Estuarine)				
If your wetland can be classified as	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it					
	is rated as an Estuarine wetland. Wetlands that were call estuarine in the first and second editions of the rating system are called Salt					
Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please						
		nd II estuarine wetlands have changed (see p).				
		rce (>90%) of water to it. Groundwater and surface water				
runoff are NOT sources of water to						
(NO - go to 3)		wetland class is Flats				
If your wetland can be classified	d as a "Flats" wetland,	use the form for Depressional wetlands.				
3. Does the entire wetland meet both o						
		ores of a body of permanent open water (without any				
vegetation on the surfa At least 3 <u>0%</u> of the ope						
NO - go to 4		wetland class is Lake-fringe (Lacustrine Fringe)				
4. Does the entire wetland meet all of t	the following criteria?					
The wetland is on a slo						
		irection (unidirectional) and usually comes from seeps. It may				
flow subsurface, as she The water leaves the w						
		types of wetlands except occasionally in very small and				
	shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).					
NO – yo to 5 YES – The wetland class is Slope						
	Does the entire wetland meet all of the following criteria? The unit is in a valley or stream abannel where it gets inundeted by overbank floading from that stream or					
	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 ev	verv two years.				
NOTE: <u>The</u> riverine u		sions that are filled with water when the river is not flooding				
$(NO - y_0 to 6)$		wetland class is Riverine				
		hich water ponds, or is saturated to the surface, at some time of				
the year. This means that any outlet $NO - go$ to 7		e wetland class is Depressional				
		vious depression and no overbank flooding. The unit does not				
		is to be maintained by high groundwater in the area. The				
wetland may be ditched, but has no						
No – go to 8	YES – Th	e wetland class is Depressional				
		ntains several different HGM classes. For example, seeps at the base of a				
		a depressional wetland has a zone of flooding along its sides. GO				
		GIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT Use the following table to identify the appropriate class to use for the				
		wetland. NOTE: Use this table only if the class that is recommended in				
	the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is les					
than 10% of the unit, classify the wetland	than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.					
HGM Classes within the wetlan	nd unit being rated	HGM Class to Use in Rating				
Slope + Riverine		Riverine				
Slope + Depressional Slope + Lake-fringe		Depressional				
Depressional + Riverine along stre	am within boundary	Lake-fringe Depressional				
Depressional + Lake-fringe		Depressional				
Salt Water Tidal Fringe and any ot	her class of	Treat as ESTUARINE under wetlands with special				
freshwater wetland		characteristics				
If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes						

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

Wetland Rating Form - western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points		
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)		
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)		
	 D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) points = 3 	Figure		
	 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (<i>If ditch is not permanently flowing treat unit as "intermittently flowing"</i>) Provide photo or drawing 	3		
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>) YES points = 4 NO points = 0	4		
	 D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed vegetation >= 95% of area	Figure		
	 Wetland has persistent, ungrazed vegetation > = 1/2 of area points = 3 Wetland has persistent, ungrazed vegetation > = 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0 Map of Cowardin vegetation classes 	5		
	 D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 years. Area seasonally ponded is > 1/2 total area of wetland	Figure		
	 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland points = 0 Map of Hydroperiods 	4		
	Total for D 1Add the points in the boxes above	16		
D 2	Does the wetland have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.	(see p. 44)		
	A stream of curvert discharges into wertaild that drains developed areas, residential areas, rained fields, roads, or clear-cut logging	Multiplier		
	Other YES multiplier is 2 NO multiplier is 1			
•	TOTAL – Water Quality Functions Multiply the score from D1 by D2; then add score to table on p. 1	16		
	HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.			
D 3		(see p.46)		
	 D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (<i>If ditch is not permanently flowing treat unit as "intermittently flowing"</i>) Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0 	4		
	 D 3.2 Depth of storage during wet periods. Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are 3 ft. or more above the surface or bottom of the outlet	3		
	 D 3.3 Contribution of wetland unit to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of unit	3		
	Total for D 3Add the points in the boxes above	10		
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	(see p. 49) Multiplier		

	groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. Wetland is in a headwater of a river or stream that has flooding problems. Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other	1
	YES multiplier is 2 NO multiplier is 1	
•	TOTAL – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	10

The	se questions apply to wetlands of all HGM classes.	Points (only 1 score			
	HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.				
H 1	1 Does the wetland have the <u>potential</u> to provide habitat for many species?				
	H 1.1 <u>Vegetation structure</u> (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. Aquatic Bed Emergent plants				
	\overline{X} Scrub/shrub (areas where shrubs have > 30% cover) Forested (areas where trees have > 30% cover) \overline{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. Add the number of vegetation types that qualify. If you have: 4 structures or more points = 4Map of Cowardin vegetation classes 3 structures points = 2				
	$2 \text{ structures } points = 1 \qquad 1 \text{ structure } points = 0$				
	H 1.2 Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). X Permanently flooded or inundated 4 or more types present points = 3 X Seasonally flooded or inundated 3 or more types presentpoints = 2 Occasionally flooded or inundated 2 types presentpoints = 1 X Saturated only 1 type presentpoints = 0 Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland	Figure 2			
	Freshwater tidal wetland = 2 points Map of hydroperiods				
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0	1			
	H 1.4 Interspersion of Habitats (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Low = 1 point	Figure			
	Use map of Cowardin classes	0			
	H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland M Outercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error.	3			
	H 1 TOTAL Score – potential for providing habitat Add the points in the column above	6			

Does t	he wetland have the <u>opportunity</u> to provide habitat for many species?		(only 1 s per bo
H 2.1		<pre>ndisturbed" points = 5 points = 4 points = 4 points = 3 points = 3 points = 2 points = 2 points = 1 points = 0 points = 1</pre>	jer bo igure _
H 2.2	Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eir or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplar least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, pare considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (eir or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, an estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? fringe wetland, if it does not have an undisturbed corridor as in the question above YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR YES = 1 point 	ther riparian r native nds that are at <i>aved roads</i> , ther riparian nd connects to OR a Lake- e?	4

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions	
of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phSits.htm) Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the connections do not have to be relatively undisturbed.	0
Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)	
 H 2.4 <u>Wetland Landscape</u>: Choose the one description of the landscape around the wetland that best fits (see p. 84) There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other developmentpoints = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 milepoints = 5 There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbedpoints = 3 The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within 1/2 milepoints = 3 There is at least 1 wetland within 1/2 mile	5
H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	14
TOTAL for H 1 from page 8	6
Total Score for Habitat FunctionsAdd the points for H 1 and H 2; then record the result on p. 1	20

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	Wetland Type – Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.				
C1	Estuarine wetlands? (see p.86)				
	Does the wetland unit meet the following criteria for Estuarine wetlands?				
	The dominant water regime is tidal,				
	Vegetated, and				
	With a salinity greater than 0.5 ppt.				
	YES = Go to SC 1.1 NO \underline{X}				
	SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO = go to SC 1.2	Cat. 1			
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?				
	YES = Category I NO = Category II	Cat.]			
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp, are only species				
	that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/ÎI). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category 1. Do not, however, exclude the area of Spartina in	Cat. I			
	determining the size threshold of 1 acre.	Dual			
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed	Ratin			
	or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	I/II			
C2	Natural Heritage Wetlands (see p. 87)				
C2	Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as				
	either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or				
	Sensitive plant species.				
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (This				
	guestion is used to screen out most sites before you need to contact WNHP/DNR.) S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2				
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened				
	or endangered plant species?	Cat]			
	YES = Category 1 NO not a Heritage Wetland				
C3	Bogs (see p. 87)				
CS	Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use				
	the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the				
	wetland based on its function.				
	1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that				
	compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? YES = go to question 3 NO = go to question 2				
	2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over				
	bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or				
	pond? YES = go to question 3 NO = is not a bog for purpose of rating				
	3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present,				
	consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more				
	than 30% of the total shrub and herbaceous cover consists of species in Table 3)?				
	YES = Is a bog for purpose of rating $NO = go$ to question 4				
	NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that				
	criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is				
	less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.				
	4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western				
	hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of				
	the species (or combination of species) on the bog species plant list in Table 5 as a significant				
	the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	Cat. 1			

aat	Forested Wetlands (see p. 90)			
SC4	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish			
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland			
	based on its function.			
	Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a			
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)			
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or			
	more).			
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees			
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW			
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.			
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old			
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than			
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally			
	less than that found in old-growth.	Cat. I		
	$YES = Category I$ $NO = X_not a forested wetland with special characteristics$			
SC5	Wetlands in Coastal Lagoons (see p. 91)			
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?			
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated			
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.			
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5			
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the			
	bottom.)			
	YES = Go to SC 5.1NOX_not a wetland in a coastal lagoon			
	SC 5.1 Does the wetland meet all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has			
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has less than 20% cover of invasive plant species (see list of invasive species on p. 74)			
	less than 20% cover of invasive plant species (see list of invasive species on p. 74).			
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland.			
	The wetland is larger than 1/10 acre (4350 square ft.)	Cat. I		
	$\mathbf{YES} = \text{Category I} \qquad \mathbf{NO} = \text{Category II}$	Cat. II		
SC6	Interdunal Wetlands (see p. 93)			
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or			
	WBUO)?			
	YES = Go to SC 6.1 NO X_{not} not an interdunal wetland for rating			
	If you answer yes you will still need to rate the wetland based on its functions.			
	In practical terms that means the following geographic areas:			
	• Long Beach Peninsula lands west of SR 103			
	 Grayland-Westport lands west of SR 105 Ocean Shores-Copalis – lands west of SR 115 and SR 109 			
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?			
	$\mathbf{YES} = \text{Category II} \qquad \mathbf{NO} = \text{go to SC 6.2}$	Cat. II		
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?			
	YES = Category III	Cat. III		
		Cat. III		
•	Category of wetland based on Special Characteristics Choose the "highest" rating if wetland falls into several categories, and record on p. 1.	Cat. III		

WETLAND RATING FORM – WESTERN WASHINGTON Version 2 - Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats					
Name of w	vetland (if known): <u>Wetland W3</u>			Date of site visit: July 25, 2013	
Rated by:	J. Dadisman Trained by	Ecology? Y	Yes X No Date of tra	ining: 11/06	
SEC: 6	TWNSHP: 27N	RNGE: 1E	Is S/T/R in Appendix I	D? Yes <u>X</u> No	
	Map of wetland unit:	Figure	Estimated size		
		SUMMA	ARY OF RATING		
Category	based on FUNCTIONS provided	by wetland:	I II	_ III <u>X</u> IV	
	Category I = Score > 70		Score for Water Quality Funct	tions 16	
	Category II = Score 51 - 69		Score for Hydrologic Funct	tions 10	
	Category III = Score 30 – 50		Score for Habitat Funct	tions 20	
	Category IV = Score < 30		TOTAL Score for Funct	tions 46	
Category b	Category based on SPECIAL CHARACTERISTCS of Wetland I X II Does not apply				
			se the "highest" category from ab		
	Summary of basic	information	n about the wetland unit.		
	Wetland Unit has Speci Characteristics	al	Wetland HGM Class used for Rating		
	Estuarine		Depressional	X	
	Natural Heritage Wetland	d X	Riverine		
	Bog		Lake-fringe		
	Mature Forest		Slope		
	Old Growth Forest		Flats		
	Coastal Lagoon		Freshwater Tidal		
	Interdunal				
	None of the above		Check if unit has multiple HGM classes present		

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

	Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1.	Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	Х	
SP2.	Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		Х
SP3.	Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		Х
SP4.	Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		Х

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

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

Classification of Vegetated Wetlands for Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.				
1. Are the water levels in the entire unit usually controlled b				
(NO - yo to 2) YES – the wetland class is T				
If yes, is the salinity of the water during periods of an				
YES – Freshwater Tidal Fringe	NO – Saltwater Tidal Fringe (Estuarine)			
	ge use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it tuarine in the first and second editions of the rating system are called Salt			
	Estuarine wetlands were categorized separately in the earlier editions, and			
	sistency between editions, the term "Estuarine" wetland is kept. Please			
note, however, that the characteristics that define Category I				
	urce (>90%) of water to it. Groundwater and surface water			
runoff are NOT sources of water to the unit.				
	wetland class is Flats			
If your wetland can be classified as a "Flats" wetland	, use the form for Depressional wetlands.			
3. Does the entire wetland meet both of the following criteri	a?			
	hores of a body of permanent open water (without any			
vegetation on the surface) where at least 20	acres (8ha) in size;			
At least 30% of the open water area is deepe				
(NO - yo to 4) YES – The	wetland class is Lake-fringe (Lacustrine Fringe)			
4. Does the entire wetland meet all of the following criteria	2			
The wetland is on a slope (slope can be very				
	direction (unidirectional) and usually comes from seeps. It may			
flow subsurface, as sheetflow, or in a swale				
The water leaves the wetland without being				
	e types of wetlands except occasionally in very small and			
	epressions are usually <3 ft diameter and less than 1 foot deep). wetland class is Slope			
Does the entire wetland meet all of the following criteria? The unit is in a valley or stream channel where it gets inundated by overbank flooding from that stream or				
river.				
The overbank flooding occurs at least once e	every two years.			
	ssions that are filled with water when the river is not flooding.			
	wetland class is Riverine			
6. Is the entire wetland unit in a topographic depression in v	which water ponds, or is saturated to the surface, at some time of			
the year. This means that any outlet, if present is higher t	han the interior of the wetland.			
NO – go to 7 $(YES -)T$	he wetland class is Depressional			
7. Is the entire wetland located in a very flat area with no ob	vious depression and no overbank flooding. The unit does not			
	ns 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 – T	he wetland class is Depressional			
	ontains several different HGM classes. For example, seeps at the base of a			
	n a depressional wetland has a zone of flooding along its sides. GO			
	GIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT			
	. Use the following table to identify the appropriate class to use for the			
	rr wetland. NOTE: Use this table only if the class that is recommended in			
	the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.			
HGM Classes within the wetland unit being rated	HGM Class to Use in Rating			
Slope + Riverine	Riverine			
Slope + Depressional	Depressional			
Slope + Lake-fringe Depressional + Riverine along stream within boundary	Lake-fringe Depressional			
Depressional + Lake-fringe	Depressional			
Salt Water Tidal Fringe and any other class of	Treat as ESTUARINE under wetlands with special			
freshwater wetland	characteristics			
If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes				
within a wetland boundary, classify the wetland as Depressio				
Watland Dating Form weatern Washington version $2/7/9$				

Wetland Rating Form – western Washington, version 2 (7/06)

D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
	 D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) points = 3 	Figure
	 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (<i>If ditch is not permanently flowing treat unit as "intermittently flowing"</i>) Provide photo or drawing 	3
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>) YES points = 4 NO points = 0	4
	 D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed vegetation >= 95% of area	Figure
	 Wetland has persistent, ungrazed vegetation > = 1/2 of area	5
	 D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 years. Area seasonally ponded is > 1/2 total area of wetland	Figure
	 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland points = 0 Map of Hydroperiods 	4
	Total for D 1Add the points in the boxes above	16
D 2	Does the wetland have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.	(see p. 44)
	A stream of curvert discharges into wertaild that drains developed areas, residential areas, rained fields, roads, or clear-cut logging	Multiplier
	Other	<u>1</u>
•	YES multiplier is 2 NO multiplier is 1 TOTAL – Water Quality Functions Multiply the score from D1 by D2; then add score to table on p. 1	16
-	HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.	10
D 3		(see p.46)
	 D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (<i>If ditch is not permanently flowing treat unit as "intermittently flowing"</i>) Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 0 	4
	 D 3.2 Depth of storage during wet periods. Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are 3 ft. or more above the surface or bottom of the outlet points = 7 The wetland is a "headwater" wetland points = 5 Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet points = 5 Marks are at least 0.5 ft. to < 2 ft. from surface or bottom of outlet	3
	 D 3.3 Contribution of wetland unit to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire unit is in the FLATS class	3
	Total for D 3Add the points in the boxes above	10
D 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from	(see p. 49) Multiplier

	groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply	<u>1</u>
	YES multiplier is 2 NO multiplier is 1	
•	<u>TOTAL</u> – Hydrologic Functions Multiply the score from D3 by D4; then <i>add score to table on p. 1</i>	10

Thes	se questions apply to wetlands of all HGM classes.	Points
	HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat.	(only 1 score per box)
H 1	Does the wetland have the <u>potential</u> to provide habitat for many species?	
	H 1.1 Vegetation structure (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres.	Figure O
	Forested (areas where trees have > 30% cover) 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. Add the number of vegetation types that qualify. If you have: 4 structures or more points = 4 2 structures points = 1 4 structure points = 0	
	H 1.2 Hydroperiods (see p.73): If structure information points = 1 If structure information points = 0 H 1.2 Hydroperiods (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). X Permanently flooded or inundated 4 or more types present points = 3 X Seasonally flooded or inundated 3 or more types present points = 2 Occasionally flooded or inundated 2 types present points = 1 X 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	Figure 2
	H 1.3 Richness of Plant Species (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. If you counted: > 19 species	1
	H 1.4 Interspersion of Habitats (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points None = 0 points Low = 1 point Moderate = 2 points High = 3 points [riparian braided channels]	
	H 1.5 Special Habitat Features (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) X Standing snags (diameter at the bottom > 4 inches) in the wetland	3
	H 1 TOTAL Score – potential for providing habitat Add the points in the column above	6

ЦЭ	Does the wetland have the annortunity to provide habitat for many species?	(only 1 score
H 2	Does the wetland have the opportunity to provide habitat for many species? H 2.1 Buffers (see P. 80): Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed". X 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use)	Figure
	 H 2.2 <u>Corridors and Connections</u> (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (Dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = go to H 2.2.3 H. 2.2.3 Is the wetland: Within 5 mi (8km) of a brackish or salt water estuary OR Within 3 miles of a large field or pasture (> 40 acres) OR YES = 1 point Within 1 mile of a lake greater than 20 acres? NO = 0 points 	1

	H 2.2 Near or adjacent to other priority habitate listed by WDEW (see new and complete descriptions	
	H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm) Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
	connections do not have to be relatively undisturbed.	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
	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 p. 152).	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
	species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
	trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters	
	exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less	
	than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
	coverage of the oak component is important (full descriptions in WDFW PHS report p. 158).	
	Riparian: The area adjacent to aquatic systems with flowing water that contains elements of	
	both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of	
	a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	0
	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open	
	Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of	
	relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
	composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May	
	be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
	decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at	
	breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs	
	are $> 30 \text{ cm} (12 \text{ in})$ in diameter at the largest end, and $> 6 \text{ m} (20 \text{ ft})$ long.	
	If we that has 3 or more priority habitats = 4 points	
	If we than $1 \text{ as } 3 \text{ or more priority habitats} = 3 \text{ points}$	
	If we than $1 \text{ as } 1 \text{ priority habitat} = 1 \text{ points}$	
	Note: All vegetated wetlands are by definition a priority habitat but are not included in this	
	list. Nearby wetlands are addressed in question H 2.4)	
	H 2.4 Wetland Landscape: Choose the one description of the landscape around the wetland that best fits (see p. 84)	
	• There are at least 3 other wetlands within 1/2 mile, and the connections between them are	
	relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating,	
	but connections should NOT be bisected by paved roads, fill, fields, or other development points = 5	
	• The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe metlanda within 1/2 mile	
	wetlands within $1/2$ mile	5
	• There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbedpoints = 3	-
	 The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands 	
	within 1/2 mile	
	• There is at least 1 wetland within 1/2 milepoints = 2	
	• There are no wetlands within 1/2 milepoints = 0	
	H 2 TOTAL Score – opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	14
	TOTAL for H 1 from page 8	6
\rightarrow		
•	Total Score for Habitat FunctionsAdd the points for H 1 and H 2; then record the result on p. 1	20

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

	Wetland Type – Check off any criteria that apply to the wetland. Circle the Category when the appropriate	
<u> </u>	criteria are met.	
C1	Estuarine wetlands? (see p.86) Does the wetland unit meet the following criteria for Estuarine wetlands? The dominant water regime is tidal,	
	SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO = go to SC 1.2	Cat. 1
	SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?	
	YES = Category I NO = Category II	Cat.]
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp, are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category 1. Do not, however, exclude the area of Spartina in	Cat. I
	 determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland The wetland has at least 2 of the following features: tidal channels, depressions with open water, 	Dual Ratin I/II
	or contiguous freshwater wetlands.	
C2	Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
	SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This</i>	
	<i>question is used to screen out most sites before you need to contact WNHP/DNR.)</i> S/T/R information from Appendix D or accessed from WNHP/DNR web site X YES X Contact WNHP/DNR (see p. 79) and go to SC 2.2 NO	
	SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species?	Cat]
~		
C3	Bogs (see p. 87) Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the	
	wetland based on its function.	
	 Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? YES = go to question 3 NO = go to question 2 	
	 Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? YES = go to question 3 NO = is not a bog for purpose of rating 	
	 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? YES = Is a bog for purpose of rating NO = go to question 4 	
	NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
	4. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine. WITH any of	
	the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?	Cat.

—		
SC4	Forested Wetlands (see p. 90)	
	Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish	
	and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland	
	<i>based on its function.</i> Old-growth forests : (west of Cascade Crest) Stands of at least two three species forming a	
	multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare)	
	that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or	
	more).	
	NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees	
	in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW	
	criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
	Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old	
	OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than	
	100%; decay, decadence, numbers of snags, and quantity of large downed material is generally	
	less than that found in old-growth.	Cat. I
	YES = Category I NO = $X_{\text{not a forested wetland with special characteristics}$	
SC5	Wetlands in Coastal Lagoons (see p. 91)	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	The wetland lies in a depression adjacent to marine waters that is wholly or partially separated	
	from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
	The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5	
	ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the	
	bottom.)	
	$\mathbf{YES} = \text{Go to SC 5.1} \qquad \mathbf{NO} X \text{ not a wetland in a coastal lagoon}$	
	SC 5.1 Does the wetland meet all of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
	At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed	
	or un-mowed grassland.	Cat. I
	The wetland is larger than 1/10 acre (4350 square ft.)	Cat. I
	$\mathbf{YES} = \mathbf{C}ategory \ \mathbf{I} \qquad \mathbf{NO} = \mathbf{C}ategory \ \mathbf{II}$	Cat. II
SC6	Interdunal Wetlands (see p. 93)	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or	
	WBUO)?	
	YES = Go to SC 6.1 NO $X_{_}$ not an interdunal wetland for rating	
	If you answer yes you will still need to rate the wetland based on its functions.	
	In practical terms that means the following geographic areas:	
	 Long Beach Peninsula lands west of SR 103 Grayland-Westport lands west of SR 105 	
	 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
	SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger?	
	YES = Category II NO = go to SC 6.2	Cat. II
	SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	
	YES = Category III	Cat. III
	Category of wetland based on Special Characteristics	
	Choose the "highest" rating if wetland falls into several categories, and record on p. 1.	
	If you answered NO for all types enter "Not Applicable" on p. 1	

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