Attachment R Wetland and Stream Delineation Report



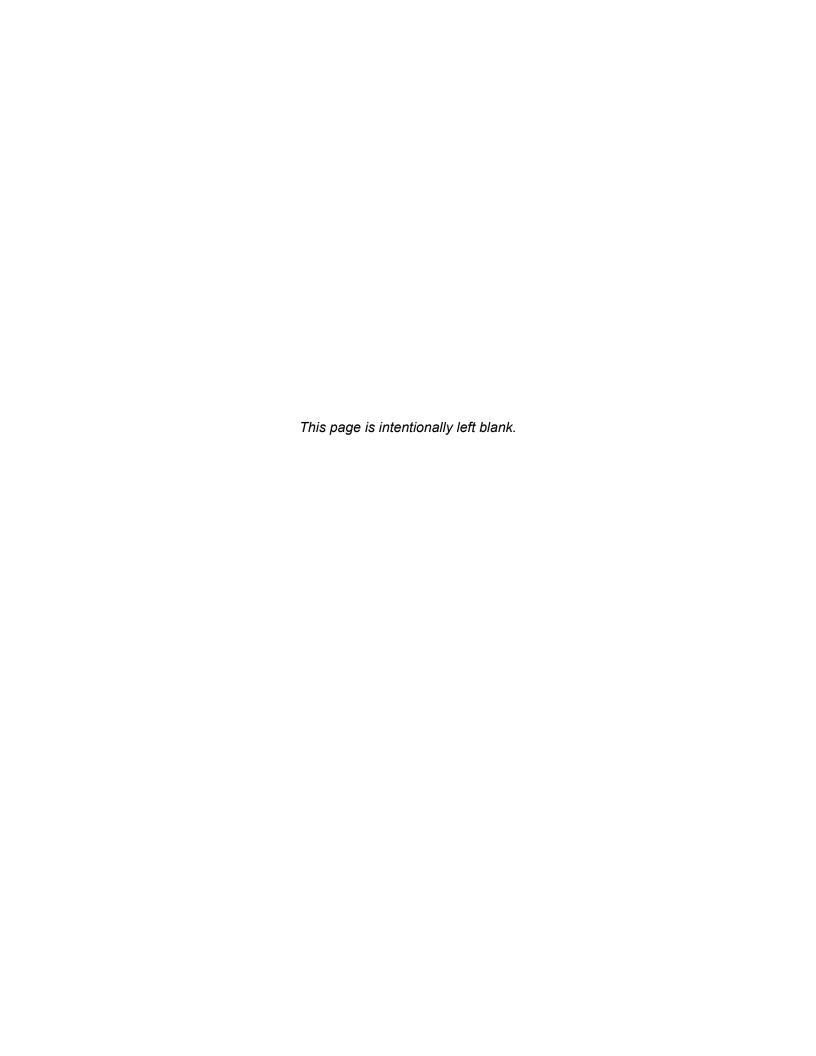


Wetland and Stream Delineation Report

Port of Grays Harbor – Terminal 4 Rail Upgrade and Site Improvements

City of Aberdeen and City of Hoquiam, WA

November 21, 2022



Contents

1	Intro	oduction	1
	1.1	Project Overview	1
	1.2	Project Location	1
2	Stud	dy Methods	3
	2.1	Review of Relevant Information	3
	2.2	Field Investigation	4
		Wetlands 2.2.2 Streams and Other Waters	
3	Resi	ults	10
	3.1	Wetlands	10
	3.2	Streams and other waters	24
		3.2.1 Fry Creek	
4	Refe	erences	28
		Tables	
Tabl	e 1. S	Summary of Wetland Buffer Requirements – City of Aberdeen	6
Tabl	e 2. S	summary of Wetland Buffer Requirements - City of Hoquiam	7
Tabl	e3. Su	ummary of Stream Typing System and Required Buffers – City of Aberdeen	9
		summary of Stream Typing System and Required Buffers – City of Hoquiam	
		summary of Wetlands Delineated in the Study Area	
Tabl	e 6. S	summary of Streams in the Study Area	24
		Eiguroo	
		Figures	
-		Project Vicinity	
_		Existing Wetlands and Streams in the Study Area	
Figu	re 3A-	-3C. Existing Wetlands and Streams Detail	14

Appendices

Appendix A. Wetland Delineation Methodology

Appendix B. Wetland Delineation Data Forms

Appendix C. Wetland Rating Forms

Appendix D. Site Photos

Wetland and Stream Delineation Report Port of Grays Harbor – Terminal 4 Rail Upgrade and Site Improvements

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1 Introduction

This report describes the methods and findings of wetland delineation for the proposed Port of Gray's Harbor Terminal 4 Rail Upgrade and Site Improvements Project (project). The report was prepared by HDR, Inc. (HDR), biologists and is intended to provide documentation for local, state, and federal permitting activities required for the project.

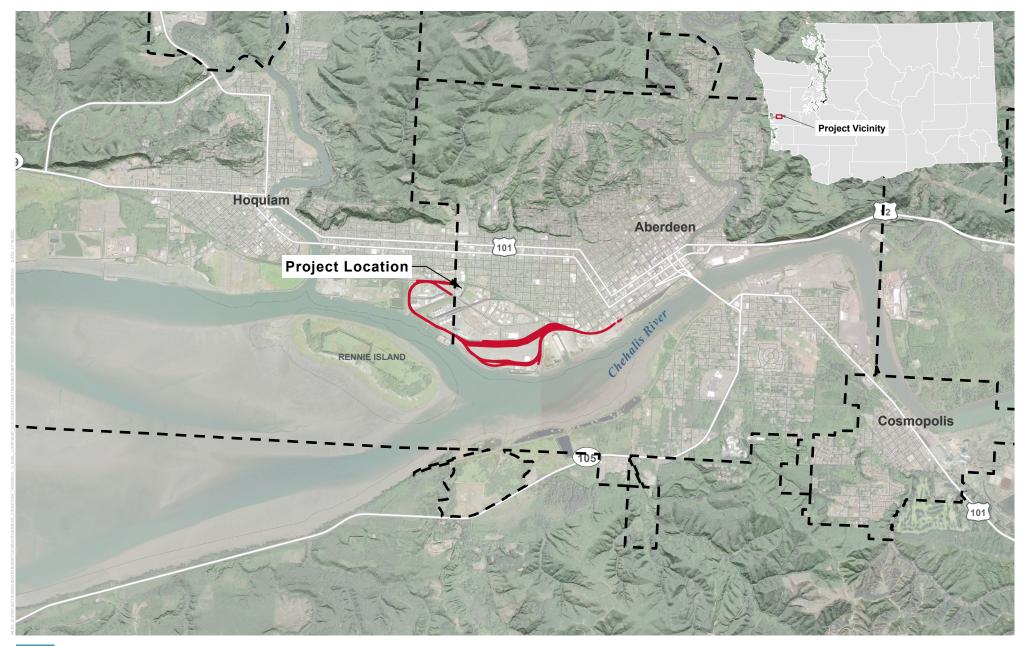
1.1 **Project Overview**

The Port is proposing the Terminal 4 Expansion and Redevelopment Project (Port project) to expand rail and shipping capacity at Terminal 4 at the Port of Grays Harbor (hereafter Port), Washington, to accommodate growth of dry bulk, breakbulk, and roll-on/roll-off cargoes.

The rail upgrades proposed at Terminal 4 include construction of 50,245 linear feet of new rail at the Port's existing loop track facility. A new rail bridge at Fry Creek that accommodates a third track over the creek will replace an existing culvert, and a rail receiving building will be built along the proposed northernmost track that will lead into Terminal 4. Rail upgrades and other new construction at the Port will be facilitated by construction of new access roads, storm drainage systems, security systems, and other associated improvements.

1.2 **Project Location**

The proposed project is located along the railroads within the Port property, and Puget Sound and Pacific Railroad right-of-way, the southeastern most extent ending just south of S Alder Street in the city of Aberdeen, and the westernmost extent ending before 28th Street in the city of Hoquiam, Washington, within Township 17 North, Range 9 West Sections 7, 8, 17, and 18 (Figure 1). Parcels within the project area include 317090834001, 029902000101, 029902000103, 317090834004, 317090834003, 029902000102, 029902000200, 056402300000, 052209400001, and 517090732001. The existing uses of the area in the project vicinity are commercial and industrial in nature, including warehouses, a gas station, log storage, and a bulk loading facility at Port of Grays Harbor Terminal 2. Port Industrial Road is located near the north extent of the project area.



FD3

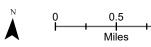


FIGURE 1: PROJECT VICINITY

2 Study Methods

The study area investigated for the presence and geographic extent of wetlands and streams includes all areas of the Port along the current railway expanse. This area is bounded by Port Industrial Road to the north, S Alder Street to the east, the harbor to the south, and 28th Street to the west (Figure 2).

Wetlands and streams were identified through a two-step process. HDR biologists first reviewed relevant information including online maps and public databases. Following this review, HDR biologists completed a thorough field survey of the study area that included wetland and stream identification, delineation, and classification.

2.1 Review of Relevant Information

Existing documents reviewed for this study include the following:

- United States Geological Survey (USGS) topographic maps
- National Wetlands Inventory (NWI) maps (US Fish and Wildlife Service [USFWS] 2022)
- National Hydrography Dataset maps (USGS 2022)
- USGS soil surveys
- National Resources Conservation Service (NRCS) National Hydric Soils List (NRCS 2020)
- Historical, seasonal, and current aerial photographs to determine probable locations for wetlands and water bodies
- Grays Harbor County geographic information system (GIS) data
- Washington Department of Fish and Wildlife (WDFW) Service Priority Habitat and Species mapper (WDFW 2022a)
- Washington Department of Natural Resources (DNR) Forest Practices Application Mapping Tool (DNR 2022a)
- DNR Washington Natural Heritage Program Wetlands of High Conservation Value Map Viewer (DNR 2022b)
- Washington State Department of Ecology (Ecology) Water Quality Atlas (Ecology 2022)
- Statewide Washington Integrated Fish Distribution (SWIFD) Web Map Viewer (SWIFD 2022)

These documents provide reference information on the soils, hydrology, land use, fish use, documented wetlands, and streams in the study area.

2.2 Field Investigation

Multiple field investigations for the project were conducted by HDR biologists on June 23, July 8, and August 5 and 19, 2022, to identify and delineate wetlands and waterbodies within the study area.

Climate data for the project were determined from the Hoquiam Bowerman Airport station (Station ID 453807), located approximately 4 miles west of the most western portion of the project site. Like the project site, the Bowerman Airport station is located in the West Olympic Coast climate division and is the station closest to the project area with the requisite data history to statistically determine the normality of recent precipitation (NRCS 2022). During the 3 months preceding the June field investigations, a total of 19.02 inches of rain fell at the Bowerman Airport station. Recorded precipitation levels were normal for March, above normal for April, and above normal for May. According to the Direct Antecedent Rainfall Evaluation Method (DAREM) (Sumner et al. 2009), the 3-month antecedent precipitation was higher than normal. During the 2 weeks prior to the start of field work, 2.65 inches of precipitation was observed at the Bowerman Airport station, which is higher than the average of 0.96 inches for the same dates (NRCS 2022).

During the 3 months preceding the July field investigations, NOAA recorded a total of 18.11 inches of rainfall. Recorded precipitation levels were above normal for April, above normal for May, and above normal for June. According to the DAREM, the precipitation for the 3-month period prior to the July site visit is wetter than the normal range. During the 2 weeks prior to field work, 0.34 inches of precipitation was observed at the Bowerman station, which is below the average of 0.57 inches for the same dates. This data indicates that the hydrology indicators should have been generally present in the wetlands in the vicinity of the study area.

During the 3 months preceding the August field investigations, NOAA recorded a total of 11.08 inches of rainfall. Recorded precipitation levels were above normal for May, above normal for June, and below normal for July. According to the DAREM, the precipitation for the 3-month period prior to the August site visits was drier than the normal range. During the 2 weeks prior to field work on August 5th, 0.04 inches of precipitation was observed at the Bowerman station, which is below the average of 0.35 inches for the same dates. During the 2 weeks prior to field work on August 19th, 0.06 inches of precipitation was observed at the Bowerman station, which is below the average of 0.51 inches for the same dates. Due to this site visit occurring during the summer dry season, sample plots were excavated to 24 inches and dry season wetland indicators were utilized where applicable.

2.2.1 Wetlands

HDR biologists delineated wetlands within the study area using the three parameter methods described in the Corps of Engineers Wetland Delineation Manual (US Army Corps of Engineers [USACE] 1987) and updated by the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region-Version 2.0 (USACE 2010). A detailed description of the field methods used in this study is provided in Appendix A. Formal paired data plots were collected to characterize the wetlands identified within the study area; additional verification plots were collected to characterize conditions in upland areas. Data from all plots are presented in Appendix B.

Delineated wetland boundaries and sample plots were surveyed using a Trimble Global Positioning System (GPS) unit capable of sub-meter accuracy and surveyed by a professional land surveyor. The resulting data from the delineations were then incorporated into project base maps (Figure 2).

As required by the City of Aberdeen and the City of Hoquiam, on-site wetlands were rated using the Washington State Wetland Rating System for Western Washington: 2014 Update, Ecology Publication #14-06-029 (Hruby 2014) (Aberdeen Municipal Code [AMC] 14.50.912, 14.100.200(C), Hoquiam Municipal Code [HMC] 11.06.130(2)(b)). Wetlands were rated using the Wetlands Rating Field Data Form provided with the rating system manual (Appendix C). Required buffer widths are based on wetland rating category, intensity of impacts, and wetland functions or special characteristics. Required wetland buffers for the City of Aberdeen are shown in Table 1, and for the City of Hoquiam in Table 2. A detailed analysis of wetland functions is not included in this report; however, a brief description of wetland functions is provided.

Wetland habitats in the study area were also classified according to the system outlined by the USFWS in Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979; FGDC 2013). The Cowardin system classifies wetlands based primarily on their dominant vegetation structures and water regimes.

Per AMC 14.50.914(A), AMC 14.100.250(A), and HMC 11.06.140, buffers shall not include areas that are functionally and effectively disconnected from the wetland by a road or other substantially developed surface of sufficient width and with use characteristics such that buffer functions are not provided; therefore, wetland buffers were clipped to edge of pavement or impervious surface, as applicable.

Table 1. Summary of Wetland Buffer Requirements – City of Aberdeen

Wetland Characteristics	Buffer Width ^a			
Category IV Wetlands (wetlands scoring less than 16 points for all functions)				
Score for all 3 basic functions is less than 16 points	50 feet			
Category III Wetlands (wetlands scoring 16 to 19 points for all	functions)			
High level of function for habitat (score for habitat 8 to 9 points)	300 feet			
Moderate level of function for habitat (score for habitat 5 to 7 points)	150 feet			
Not meeting above characteristics	80 feet			
Category II Wetlands (wetlands scoring 20 to 22 points for all functions, or having the 'in the rating system)	'Special Characteristics" identified			
High level of function for habitat (score for habitat 8 to 9 points)	300 feet			
Moderate level of function for habitat (score for habitat 5 to 7 points)	150 feet			
High level of function for water quality improvement (8 to 9 points) and low for habitat (less than 5 points)	100 feet			
Estuarine	150 feet			
Not meeting above characteristics	100 feet			
Category I Wetlands (wetlands that score 23 points or more for all functions, or having the in the rating system)	ne "Special Characteristics" identified			
Natural Heritage wetlands	250 feet			
Bogs	250 feet			
Forested	Buffer width based on score for habitat functions or water quality functions			
Estuarine	200 feet			
High level of function for habitat (score for habitat 8 to 9 points)	300 feet			
Moderate level of function for habitat (score for habitat 5 to 7 points)	150 feet			
High level of function for water quality improvement (8 to 9 points) and low for habitat (less than 5 points)	100 feet			
Not meeting above characteristics	100 feet			

Source: AMC 14.50.914; Appendix 2: Table A2-3; AMC 14.100.250. Required buffers for wetlands in shoreline jurisdiction are the same as those outside of shoreline jurisdiction.

^a Wetland buffer width applied for high land use impact (AMC 14.50.914; Appendix 2: Table A2-2; AMC 14.100.250).



Table 2. Summary of Wetland Buffer Requirements – City of Hoquiam

Wetland Category	Description	Standard Buffer Width Requirements (feet) ^a
Category I Wetland	Wetlands of High Conservation Value	250
Characteristic (23–27 points	Bogs	250
for all functions)	Forested	Buffer to be based on score for habitat functions or water quality functions
	Estuarine	200
	Wetlands in coastal lagoons	200
	High level of function for habitat (habitat score of 8–9 points)	300
	Moderate level of function for habitat (habitat score of 5–7 points)	150
	High level of function for water quality improvement and low for habitat (water quality score of 8–9 points; habitat score of 3–4 points)	100
	Not meeting above characteristics	100
Category II Wetland	High level of function for habitat (habitat score of 8–9 points)	300
Characteristic (20–22 points for all functions)	Moderate level of function for habitat (habitat score of 5–7 points)	150
	High level of function for water quality improvement and low for habitat (water quality score of 8–9 points; habitat score of 3–4 points)	100
	Estuarine	150
	Not meeting above characteristics	100
Category III Wetland Characteristic (16–19 points for all	Moderate level of function for habitat (Habitat score of 5–7 points). a If wetland scores 8–9 habitat points, use buffers for Category II	150
functions)	Not meeting above characteristics	80
All Category IV		50

^a Standard buffers represent high-intensity land use, which includes all uses within overlay districts. Moderate and low-intensity land use wetland buffers and their requirements are defined in HMC 11.06.140.

2.2.2 Streams and Other Waters

HDR biologists identified the high tide line (HTL) of streams and other waters in the study area following USACE guidance. Per 33 Code of Federal Regulations (CFR) 328.3(c)(4), the HTL is defined as "the line of intersection of the land with the water's surface at the maximum height reached by a rising tide." In the absence of actual data, the HTL may be determined by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide (33 CFR 328.3(c)(4)).

Prior to fieldwork, HDR biologists reviewed tidal datums for nearby tidal stations maintained by the National Oceanic and Atmospheric Administration (NOAA). Tidal datums for the nearest NOAA station in Aberdeen (Station 9441187) indicate a Highest Astronomical Tide (HAT) of 12.42 feet, North American Vertical Datum of 1988 (NAVD88) of 1.64 feet, mean higher-high water of 10.11 feet, and a mean tidal range of 7.94 feet (NOAA 2022).

During field investigations, HDR biologists looked for physical markings and characteristics including, but not limited to, a natural scour line impressed on the bank, distribution of salttolerant and non-salt-tolerant vegetation, sediment deposits, and drift deposits. The HTL for Fry Creek within the study area and along the southern shoreline extent of the study area was surveyed using a Trimble GPS unit and surveyed by a professional surveyor. The resulting data were incorporated into project base maps in combination with previous ground survey conducted for the project and an estimated HTL based on the elevation of the delineated HTL.

Streams identified in the study area were classified according to the stream definitions and typing system detailed in AMC 14.100.500 and HMC 11.06.260. Buffers were applied based on guidance for stream buffers in shoreline jurisdiction detailed in AMC 14.50.918 and requirements for developments along shorelines in HMC 11.06.260. A summary of the typing system and required buffers for the City of Aberdeen are described in Table 3, and for the City of Hoquiam in Table 4. The stream types described in this report are based on the stream reaches within the study area; stream types may be different in upstream or downstream reaches. Fish presence was determined through the review of previous studies, an assessment of the available habitat, and the hydrologic condition of identified surface waters.

Table 3. Summary of Stream Typing System and Required Buffers – City of Aberdeen

Water Type	Description	Buffer Width
Type S	All waters, as inventoried as "shorelines of the state" under Chapter 90.58 Revised Code of Washington, including periodically inundated areas of their associated wetlands.	Regulated in accordance with AMC 14.50.430.02
Type F-A	Segments of natural waters other than Type S waters that are within defined channels greater than 10 feet in width, as defined by the ordinary high water mark (OHWM), and periodically inundated areas of their associated wetlands or within lakes, ponds, or impoundments having a surface area of one-half acre or greater at seasonal low water and which contain fish habitat.	150 feet
Type F-B	Type F-B Segments of natural waters other than Type S waters that are within defined channels less than 10 feet in width, as defined by the OHWM, or within lakes, ponds, or impoundments having a surface area of less than one-half acre at seasonal low water and which contain fish habitat.	
Type Np	All segments of natural waters within defined channels that are perennial non-fish-habitat streams. Perennial streams are waters that do not go dry at any time during a year of normal rainfall. However, for the purpose of water typing, Type Np waters include the intermittent dry portions of the perennial channel below the uppermost point of perennial flow.	75 feet
Type Ns	All segments of natural waters within defined channels that are not Type S, F, or Np waters. These are seasonal, non-fish-habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any stream reach that is a Type Np water. Type Ns waters must be physically connected by an above-ground channel system to Type S, F, or Np waters.	50 feet

Source: AMC 14.100.500(B)(6). Buffer widths based on AMC 14.50.918 guidance for streams in shoreline jurisdiction and AMC 14.100.550.

Table 4. Summary of Stream Typing System and required buffers – City of Hoquiam

Water Type	Description	Buffer Width (feet)
Type S	All aquatic areas inventoried as "shorelines of the state," including segments of streams where the mean annual flow is more than 20 cubic feet per second, marine shorelines, and lakes twenty acres in size or greater.	150
Type F	All segments of natural waters that are not type S waters, which are within the bankfull widths of defined channels and periodically inundated areas of their associated wetlands, and that contain fish or fish habitat.	Streams >10 feet wide: 150 Streams <10 feet wide: 100
Type Np	All segments of natural waters within the bankfull width of defined channels that are perennial nonfish habitat streams.	75
Type Ns	All segments of natural waters within the bankfull width of the defined channels that are not Type S, F, or Np waters. These are seasonal, nonfish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall, and are not located downstream from any stream reach that is a Type Np water.	50

Source: HMC 11.06 Definitions; HMC 11.06.260(2)(b)

3 Results

3.1 Wetlands

HDR biologists assessed nine wetlands within the study area.

Wetlands were distinguished from adjoining uplands by the presence of indicators for wetland hydrology, hydric soils, and hydrophytic vegetation. Wetland delineation data sheets are provided in Appendix B, wetland rating forms are in Appendix C, and photos of the wetland and surrounding upland areas are in Appendix D. Figure 2 shows the location and geographic extent of the wetlands and the locations of the sample plots that were established in the study area during the survey. Figures 3A through 3C show detailed view of wetlands and associated sample plots. Detailed summaries of the identified wetlands are in Table 5.

Table 5. Summary of Wetlands Delineated in the Study Area

Wetland Name	Jurisdiction	Size (acres)	HGM Classification ^a	Cowardin Classificatio n ^b	Wetland Rating ^c	Required Buffer Width ^d (feet)
Wetland 1	Aberdeen	0.13	Estuarine	EEM	II	150
Wetland 2	Aberdeen	0.04	Depressional	PEM/PAB	III	80
Wetland 3	Aberdeen	0.02	Depressional	PEM/PAB	IIIe	80 ^e
Wetland 4	Aberdeen	0.02	Depressional	PEM	III	80
Wetland 5	Aberdeen	0.02	Depressional	PEM	III	80
Wetland 6	Aberdeen	0.05	Depressional	PEM	III	80
Wetland 7	Aberdeen	0.11	Depressional	PEM	III	80
Wetland 8	Aberdeen	0.06	Depressional	PEM	III	80
Wetland 9	Hoquiam	0.20	Depressional	PEM	III	80

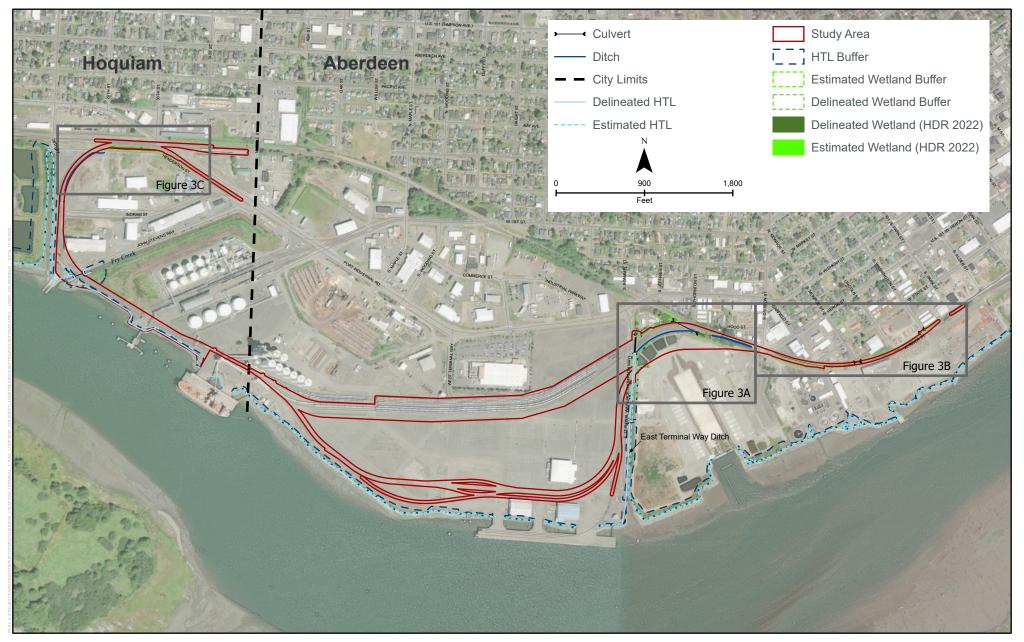
^a HGM classification is based on A Hydrogeomorphic Classification for Wetlands (Brinson 1993).

^b Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979; FGDC 2013). E2EM = Estuarine Intertidal Emergent. PSS = Palustrine Scrub-Shrub.

^c Washington State Rating System for Western Washington (Hruby 2014). Estuarine wetlands were rated based on special characteristics.

^d Wetland buffer width applied for high land-use impact (AMC 14.50.914: Appendix 2 - Table A2-2; AMC 14.100.250; HMC11.06.140).

e Wetland 3 is located outside of the study area. Therefore a formal wetland rating was not completed. The wetland rating and required buffer width are estimated based on similar nearby wetlands.







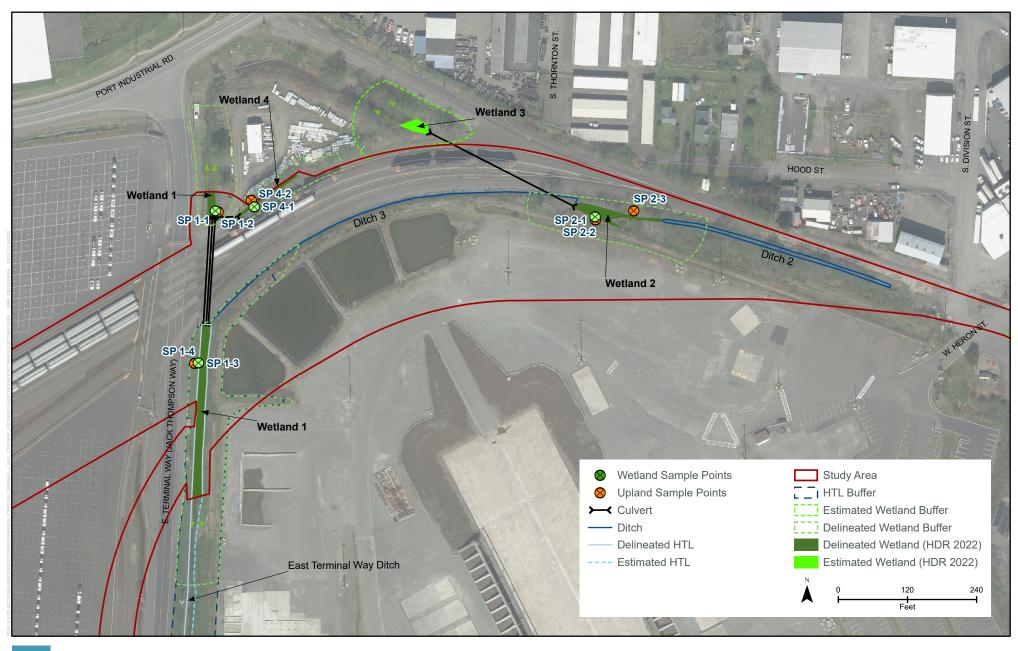




FIGURE 3A: EXISTING WETLAND AND WATERBODIES

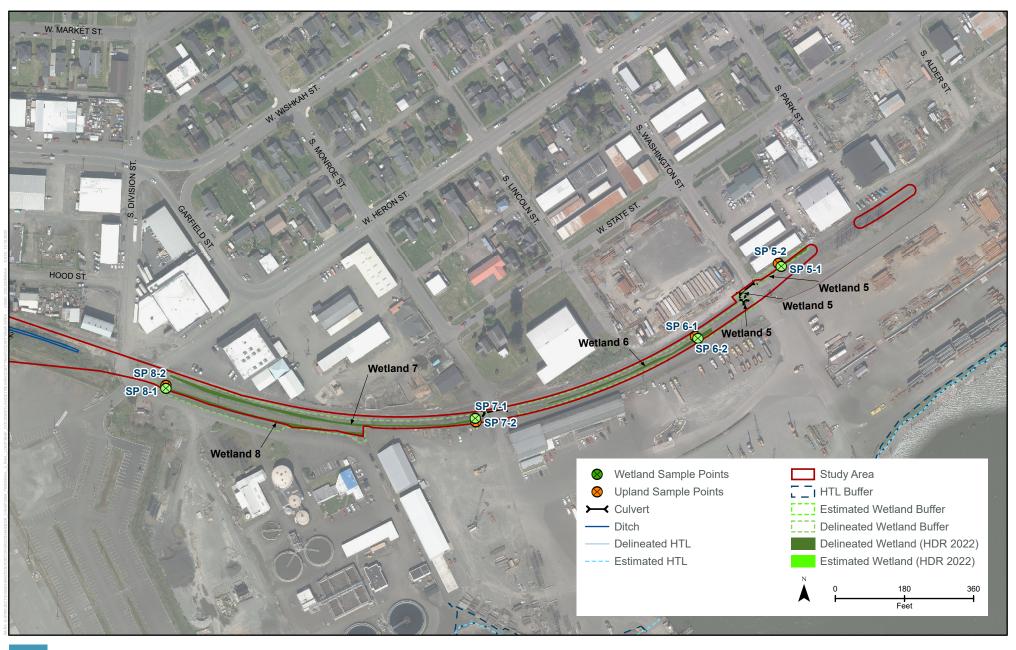




FIGURE 3B: EXISTING WETLANDS AND WATERBODIES

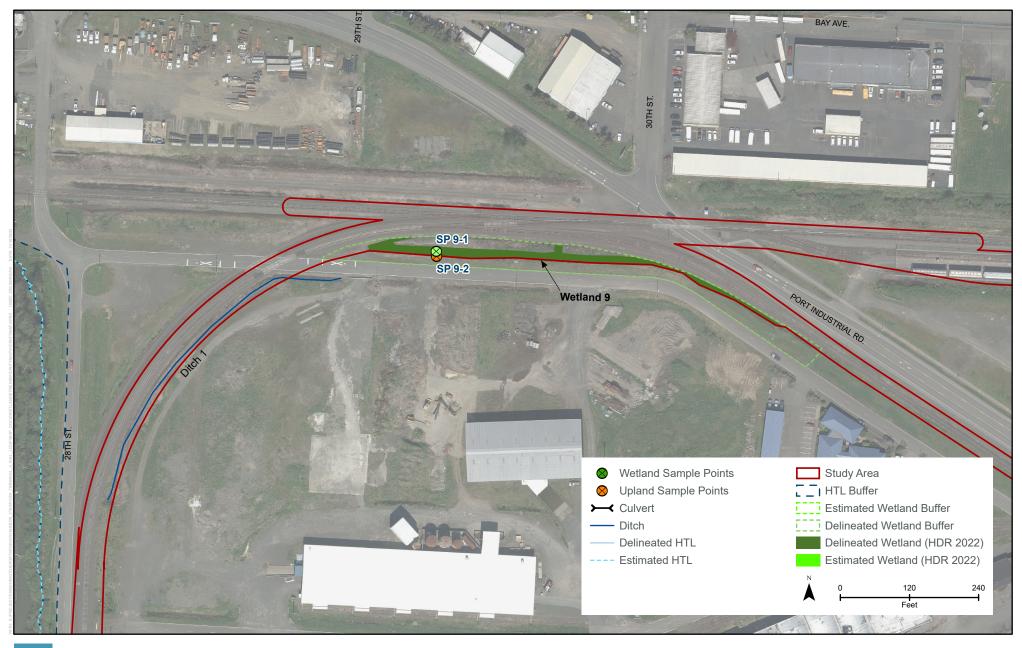


FIGURE 3C: EXISTING WETLANDS AND WATERBODIES

PORT OF GRAYS HARBOR – T4 RAIL EXPANSION

FDR



	Wetland 1 – INFORMAT	FION SUMMARY (Delineated by	HDR)
Location:	Latitude: 46.966721, Longitude: -1	123.836388	
		Local Jurisdiction	City of Aberdeen
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		WRIA	22 - Lower Chehalis
		Ecology Rating (Hruby 2014)	Category II
		Water Quality	N/A
		Hydrologic	N/A
Native		Habitat	N/A
		Local Buffer Width	110 feet
		Wetland Size (acres)	0.13
第二条 4 第		Cowardin Classification	EEM
7	不是多以影响的 名字/字子	HGM Classification	Estuarine
		Wetland Data Sheet(s)	SP 1-1, SP 1-3
		Upland Data Sheet (s)	SP 1-2, SP 1-4
Dominant Vegetation	Wetland 1 is a palustrine emerger lyngbyei, OBL), curly/yellow dock caespitosa, FACW). Vegetation of vegetation.	(Rumex crispus, FAC), and tussobserved in this wetland meet the	ock grass (<i>Deschampsia</i> criteria for hydrophytic
Soils	Soils in Wetland 1 are mapped as Udorthents (NRCS 2022). Observed soils in the wetland, north of the culverts, consists of 5 inches of dark brown (7.5YR 3/2) and very dark gray (10YR 3/1) silt loam with redox features, over 2 inches of a mixed matrix dark brown, dark gray and brown (7.5YR 3/3, 10YR 4/1, and 10YR 5/3) silt loam with redox features, over 9 inches of dark gray (2.5Y 4/1) silt loam. Sampled soils meet hydric soil indicators redox dark surface (F6), and red parent material (TF2). Observed soils south of the culverts are substantially similar and meet hydric soil indicators depleted below dark surface (A11), depleted matrix (F3), and redox dark surface (F6).		
Hydrology	Wetland 1 is tidally influenced, and wetland is collocated with East Te water table. Wetland 1, north of th and sediment deposits (B2). SP 1 South of the culverts, the wetland (A3).	erminal Way Ditch. SP 1-1 was sa ne culverts, meets primary hydrolo -3 was saturated at 13 inches, wi	turated at 6 inches, with no ogy indicators for saturation (A3) th a water table at 20 inches.
Rationale for Delineation	Wetlands were distinguished from hydric soils, and wetland hydrolog	ıy.	
Rationale for Local Rating Wetland 1 is rated Category II based on special characteristics, as it is an estuarine wetland reserve, national park, natural estuary reserve, natural area preserves, state park, or other educational environmental or scientific reserve, and although than 1 acre, has been subject to disturbance and lacks features including tidal channels, depressions, and contiguous freshwater wetlands		ary reserve, natural area fic reserve, and although larger	
	Wetland	l Functions Summary	
Water Quality	Not applicable for estuarine wetlan	nds.	
Hydrologic	Not applicable for estuarine wetlan	nds.	
Habitat	Not applicable for estuarine wetlar	nds.	

Wetland 2 – INFORMATION SUMMARY (Delineated by HDR)				
Location:	Latitude: 46.966755, Longitude: -	123.833694		
		Local Jurisdiction	City of Aberdeen	
	WE STATE OF THE ST	WRIA	22 - Lower Chehalis	
		Ecology Rating (Hruby 2014)	Category III	
	S. A. S.	Water Quality	7	
NATA NO		Hydrologic	8	
		Habitat	3	
10.00 · 10.00		Local Buffer Width	80	
		Wetland Size (acres)	0.04 acres	
		Cowardin Classification	PEM/PAB	
		HGM Classification Wetland Data Sheet(s)	Depressional SP 2-1	
		Upland Data Sheet (s)	SP 2-2, SP 2-3	
Dominant Vegetation	Wetland 2 is a palustrine emerger dominated by fringed/American/sl observed in this wetland meet the	nt and palustrine aquatic bed wetlender willowherb (Epilobium ciliat	and. The emergent stratum is tum, FACW). Vegetation	
Soils	Soils in Wetland 2 are mapped as Udorthents (NRCS 2022). Observed soils consist of 5 inches of very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) silt loam with redox features, over 19 inches of gray (10YR 5/1) silty clay loam with redox features. Sampled soils meet hydric soil indicators depleted matrix (F3) and redox dark surface (F6).			
Hydrology Wetland 2 is located in a broad drainage ditch. The wetland receives flow from surrouplands, as well as from Ditch 2 and Ditch 3, and outlets through a culvert to an offpond. SP 2-1 shows no saturation or water table but is moist at 20 inches. Wetland primary hydrology indicators for algal mat or crust (B4) and surface soil cracks (B6)		culvert to an off-site stormwater inches. Wetland 2 meets		
Rationale for Delineation	Wetlands were distinguished from hydric soils, and wetland hydrolog		of hydrophytic vegetation,	
Rationale for Local Rating	Wetland 7 is rated Category III ba hydrologic (8) and low habitat (3) Western Washington Wetland Ra	functions. Wetland 2 scored 18 pe		
	Wetland	l Functions Summary		
Water Quality	The wetland has moderate potential to improve water quality because it is a depressional wetland with an intermittently flowing surface outlet, has persistent, ungrazed plants over 10% of the wetland, and has more than 50% seasonal ponding. The wetland has moderate opportunity to perform the function because more than 10% of the area within 150 feet includes land uses that generate pollutants. Performance of this function is of high value to society because the wetland is located in a basin with a TMDL.			
Hydrologic	The wetland has moderate potential to attenuate stormwater flows due to an intermittently flowing outlet, ponding depths of 0.5 to 2 feet, and a contributing basin between 10 and 100 times larger. More than 10% of the area within 150 feet generates excess runoff, and greater than 25% of the contributing basin is characterized by high intensity land use, which contributes to a moderate landscape potential. Grays Harbor frequently experiences flooding immediately down-gradient of the wetland; therefore, the hydrologic function provided by the wetland is high value to society.			
Habitat	The wetland has two vegetative structures, two hydroperiods, moderate plant diversity, low interspersion, and two special habitat features, which contributes to a low habitat potential. It is located within a landscape that has a low potential to support the habitat functions due to a lack of connectivity to undisturbed habitat, and a high proportion of high intensity land use within a one-kilometer radius. The wetland has a low performance value as it does not meet any criteria of value to society.			



Wetland 3 – INFORMATION SUMMARY (Delineated by HDR)					
Location:	Discation: Latitude: 49.967121, Longitude: -123.835060				
	-	Local Jurisdiction	City of Aberdeen		
		WRIA	22 - Lower Chehalis		
		Ecology Rating (Hruby 2014)	III		
1 A		Water Quality	N/A		
		Hydrologic	N/A		
	SECTION AND A SECTION AND A SECTION ASSESSMENT AND A SECTION ASSESSMENT ASSES	Habitat	N/A		
-		Local Buffer Width	80		
		Wetland Size (acres)	0.02		
No.	大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大	Cowardin Classification	PEM/PAB		
		HGM Classification	Depressional		
		Wetland Data Sheet(s)	N/A		
Λ		Upland Data Sheet (s)	N/A		
Dominant Vegetation					
Soils	Soils in Wetland 3 are mapped as because site is outside of study at		in Wetland 3 were not sampled		
Hydrology	Seasonally ponded. Water marks uplands, and appears to drain offs		etland. Wetland 3 drains		
Rationale for Local Rating	N/A: outside of study area. Based wetlands, it is provisionally scored		wetland to other nearby		
	Wetland Functions Summary				
Water Quality	N/A: wetland is outside of study area				
Hydrologic	N/A: wetland is outside of study area				
Habitat	N/A: wetland is outside of study a	rea			

	Wetland 4 – INFORMAT	TION SUMMARY (Delineated by	HDR)
Location:	Latitude: 46.966736, Longitude: -	123.836151	
		Local Jurisdiction	City of Aberdeen
		WRIA	22 - Lower Chehalis
		Ecology Rating (Hruby 2014)	Category III
NO.	Marie Carlos Marie V	Water Quality	7
Hydrologic			7
		Habitat	3
		Local Buffer Width	80 feet
		Wetland Size (acres)	0.02
划入,为4章	A BANGE STATE	Cowardin Classification	PEM
		HGM Classification	Depressional
24 SM	1. 图 10000000000000000000000000000000000	Wetland Data Sheet(s)	SP 4-1
各產金別為		Upland Data Sheet (s)	SP 4-2
	Wetland 4 is a palustrine emerger		
Dominant Vegetation	canarygrass (<i>Phalaris arundinace</i> for hydrophytic vegetation.		
Soils	Soils in Wetland 4 are mapped as Udorthents (NRCS 2022). Observed soils consist of 9 inches of black (10YR 2/1) silt loam, over 6 inches of dark gray (2.5Y 4/1) sandy loam with redox features,		
Wetland 4 is located in a narrow swale between an existing set of railroad tracks development. Wetland 4 drains surrounding uplands, and outlets through a unidi the north side of Wetland 1.Observed hydrology in SP 4-1 includes saturation at water table present at 12 inches. Wetland 4 meets primary hydrology indicators table (A2) and saturation (A3).		rough a unidirectional culvert to saturation at 8 inches, with a	
Rationale for Delineation	Wetlands were distinguished from hydric soils, and wetland hydrolog		of hydrophytic vegetation,
Rationale for Local Rating	Wetland 4 is rated Category III ba (7) and low habitat (3) functions. Washington Wetland Rating System	Vetland 4 scored 17 points using	
	Wetland	I Functions Summary	
Water Quality	The wetland has moderate potential to improve water quality because it is a depressional wetland with an intermittently flowing surface outlet, and has persistent, ungrazed plants over 95% of the wetland. There is a moderate opportunity to perform the function because more than 10% of the		
Hydrologic	The wetland has moderate potential to attenuate stormwater flows due to an intermittently flowing outlet, ponding depths less than 0.5 feet, and a contributing basin between 10 and 100 times larger than the wetland. More than 10% of the area within 150 feet generates excess runoff, and greater than 25% of the contributing basin is characterized by high intensity land use, which contributes to a moderate landscape potential. Grays Harbor frequently experiences flooding immediately down-gradient of the wetland; therefore, the hydrologic function provided by the wetland is high value to society.		
Habitat	The wetland has two vegetative si interspersion, and two special had located within a landscape that ha connectivity to undisturbed habitat kilometer radius. The wetland has value to society.	oitat features, which contributes to is a low potential to support the hi t, and a high proportion of high in	o a low habitat potential. It is abitat functions due to a lack of tensity land use within a one-



	Wetland 5 – INFORMAT	ΓΙΟΝ SUMMARY (Delineated by	HDR)
Location:	Latitude: 46.967319, Longitude: -	123.824432	
enic:	-	Local Jurisdiction	City of Aberdeen
	The same of the sa	WRIA	22 - Lower Chehalis
		Ecology Rating (Hruby 2014)	Category III
	A Secretary Control	Water Quality	6
		Hydrologic	7
		Habitat	3
		Local Buffer Width	80 feet
		Wetland Size (acres)	0.02
		Cowardin Classification	PEM
ANA C	"一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个	HGM Classification	Depressional
A STATE OF THE STA		Wetland Data Sheet(s)	SP 5-1
N. S. C. C. C. S. C. C.		Upland Data Sheet (s)	SP 5-2
Dominant Vegetation	Wetland 5 is a palustrine emerger canarygrass (<i>Phalaris arundinace</i> observed in this wetland meet the	a, FACW) and toad rush (<i>Juncus</i> criteria for hydrophytic vegetation	<i>bufonius</i> , FACŴ). Vegetation า.
Soils	Soils in Wetland 5 are mapped as consists of 4 inches of gray (5GY dark gray (5Y 3/1) and gray (5GY greenish gray (10GY 4/1) clay wit sandy redox (S5) and redox dark	3/1) sandy clay loam with redox f 3/1) loamy sand with redox featu h redox features. Sampled soils n surface (F6).	reatures, over 12 inches of very res, over 8 inches of dark neet hydric soil indicators for
Hydrology	Wetland 5 is located in a swale lo flow from adjacent uplands and of 6. Observed hydrology in SP 5-1 Hydrology appears to be perched soil and rocks, and surface soil crindicators for water marks (B1), st (B8).	utlets through an unconfined and includes saturation at 13 inches, won a clay layer at 16 inches. Cleated were observed. The wetland	unvegetated swale to Wetland with no water table present. ar water marks were present on I meets primary hydrology
Rationale for Delineation	Wetlands were distinguished from hydric soils, and wetland hydrolog		of hydrophytic vegetation,
Rationale for Local Rating	Wetland 5 is rated Category III ba (7) and low habitat (3) functions. \ Washington Wetland Rating Syste	Wetland 5 scored 16 points using	
	Wetland	f Functions Summary	
Water Quality	The wetland has moderate potential to improve water quality because it has an unconstricted, or slightly constricted, surface outlet that is permanently flowing and has persistent, ungrazed plants over 10% of the wetland. The wetland has moderate opportunity to perform the function because more than 10% of the area within 150 feet includes land uses that generate pollutants. Performance of this function is of high value to society because the wetland is located in a basin with a TMDL.		
Hydrologic	The wetland has low potential to r slightly constricted, surface outlet and a contributing basin more tha within 150 feet generates excess characterized by high intensity lar Grays Harbor frequently experien- therefore, the hydrologic function	that is permanently flowing, pond n 100 times larger than the wetlar runoff, and greater than 25% of the nd use, which contributes to a mo- ces flooding immediately down-gr	ling depths less than 0.5 feet, and. More than 10% of the area are contributing basin is derate landscape potential. adient of the wetland;
Habitat	The wetland has one vegetative s and no special habitat features, w landscape that has a low potentia undisturbed habitat, and a high pr The wetland has a low performan	hich contributes to a low habitat p I to support the habitat functions of oportion of high intensity land use	ootential. It is located within a due to a lack of connectivity to within a one-kilometer radius.

	Wetland 6 - INFORMA	TION SUMMARY (Delineated by	HDR)
Location:	Latitude: 46.966774, Longitude: -	123.825203	
		Local Jurisdiction	City of Aberdeen
111111111111111111111111111111111111111	A CONTRACTOR OF THE PARTY OF TH	WRIA	22 - Lower Chehalis
		Ecology Rating (Hruby 2014)	Category III
		Water Quality	7
		Hydrologic	7
- CHAL		Habitat	3
		Local Buffer Width	80 feet
		Wetland Size (acres)	0.05
		Cowardin Classification	PEM
		HGM Classification	Depressional
Chines S		Wetland Data Sheet(s)	SP6-1
		Upland Data Sheet (s)	SP6-2
Dominant Vegetation	Wetland 6 is a palustrine emerge (<i>Phalaris arundinacea</i> , FACW) ar in this wetland meets the criteria to Soils in Wetland 6 are mapped as	nd common bent (<i>Agrostis capillar</i> for hydrophytic vegetation.	is, FAC). Vegetation observed
Soils	of 9 inches of very dark gray (10\) grayish brown (2.5Y 4/2) silty clay for depleted below dark surface (′R 3/1) silty clay loam with redox f / with redox features. Sampled so	eatures, over 15 inches of dark ils meet hydric soil indicators
Wetland 6 is located in a ditch between the existing railroad berm and W River Street. The receives flow from adjacent uplands, Wetland 5, and Wetland 7, and outlets into a culvert, presumably to an outfall to Grays Harbor. Observed hydrology at SP 6-1 includes saturation inches, with a water table present at 20 inches. The wetland meets primary hydrology indicator oxidized rhizospheres along living roots (C3). The wetland also meets secondary indicator season water table (C2).		d outlets into a culvert, P 6-1 includes saturation at 14 primary hydrology indicators ated concave surface (B8), and	
Rationale for Delineation	Wetlands were distinguished from hydric soils, and wetland hydrolog		of hydrophytic vegetation,
Rationale for Local Rating	Wetland 6 is rated Category III ba (7) and low habitat (3) functions. Washington Wetland Rating Syst	Wetland 6 scored 17 points using	
	Wetland	d Functions Summary	
Water Quality	The wetland has moderate potential to improve water quality because it has an unconstricted, or slightly constricted, surface outlet that is permanently flowing and has persistent, ungrazed plants over 50% of the wetland. There's a moderate opportunity to perform the function because more		
Hydrologic	The wetland has low potential to reduce flooding and erosion because it has an unconstricted, or slightly constricted, surface outlet that is permanently flowing, ponding depths less than 0.5 feet, and a contributing basin more than 100 times larger. More than 10% of the area within 150 feet generates excess runoff, and greater than 25% of the contributing basin is characterized by high intensity land use, which contributes to a moderate landscape potential. Grays Harbor frequently experiences flooding immediately down-gradient of the wetland; therefore, the hydrologic function provided by the wetland is high value to society.		
Habitat	The wetland has one vegetative sinterspersion, and no special hab located within a landscape that has connectivity to undisturbed habita kilometer radius The wetland has to society.	itat features, which contributes to as a low potential to support the h it, and a high proportion of high in	a low habitat potential. It is abitat functions due to a lack of tensity land use within a one-



	Wetland 7 – INFORMAT	ΓΙΟΝ SUMMARY (Delineated by	HDR)		
Location: Latitude: 46.966171, Longitude: -123.827484					
		Local Jurisdiction	City of Aberdeen		
All Flores		WRIA	22 - Lower Chehalis		
		Ecology Rating (Hruby 2014)	Category III		
		Water Quality	7		
建了这种。	100	Hydrologic	7		
23.		Habitat	3		
本 於人。於實	在基础。这个人	Local Buffer Width	60 feet		
到 的从来从来	TO SHOULD TO	Wetland Size (acres)	0.05		
		Cowardin Classification	PEM		
		HGM Classification	Depressional		
		Wetland Data Sheet(s)	SP7-1		
		Upland Data Sheet (s)	SP7-2		
	Wetland 6 is a natustrine emerger				
Dominant Vegetation	Wetland 6 is a palustrine emergent wetland. The wetland is dominated by reed canarygrass (<i>Phalaris arundinacea</i> , FACW) and toad rush (<i>Juncus bufonius</i> , FACW). Vegetation observed in this wetland meets the criteria for hydrophytic vegetation.				
Soils	Soils in Wetland 7 are mapped as Udorthents (NRCS 2022). Observed soil in the wetland consists of 10 inches of very dark gray (10YR 3/1) and dark grayish brown (2.5Y 4/2) sandy clay loam with redox features, over 7 inches of dark gray (2.5Y 4/1) silty clay loam with redox features, over 7 inches of dark greenish gray (5GY 4/1) silty clay with redox features. Sampled soils meet hydric soil indicators for depleted matrix (F3).				
Hydrology	Wetland 7 is located in a narrow ditch between an existing railroad berm and a gravel access road. Wetland 7 receives hydrology from surrounding uplands and drains to Wetland 6 through a unidirectional culvert under S Monroe Street. No direct hydrology indicators were observed at SP 7-1, but soil was moist at 15 inches. The wetland meets primary hydrology indicators for algal mat or crust (B4), surface soil cracks (B6), and oxidized rhizospheres along living roots (C3).				
Rationale for Delineation	Wetlands were distinguished from uplands based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.				
Rationale for Local Rating	Wetland 7 is rated Category III based on functions, due to moderate water quality (7), hydrologic (7) and low habitat (3) functions. Wetland 7 scored 17 points using the Ecology Western Washington Wetland Rating System (2014 Update).				
Wetland Functions Summary					
Water Quality	The wetland has moderate potential to improve water quality because it has an unconstricted, or slightly constricted, surface outlet that is permanently flowing and has persistent, ungrazed plants over 50% of the wetland. There's a moderate opportunity to perform the function because more than 10% of the area within 150 feet includes land uses that generate pollutants. Performance of this function is of high value to society because the wetland is located in a basin with a TMDL.				
Hydrologic	The wetland has low potential to reduce flooding and erosion because it has an unconstricted, or slightly constricted, surface outlet that is permanently flowing, ponding depths less than 0.5 feet, and a contributing basin between 10 and 100 times larger. More than 10% of the area within 150 feet generates excess runoff, and greater than 25% of the contributing basin is characterized by high intensity land use, which contributes to a moderate landscape potential. Grays Harbor frequently experiences flooding immediately down-gradient of the wetland; therefore, the hydrologic function provided by the wetland is high value to society.				
Habitat	The wetland has one vegetative structure, one hydroperiod, moderate plant diversity, no interspersion, and one special habitat feature, which contributes to a low habitat potential. It is located within a landscape that has a low potential to support the habitat functions due to a lack of connectivity to undisturbed habitat, and a high proportion of high intensity land use within a one-kilometer radius The wetland has a low performance value as it does not meet any criteria of value to society.				

Wetland 8 – INFORMATION SUMMARY (Delineated by HDR)					
Location: Latitude: 46.966244, Longitude: -123.830734					
	, 3	Local Jurisdiction	City of Aberdeen		
		WRIA	22 - Lower Chehalis		
		Ecology Rating (Hruby 2014)	Category III		
		Water Quality	6		
1		Hydrologic	7		
		Habitat	3		
		Local Buffer Width	80 feet		
		Wetland Size (acres)	0.06		
	第三年,第三年高 公司的10月10日	Cowardin Classification	PEM		
		HGM Classification	Depressional		
		Wetland Data Sheet(s)	W8-1		
		Upland Data Sheet (s)	W8-2		
Dominant Vegetation	Wetland 8 is a palustrine emerger (Phalaris arundinacea, FACW) an observed in this wetland meet the	d bird's foot trefoil (Lotus cornicul	latus, FAC). Vegetation		
Soils	Soils in Wetland 8 are mapped as Udorthents (NRCS 2022). Observed soil in the wetland consists of 8 inches of very dark gray (10YR 3/1) silt loam with redox features, over 6 inches of dark grayish brown (10YR 4/2) sandy loam with redox features, over 10 inches of dark gray (10YR 4/1) clay loam with redox features. Sampled soils meet hydric soil indicators for depleted below dark surface (A11), depleted matrix (F3), and redox dark surface (F6).				
Hydrology	Wetland 8 is located in a narrow swale between a gravel access road and existing development. Wetland 8 receives hydrology from surrounding uplands and drains through a culvert at the west end, presumably to an offsite stormwater facility. No primary hydrology indicators were observed in the wetland - SP 8-1 was dry to 24 inches. The wetland meets secondary hydrology indicators for geomorphic position (D2) and FAC-Neutral Test (D5).				
Rationale for Delineation	Wetlands were distinguished from uplands based on the presence of hydrophytic vegetation, hydric soils, and secondary wetland hydrology indicators.				
Rationale for Local Rating	Wetland 8 is rated Category III based on functions, due to moderate water quality (6), hydrologic (7) and low habitat (3) functions. Wetland 8 scored 16 points using the Ecology Western Washington Wetland Rating System (2014 Update).				
Wetland Functions Summary					
Water Quality	The wetland has moderate potential to improve water quality because it has an unconstricted, or slightly constricted, surface outlet that is permanently flowing and has persistent, ungrazed plants over 95% of the wetland. There's a moderate opportunity to perform the function because more than 10% of the area within 150 feet includes land uses that generate pollutants. Performance of this function is of high value to society because the wetland is located in a basin with a TMDL.				
Hydrologic	The wetland has low potential to reduce flooding and erosion because it has an unconstricted, or slightly constricted, surface outlet that is permanently flowing, ponding depths less than 0.5 feet, and a contributing basin between 10 and 100 times larger. More than 10% of the area within 150 feet generates excess runoff, and greater than 25% of the contributing basin is characterized by high intensity land use, which contributes to a moderate landscape potential. Grays Harbor frequently experiences flooding immediately down-gradient of the wetland; therefore, the hydrologic function provided by the wetland is high value to society.				
Habitat	The wetland has one vegetative structure, one hydroperiod, moderate plant diversity, no interspersion, and no special habitat features, which contributes to a low habitat potential. It is located within a landscape that has a low potential to support the habitat functions due to a lack of connectivity to undisturbed habitat, and a high proportion of high intensity land use within a one-kilometer radius The wetland has a low performance value as it does not meet any criteria of value to society.				



	Wetland 9 - INFORMAT	ΓΙΟΝ SUMMARY (Delineated by	HDR)			
Location: Latitude: 46.967815, Longitude: -123.859856						
	THE PARTY OF THE P	Local Jurisdiction	City of Hoquiam			
		WRIA	22 - Lower Chehalis			
		Ecology Rating (Hruby 2014)	Category III			
		Water Quality	8			
NE A T		Hydrologic	8			
		Habitat	3			
		Local Buffer Width	80 feet			
all &		Wetland Size (acres)	0.20			
	《	Cowardin Classification	PEM			
A PART OF THE PART	[1] (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	HGM Classification	Depressional			
		Wetland Data Sheet(s)	SP9-1 SP9-2			
		Upland Data Sheet (s)				
Dominant Vegetation	Wetland 9 is a palustrine emergent wetland. The wetland is dominated by common bent (<i>Agrostis capillaris</i> , FAC) and common/needle spikerush (<i>Eleocharis acicularis</i> , OBL). Vegetation observed in this wetland meet the criteria for hydrophytic vegetation.					
Soils	Soils in Wetland 9 are mapped as Udorthents (NRCS 2022). Observed soils in the wetland consists of 8 inches of very dark grayish brown (10YR 3/2) silt loam with redox features over 10 inches of gray (5GY 3/1) gravelly sandy loam with redox features. Sampled soils meet hydric soil indicators for redox dark surface (F6).					
Hydrology	Wetland 9 is located in a steep-sided ditch. Wetland 9 receives hydrology from adjacent uplands and drains through a culvert to Ditch 1 and eventually to an off-site tidal channel of Grays Harbor. SP 9-1 was saturated at 6 inches, with a water table present at 8 inches. The wetland meets primary hydrology indicators for surface water (A1) and saturation (A3).					
Rationale for Delineation	Wetlands were distinguished from uplands based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.					
Rationale for Local Rating	Wetland 9 is rated Category III based on functions, due to moderate water quality (8), hydrologic (8) and low habitat (3) functions. Wetland 9 scored 19 points using the Ecology Western Washington Wetland Rating System (2014 Update).					
	Wetland Functions Summary					
Water Quality	1 Uh% of the wetland. There's a moderate opportunity to perform the function because more than					
Hydrologic	The wetland has moderate potential to reduce flooding and erosion because it has an unconstricted, or slightly constricted, surface outlet that is permanently flowing, ponding depths 0.5 to 2 feet from surface or bottom of outlet, and a contributing basin between 10 and 100 times larger. More than 10% of the area within 150 feet generates excess runoff, and greater than 25% of the contributing basin is characterized by high intensity land use, which contributes to a high landscape potential. Grays Harbor frequently experiences flooding immediately down-gradient of the wetland; therefore, the hydrologic function provided by the wetland is high value to society.					
Habitat	The wetland has one vegetative structure, two hydroperiods, moderate plant diversity, no interspersion, and one special habitat feature, which contributes to a low habitat potential. It is located within a landscape that has a low potential to support the habitat functions due to a lack of connectivity to undisturbed habitat, and a high proportion of high intensity land use within a one-kilometer radius The wetland has a low performance value as it does not meet any criteria of value to society.					

3.2 Streams and other waters

The study area is located in the Lower Chehalis watershed (WRIA 22), Hydrologic Unit Code 17100105. One stream and four ditches were identified within the study area. A summary of the water type and buffer widths based on Aberdeen Municipal Code is provided in Table and detailed descriptions are provided below. Figure 1 shows the locations and geographic extents of the stream and ditches within the study area, and photos are provided in Appendix D.

Table 6. Summary of Streams in the Study Area

Waterbody	Jurisdiction	Tributary to	Water Type	Buffer Width (feet)	Average Channel Width in Study Area (feet)	Approximate Length in Study Area (feet)
Fry Creek	Hoquiam	Grays Harbor	Sª	150 ^b	52	100
East Terminal Way Ditch	Aberdeen	Grays Harbor	Sc	150 ^d	15	300
Ditch 1	Hoquiam	Unnamed ditch/Grays Harbor	N/A	N/A	4	640
Ditch 2	Aberdeen	Wetland 2	N/A	N/A	1.5	400
Ditch 3	Aberdeen	Wetland 1	N/A	N/A	3	700

^a HMC 11.06 Definitions.

3.2.1 Fry Creek

Fry Creek is a tributary to Grays Harbor and flows roughly north to south through the west end of the city of Aberdeen and enters the harbor just east of the Hoquiam River (Figure 2). Fry Creek originates in the forested hills north of the city; it flows through a narrow and heavily developed riparian corridor and passes through a series of culverts under city streets and railroad tracks. This part of the stream has been heavily altered and channelized due to surrounding industrial development, and hydrologic and habitat functionality has been heavily affected. The reach of Fry Creek within the study area is considered a shoreline of the state (Type S).

The study area reach of Fry Creek is tidally influenced and has been channelized and confined by riprap banks (Appendix D, Photo 18). The channel is low-gradient and uniform and the banks are topped with grasses and shrubs, and a functional riparian corridor is lacking (Appendix D, Photo 19).

The landward limit of salt-tolerant vegetation, namely the presence of seaside plantain, located along small benches on both banks was used in delineating the HTL in the study area.

^b Source: HMC Table 11.05.330-1: Shoreline Buffers, for industrial and port development, non-water-oriented structures and uses

^c AMC 14.100.500(B)(6).

^d Source: AMC.50.430.05 Table 4-1, for industrial and port development, non-water-oriented structures and uses

Online databases from WDFW Priority Habitat and Species data and SalmonScape (WDFW 2022a, 2022b), as well as SWIFD (WDFW 2018), indicate the presence of Coho Salmon (Oncorhynchus kisutch) and resident Cutthroat Trout (O. clarki) in Fry Creek. No fish were observed in the creek during the June 23, 2022, field visit. The portion of Fry Creek within the study area has a direct surface connection to Grays Harbor and could therefore potentially be used by Chinook Salmon (Oncorhynchus tshawytscha), Coho Salmon, Chum Salmon (Oncorhynchus keta), and steelhead trout (Oncorhynchus mykiss). Use of the channel by these species would be limited to juveniles moving up from Grays Harbor to use it for off-channel rearing.

Fry Creek - INFORMATION SUMMARY				
		Stream Name	Fry Creek	
		Long./Lat. ID Number	0188	
		WRIA Name/Stream #	WRIA 22 Lower Chehalis Watershed / Stream # 0188	
		Local Jurisdiction	City of Hoquiam	
		DNR Water Type	F	
			S	
			150 feet	
基件外	力學行為	Documented Fish Use ^b	Coho salmon and resident cutthroat trout	
Connectivity	Fry Creek flows north to south through a series of culverts under city streets and railroad tracks and under Port Industrial Way, and then flows into Grays Harbor. Tidal flap gates on the outlets of the culverts under Port Industrial Way restrict fish access between the downstream reach that flows into Grays Harbor and the project reach upstream of the pump station.			
Fish Habitat	Documented use by Coho Salmon and resident Cutthroat Trout in the project reach. The substrate is dominated by silt and clay, and the reach is a uniform straight channel that is deeply incised into the banks. Habitat is not suitable for spawning salmonids and has limited function for rearing.			
Riparian/Buffer Condition	The riparian corridor is narrow and constrained by surrounding development.			

a Source: HMC Table 11.05.330-1: Shoreline Buffers, for industrial and port development, non-water-oriented structures and uses

3.2.2 East Terminal Way Ditch (Wetland 1)

East Terminal Way Ditch is a tidal channel that flows south to Grays Harbor, and includes Wetland 1 (Figures 2 and 3A). This channel in the study area is confined in a steep banked roadside ditch and is approximately 5-6 feet wide in most places. The channel alignment in the study area is straight and provides little to no habitat complexity. The ditch flows through three existing railroad culverts that are undersized and prevent good tidal exchange. The reach upstream of the railroad has very little flow, a thick layer of silty substrate, and is partially choked with wetland vegetation.

^b Documented fish species known to occur in the stream from available data sources (WDFW 2018; WDFW 2022a, 2022b).

Riparian habitat along East Terminal Way Ditch is poor to non-existent and provides little function. Very little shading provided by the few small alder trees on the left bank, and the right bank is open roadside grass. The low flow and lack of shading provides poor salmonid habitat due to probable high-water temperatures and low oxygen levels despite the downstream connection to Grays Harbor. Algae was present in the ponded water both upstream and downstream of the railroad crossing.

This ditch has a direct surface connection to Grays Harbor and could therefore potentially be used by Chinook Salmon, Coho Salmon, Chum Salmon, and steelhead trout. Use of the channel by these species would be limited to juveniles moving up from Grays Harbor to use it for off-channel rearing. However, under existing conditions, the reach upstream and immediately downstream of the railroad culvert crossings in the study area does not provide suitable tide channel habitat for use by salmonid species. Downstream of the railroad culverts the channel continues southward in a channelized ditch and passes through two more downstream culvert crossings. These culverts allow more tidal exchange and habitat downstream of the study area becomes more functional for salmonids near the confluence with Grays Harbor.

East Terminal Way Ditch (Wetland 1) - INFORMATION SUMMARY					
		Stream Name	East Terminal Way Ditch		
	Long./Lat. ID Number	N/A			
	WRIA Name/Stream #	WRIA 22 Lower Chehalis Watershed / N/A			
		Local Jurisdiction	City of Aberdeen		
	经验证证据	DNR Water Type	Not Mapped		
	Section 1	Local Stream Rating	S		
		Buffer Width ^a	150 feet		
		Documented Fish Use ^b	Not mapped – direct surface connection to Grays Harbor		
Connectivity	East Terminal Way Ditch is a tidal channel that incorporates Wetland 1. The ditch flows south, crossing through the study area in a pair of railroad culverts. The ditch drains uplands and wetlands, and connects directly to Grays Harbor.				
Fish Habitat	This wetland channel ditch has a direct surface connection to Grays Harbor and could therefore potentially be used by Chinook Salmon, Coho Salmon, Chum Salmon, and steelhead trout. Use of the channel by these species would be limited to juveniles moving up from Grays Harbor to use it for off-channel rearing. However, under existing conditions, the reach upstream and immediately downstream of the RR railroad culvert crossings in the study area does not provide suitable tide channel habitat for use by salmonid species.				
Riparian/Buffer Condition	The riparian corridor is narrow and constrained by surrounding development.				

^a Source: AMC.50.430.05 Table 4-1, for industrial and port development, non-water-oriented structures and uses

^b Documented fish species known to occur in the stream from available data sources (WDFW 2018; WDFW 2022a, 2022b).

3.2.3 Ditches

Ditch 1 is a short drainage ditch that does not flow into any wetlands (Figure 3A). The ditch is mostly unvegetated with no soil development and is excavated from uplands.

Ditch 2 is a short drainage ditch that coveys flow from the culvert and railroad berms into Wetland 2 from the east. The ditch has no vegetation, no soil development, but does show signs of ponding and water flow. Ditch 2 has no fish habitat or surface water connection to streams or areas of fish use.

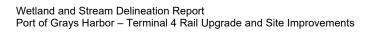
Ditch 3 is a short drainage ditch that coveys flow from the adjacent railroad and Port of Grays Harbor fill pad into Wetland 2 from the west and into Wetland 1 from the east. The ditch has no vegetation or soil development. There is ponding water and has a substrate consisting of gravel and cobble. Ditch 3 is in close proximity to wetland 1 but has no fish habitat or surface water connection due to a 5-foot drop up the bank from the wetland tidal channel.

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Appendix A. Wetland Delineation Methodology



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Wetland Delineation Methodology

Wetlands are defined as areas saturated or inundated by surface or groundwater at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. The methods used to delineate the on-site wetlands conform to methods described in the Corps of Engineers Wetland Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (USACE 2010). All delineated wetlands were instrument-surveyed and mapped on project base maps.

To be considered a wetland, an area must have hydrophytic vegetation, hydric soils, and wetland hydrology. HDR staff collected data on these parameters in areas representative of typical site conditions. Staff collected additional data in associated uplands, as needed, to confirm wetland boundaries. Wetland boundaries and wetland data plot locations in the study area were marked with sequentially numbered flagging.

Vegetation

The dominant plants and their wetland indicator status were evaluated to determine if the vegetation was hydrophytic. To determine which plants were dominant at a sample plot, biologists applied the 50/20 rule per U.S. Army Corps of Engineers (USACE) recommendations. Under this guidance, absolute cover estimates were made for each species found rooted within the sample plot, for each vegetative strata found in the habitat (tree, sapling/shrub, herb, and woody vine). The species that had the most cover was included, along with the next species until the absolute cover of these totaled more than 50 percent of the total absolute cover. Any other species that represented at least 20 percent of the total absolute cover was also included as a dominant species for that vegetative stratum.

Sample plots varied in size depending on site topography and habitat complexity. The objective of establishing a plot was to depict particular plant associations that reflect specific water regimes or other ecological factors. Therefore, on steep-sided riparian areas, a plot may consist of a narrow strip along the water's edge, or within a broader area, a plot may be a 30-foot-diameter circular area.

Hydrophytic vegetation is defined as vegetation adapted to wetland conditions. To meet the hydrophytic vegetation criterion, more than 50 percent of the dominant plants in each stratum must be Facultative, Facultative Wetland, or Obligate, based on the wetland indicator category assigned to each plant species on the National Wetland Plant List developed by USACE (2018). Table A-1 lists the definitions of the indicator categories. If the plant community failed to meet the above hydrophytic vegetation criterion, but indicators of hydric soil and wetland hydrology were both present, additional indicators of hydrophytic vegetation were assessed per USACE recommendations (USACE 2010).

Table A-1. Definitions of Wetland Plant Indicator Categories used to Determine the Presence of Hydrophytic Vegetation

Wetland Indicator Category	Symbol	Definition
Obligate Wetland Plants	OBL	Almost always occur in wetlands.
Facultative Wetland Plants	FACW	Usually occur in wetlands, but may occur in non-wetlands.
Facultative Plants	FAC	Occur in wetlands and non-wetlands.
Facultative Upland Plants	FACU	Usually occur in non-wetlands, but may occur in wetlands.
Upland Plants	UPL	Almost never occur in wetlands.

Source: Lichvar et al. (2012).

HDR biologists identified plants to species in the field and estimated percent cover of dominant plants. Scientific and common plant names follow currently accepted nomenclature and are consistent with *Flora of the Pacific Northwest* (Hitchcock and Cronquist 1973) and the PLANTS Database (NRCS 2022a). During the field investigation, staff observed and recorded the dominant plant species on data sheets for each data plot.

Soils

Generally, an area must contain hydric soils to be a wetland. Hydric soil forms when soils are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (12 inches). Biological activities in saturated soil result in reduced oxygen concentrations, and organisms turn to anaerobic processes for metabolism. Over time, anaerobic biological processes result in certain soil color patterns, which are used as indicators of hydric soil. Typically, low-chroma colors are formed in the soil matrix, and bright-colored redoximorphic features form within the matrix. Other important hydric soil indicators include organic matter accumulations in the surface horizon, reduced sulfur odors, and organic matter staining in the subsurface (NRCS 2018).

HDR staff examined soils by excavating sample pits to a depth of 20 inches to observe soil profiles, colors, and textures. In some case, a shallower soil pit was adequate to document hydric soil indicators. Munsell color charts (Munsell Color 2009) were used to describe soil colors.

Hydrology

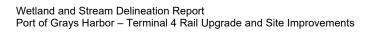
Project staff examined the area for evidence of wetland hydrology. Wetland hydrology criteria were considered satisfied if evidence indicated that the area was inundated or saturated to the surface for a consecutive number of days greater than or equal to 12.5 percent of the growing season. The growing season for the area was determined based on the period in which temperatures are above 28 degrees Fahrenheit in 5 out of 10 years using the long-term climatological data collected by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS 2022b). Using the NRCS WETS table for the nearest station (Hoquiam Bowerman Airport), the growing season was approximated to be typically between February 2 and December 21, or a total of 322 days.

Wetland hydrology indicators are divided into two categories: primary and secondary (USACE 2010). Primary indicators of hydrology include surface inundation, high water table, and saturated soils. The presence of one primary indicator is sufficient to conclude that wetland hydrology is present. In the absence of a primary indicator, observation of two or more secondary indicators is required to conclude that wetland hydrology is present. Secondary indicators of hydrology include dry-season water table, shallow aquitard, and FAC-neutral test (USACE 2010).

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Appendix B. Wetland Delineation Data Forms

Wetland and Stream Delineation Report Port of Grays Harbor – Terminal 4 Rail Upgrade and Site Improvements

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Project/Site: Port of Grays harbor Terminal 4	Expansion	City/County:	Aberdeen Gravs H	arbor Sampling Da	ate: 6/23/2022		
Applicant/Owner: The Port of Grays Harbor	<u> </u>		State: WA	Sampling	SP 1-1		
Investigators: DANIELSKI , DARTIGUENAVE				Range: T17N R9W S			
Landform (hillslope, terrace, etc.): Floodplain						pe(%): 0	
	an Lot: 46.066	_	f (concave, convex, -123.836388	Datum:	WGS84	De(70). U	
Subregion (LRR): A – Northwest Forest, Fora Soil Map Unit Name: Udorthents	ge, Lat. 40.900	- Long.		Batum. cation: PEM1			
Are climatic / hydrologic conditions on the site typi	and for this time of	year? Yes	X No	(If No, explain in Ro	omarka)		
		· -		- ` ' '	,	V N	
Are Vegetation: Soil or Hydrology	significantly d		Are "Normal Circun		Yes	X N	·
Are Vegetation: Soil or Hydrology	naturally prob			any answers in Rem			
SUMMARY OF FINDINGS - Attach a s Hydrophytic Vegetation Present? Yes		ing sampling p	Doint locations	, transects, imp	Ortant leatt	ires, etc.	
<u> </u>		la tha G	Sampled Area				
<u> </u>			a Wetland?	Vac	V	No	
Wetland Hydrology Present? Yes	X No	within	a wetiand?	Yes		No	
Remarks:							
Sample plot below HTL. Sample plot meets 3 of 3	wetland criteria ar	nd is within a wetlar	nd.				
VEGETATION – Use scientific names				1			
	Absolute	Dominant	Indicator	Dominance Test			
<u>Tree Statum</u> (Plot size: 5m)	% Cover	Species?	Status	Number of Domina			
1	0			That Are OBL, FAC	CW, or FAC:	3	_ (A)
2				Total Number of Do			
3.				Species Across All		3	_ ^(B)
4.				Percent of Domina	•		
	0	= Total Cover		That Are OBL, FAC	CW, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)				Prevalence Index	worksheet:		
1.	0			Total % Cover of:	<u>Mul</u> t	tiply by:	
2	<u> </u>			OBL species	20 x1=	20	
3.	<u> </u>			FACW species	10 x2=	20	
4.				FAC species	70 x3=	210	_
5.				FACU species	x4=	0	_
	0	= Total Cover		UPL species	x5=	0	_
Herb Stratum (Plot size: 15x5)				Column Totals:	100 (A)	250	_ (B)
Symphiotrychum spp	50	Yes	FAC				
2. Rumex crispus	20	Yes	FAC	Prevalence Ind	ex = B/A =	2.5	0
Carex lyngbyei	20	Yes	OBL	Hydrophytic Vege	tation Indicate	ors:	
Deschampsia caespitosa	10	No	FACW	1 - Rapid Te	st for Hydrophy	tic Vegetation	on
5.				X 2 - Dominan	ce Test is >50%	6	
6.					ce Index is ≤3.0		
7				4 - Morpholo	gical Adaptatio	ns¹ (Provide)
8.				data in F	Remarks or on a	a separate s	sheet)
9.				5 - Wetland I	Non-Vascular F	'lants ¹	
10				Problematic	Hydrophytic Ve	egetation¹ (E	xplain)
11				¹ Indicators of hydric	c soil and wetla	ınd hydrolog	ly
	100	= Total Cover		must be present, u	nless disturbed	or problema	atic.
Woody Vine Stratum (Plot size: 3m)							
1	0			Hydrophytic			
2.	<u> </u>			Vegetation	Yes X	No	_
	0	= Total Cover		Present?			
% Bare Ground in Herb Stratum 0							
Remarks:				•			
Sample plot meets dominance test and prevalence	e index for hydropl	hytic vegetation.					
·		-					

Depth	Matrix		Redo	ox Feature	3			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-5	7.5YR 3/2	55	5YR 4/6	20			Silt Loam	
	10YR 3/1	25						
5-7	10 yr 5/3	10					Silt Loam	
	10YR 4/1	15						
	7.5 yr 3/3	70	7.5 YR 5/8	5				
7-16	2.5 y 4/1	100	-				Silt Loam	
	-							
ype: C= C	oncentration, D= Dep	etion, RM=Re	duced Matrix, CS=Cover	ed or Coat	ted Sand G	rains.	²Locatio	n: PL=Pore Lining, M=Matrix.
dric Soil Ir	ndicators: (Applica	ole to all LRR	s, unless otherwise not	ed.)			Indicators for Proble	matic Hydric Soils³:
Histos	sol (A1)		Sandy Redox (S5	5)			2 cm Muck (A1	0)
Histic	Epipedon (A2)		Stripped Matrix (S	66)			Red Parent Ma	terial (TF2)
Black	Histic (A3)		Loamy Mucky Mir	neral (F1)	(except ML	RLA 1)	Very Shallow D	Park Surface (TF12)
Hydro	gen Sulfide (A4)		Loamy Gleyed Ma	atrix (F2)			X Other (Explain	in Remarks)
Deplet	ted Below Dark Surfa	ce (A11)	Depleted Matrix (F3)				
	Dark Surface (A12)		X Redox Dark Surfa				³ Indicators of hydrop	•
	Mucky Mineral (S1)		Depleted Dark Su)		wetland hydrology	
Sandy	Sandy Gleyed Matrix (S4)		Redox Depressio	ns (F8)			unless disturbed o	r problematic.
Restrictive	Layer (if present):							
Type:			_					
emarks: oils under ad d TF2 - red	parent material	Turned redde	r throughout soil profile u	ipon expos	sure to air.	Sample p	Hydric Soil Present	
emarks: bils under ac d TF2 - red YDROLO Wetland Hy	quic moisture regime. I parent material OGY ydrology Indicators:			ipon expos	sure to air.	Sample p	olot meets hydric soil in	dicator F6 - redox dark surface
emarks: ills under ac d TF2 - red YDROLO Wetland Hy Primary Ind	quic moisture regime. I parent material OGY ydrology Indicators: licators (minimum of o		heck all that apply)			Sample p	olot meets hydric soil in	dicator F6 - redox dark surface
emarks: ils under ac d TF2 - red YDROLO Wetland Hy Primary Ind Surface	quic moisture regime. I parent material OGY ydrology Indicators: licators (minimum of one Water (A1)		heck all that apply) Water-Stained Le	aves (B9)		Sample p	Secondary Indicator Water Stained	s (2 or more required) Leaves (B9) (MRLA 1, 2,
emarks: ils under ac d TF2 - red YDROLO Wetland Hy Primary Ind Surfac High V	quic moisture regime. I parent material OGY ydrology Indicators: licators (minimum of other Water (A1) Vater Tables (A2)		heck all that apply) Water-Stained Le	aves (B9)		Sample p	Secondary Indicator Water Stained 4A, and 4B)	s (2 or more required) Leaves (B9) (MRLA 1, 2,
marks: ils under ac d TF2 - red /DROLO /Vetland Hy Primary Ind Surfac High V X Satura	quic moisture regime. I parent material OGY ydrology Indicators: licators (minimum of othe Water (A1) Nater Tables (A2) ation (A3)		heck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	eaves (B9)	(except	Sample p	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte	s (2 or more required) Leaves (B9) (MRLA 1, 2,
yDROLO Wetland Hy Primary Ind Surfac High V X Satura Water	quic moisture regime. I parent material OGY ydrology Indicators: licators (minimum of oce Water (A1) Nater Tables (A2) ation (A3) Marks (B1)		heck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra	eaves (B9) ., and 4B) ates (B13)	(except	Sample p	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained	s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2)
marks: ils under ac d TF2 - red YDROLO Yetland Hy Primary Ind Surfac High V X Satura Water X Sedim	quic moisture regime. I parent material OGY ydrology Indicators: licators (minimum of other Water (A1) Vater Tables (A2) ation (A3) Marks (B1) hent Deposits (B2)		heck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide	eaves (B9) , and 4B) ates (B13) Odor (C1)	(except		Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained	s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9)
yDROLO Wetland Hy Primary Ind Surface High V X Satura Water X Sedim Drift D	quic moisture regime. I parent material OGY ydrology Indicators: licators (minimum of oce Water (A1) Nater Tables (A2) ation (A3) Marks (B1)		heck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra	eaves (B9) and 4B) ates (B13) Odor (C1) heres alor	(except) ng Living R		Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained	s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2)
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YDROLO Wetland Hy Primary Ind Surfac High V X Satura Water X Sedim Drift D Algal M	quic moisture regime. I parent material OGY ydrology Indicators: licators (minimum of oce Water (A1) Nater Tables (A2) ation (A3) Marks (B1) hent Deposits (B2) Deposits (B3) Mat or Crust (B4)		heck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	aves (B9) ates (B13) Odor (C1) heres alor uced Iron ((except) ng Living R (C4) Illed Soils (6	oots (C3)	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Water Stained Saturation Visil Geomorphic Potential Shallow Aquita FAC-Neutral To	s (2 or more required) Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) rd (D3)
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Photo Name: Photo_220623144233





Project/Site: Port of Grays harbor Terminal 4 E	xpansion	City/County:	Aberdeen, Grays H	arbor Sampling Da	te: 6/23/2022		
Applicant/Owner: The Port of Grays Harbor	·	_	State: WA	Sampling Poi	nt: SP 1-2		
Investigators: DANIELSKI, DARTIGUENAVE			Section, Township, F	Range: T17N R9W S			
Landform (hillslope, terrace, etc.): Hillslope			f (concave, convex,			e(%): 7	
Subregion (LRR): A – Northwest Forest, Forag	e, Lat: 46.9666	_	-123.836365	· -	WGS84		
Soil Map Unit Name: Udorthents			NWI Classific				
Are climatic / hydrologic conditions on the site typic	al for this time of v	rear? Yes	X No	(If No, explain in Re	marks)		
Are Vegetation: Soil or Hydrology	significantly di		Are "Normal Circum	- ` '	•	X No	0
Are Vegetation: Soil or Hydrology	naturally probl			any answers in Rema			
SUMMARY OF FINDINGS - Attach a sit						res, etc.	
Hydrophytic Vegetation Present? Yes	(No						
Hydric Soil Present? Yes	No X	Is the	Sampled Area				
Wetland Hydrology Present? Yes	No X	within	a Wetland?	Yes		No X	
Remarks:							
Paired upland plot for wetland 1. Sample plot meets		iteria and is not lo	ocated within a wetla	and.			
VEGETATION – Use scientific names of				Is			
Tara Otatura (Plataina Ess)	Absolute	Dominant	Indicator	Dominance Test V			
<u>Tree Statum</u> (Plot size: 5m)	% Cover	Species?	Status	Number of Dominar	·		(4)
1.	0			That Are OBL, FAC		2	_ (A)
2.				Total Number of Do		0	(D)
3.	-			Species Across All		2	_ ^(B)
4	0	Total Cover		Percent of Dominar		100	(A /D)
Sapling/Shrub Stratum (Plot size: 3m)		= Total Cover		That Are OBL, FAC		100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m) 1.	0			Total % Cover of:		iply by:	
2.				OBL species	5 x1=	іріу by. 5	
3.				FACW species	54 x2=	108	_
4.				FAC species	$\frac{34}{25}$ x3=	75	-
5.				FACU species	5 x4=	20	-
	0	= Total Cover		UPL species	x5=	0	-
Herb Stratum (Plot size: 3x 15)				Column Totals:	89 (A)	208	— (B)
Hordeum brachyantherum	50	Yes	FACW	-	(,,,		_ (_)
2. Holcus lanatus	20	Yes	FAC	Prevalence Inde	ex = B/A =	2.34	4
Symphiotrychum spp	5	No	FAC	Hydrophytic Veget			
Plantago lanceolata	5	No	FACU	1	st for Hydrophyt		on
5. Potentilla anserina	5	No	OBL	X 2 - Dominano		•	
6. Deschampsia caespitosa	2	No	FACW	X 3 - Prevalence	e Index is ≤3.0°	1	
7.				4 - Morpholog	gical Adaptatior	ns¹ (Provide	
8.				data in R	emarks or on a	separate sl	heet)
9.				5 - Wetland N	lon-Vascular P	lants1	
10.				Problematic I	Hydrophytic Ve	getation¹ (E:	xplain)
11.				¹Indicators of hydric	soil and wetlar	nd hydrolog	у
	89	= Total Cover		must be present, ur	less disturbed	or problema	atic.
Woody Vine Stratum (Plot size: 3m)							
1.	0			Hydrophytic			
2.				Vegetation	Yes X	No	
	0	= Total Cover		Present?			_
% Bare Ground in Herb Stratum 11							
Remarks:				1			
Bare ground is quarry spall. Sample plot meets don	ninance test, and	orevalence index	for hydrophytic vege	etation.			

Depth	Matrix	(Red	dox Feature	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remar	ks	
0-4	10yr 3/2	100					Silt Loam			
4-11	10yr 4/3	100					Silty Clay Loam			
11-16	10YR 4/4	100					Silty Clay Loam			
							·			
							·			
				- ——						
		<u> </u>					. 			
Type: C= C	oncentration D= Der	letion RM-Rec	duced Matrix, CS=Cove	red or Coa	ted Sand G		·	n: PL=Pore Lining	M-Matri	iy
			s, unless otherwise no				Indicators for Problem			
-	sol (A1)		Sandy Redox (S	-			2 cm Muck (A1	-		
	Epipedon (A2)		Stripped Matrix				Red Parent Ma	•		
	Histic (A3)		Loamy Mucky M		(except ML	.RLA 1)		ark Surface (TF12)	
	ogen Sulfide (A4)		Loamy Gleyed N		` '	,	Other (Explain		,	
	eted Below Dark Surfa	ace (A11)	Depleted Matrix	, ,				,		
Thick	Dark Surface (A12)		Redox Dark Sur	face (F6)			3Indicators of hydrop	hytic vegetation ar	nd	
Sandy	y Mucky Mineral (S1)		Depleted Dark S	Surface (F7)		wetland hydrology	must be present,		
Sandy	y Gleyed Matrix (S4)		Redox Depressi	ons (F8)			unless disturbed or	problematic.		
Restrictive	E Layer (if present):									
Type:										
Depth	(inches):		_				Hydric Soil Present	? Yes	No	Х
HYDROLO	OGY									
Wetland H	ydrology Indicators		book all that apply)				Socondary Indicators	c /2 or more requir	od)	
Primary Inc	ydrology Indicators dicators (minimum of			eaves (R9)	(excent		Secondary Indicators Water Stained	· · ·		
Wetland H Primary Inc	ydrology Indicators dicators (minimum of ce Water (A1)		Water-Stained L		-		Water Stained	s (2 or more require Leaves (B9) (MRL		
Wetland H Primary Inc Surface High	ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2)		Water-Stained L		-		Water Stained I	Leaves (B9) (MRL		
Wetland H Primary Inc Surface High V Satura	ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3)		Water-Stained L MRLA 1, 2, 4 Salt Crust (B11)	A, and 4B)			Water Stained 4A, and 4B) Drainage Patte	rns (B10)		
Wetland H Primary Inc Surface High V Satura Water	ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1)		Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb	A, and 4B) rates (B13))		Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa	crus (B10) (MRL) ter Table (C2)	A 1, 2,	
Wetland H Primary Inc Surface High V Satura Water Sedim	ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2)		Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid	A, and 4B) rates (B13) e Odor (C1)))	oots (C3	Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa	rns (B10) ater Table (C2) ale on Aeriel Image	A 1, 2,	
Wetland H Primary Inc Surfac High V Satura Water Sedin Drift E	ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3)		Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos	A, and 4B) rates (B13) e Odor (C1) pheres alo)) ng Living R	oots (C3)	Water Stained I 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visik Geomorphic Po	caves (B9) (MRL) cns (B10) ater Table (C2) ale on Aeriel Image sition (D2)	A 1, 2,	
Wetland H Primary Inc Surfar High V Satura Water Sedim Drift D Algal	ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2)		Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid	A, and 4B) rates (B13) e Odor (C1) pheres alo)) ng Living R (C4)	` '	Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visik Geomorphic Po	caves (B9) (MRL. cns (B10) tter Table (C2) tele on Aeriel Image sition (D2) d (D3)	A 1, 2,	
Wetland H Primary Inc Surface High V Satura Water Sedin Drift D Algal	ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4)		Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec	A, and 4B) rates (B13) e Odor (C1) pheres alo duced Iron luction in T)) ng Living R (C4) illed Soils (C6)	Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquital FAC-Neutral Te	caves (B9) (MRL. cns (B10) tter Table (C2) tele on Aeriel Image sition (D2) d (D3)	A 1, 2, ery (C9)	
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Wetland H Primary Inc Surface High V Satura Water Sedim Drift D Algal Iron D Surface Inund Spars Field Obse Surface Wa Water Tabl Saturation (includes ca	ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aerie sley Vegetated Conca ervations: ater Present? Yes Present? Yes apillary fringe)	el Imagery (B ave Surface (B8)	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Rec Stunted or Stres Other (Explain ir	A, and 4B) rates (B13) e Odor (C1 pheres alo duced Iron luction in T sed Plants in Remarks)) ng Living R (C4) illed Soils (I (D1) (LRR	C6) A) Wetlan	Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquital FAC-Neutral Te Raised Ant Mod Frost-Heave Ho	caves (B9) (MRL) case (B10) case (B10) case (B10) case (D2) case (D3) case (D5) case (D6) (LRR A) case (D7)	A 1, 2, ery (C9)	x
Wetland H Primary Inc Surface High V Satura Water Sedim Drift D Algal Iron D Surface Inund Spars Field Obse Surface Wa Water Tabl Saturation (includes ca	ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aerie sley Vegetated Conca ervations: ater Present? Yes Present? Yes apillary fringe)	el Imagery (B ave Surface (B8)	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Rec Stunted or Stres Other (Explain ir) X Depth (inches): X Depth (inches):	A, and 4B) rates (B13) e Odor (C1 pheres alo duced Iron luction in T sed Plants in Remarks)) ng Living R (C4) illed Soils (I (D1) (LRR	C6) A) Wetlan	Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquital FAC-Neutral Te Raised Ant Mod Frost-Heave Ho	caves (B9) (MRL) case (B10) case (B10) case (B10) case (D2) case (D3) case (D5) case (D6) (LRR A) case (D7)	A 1, 2, ery (C9)	<u> </u>
Wetland H Primary Inc Surface High V Satura Water Sedim Drift D Algal Iron D Surface Inund Spars Field Obse Surface Water Tabl Saturation (includes co	ydrology Indicators dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aerie sley Vegetated Conca ervations: ater Present? Yes Present? Yes apillary fringe)	el Imagery (B ave Surface (B8)	Water-Stained L MRLA 1, 2, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Rec Stunted or Stres Other (Explain ir) X Depth (inches): X Depth (inches):	A, and 4B) rates (B13) e Odor (C1 pheres alo duced Iron luction in T sed Plants in Remarks)) ng Living R (C4) illed Soils (I (D1) (LRR	C6) A) Wetlan	Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquital FAC-Neutral Te Raised Ant Mod Frost-Heave Ho	caves (B9) (MRL) case (B10) case (B10) case (B10) case (D2) case (D3) case (D5) case (D6) (LRR A) case (D7)	A 1, 2, ery (C9)	x
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Photo Name: Photo_220623161252









Project/Site: Port of Grays harbor Terminal 4 I	Expansion	City/County:	Grays Harbor	Sampling Date: 8/19/2022	
Applicant/Owner: The Port of Grays Harbor		_	State: WA	Sampling Point: SP 1-3	
Investigators: STORY, DARTIGUENAVE			Section, Township,	Range: T17N R9W S8	
Landform (hillslope, terrace, etc.): Floodplain			ef (concave, convex,		
Subregion (LRR): A - Northwestern Forest,	Lat: 46.9659	_	-123.836533	Datum: WGS84	
Soil Map Unit Name: Udorthents			NWI Classific	cation:	
Are climatic / hydrologic conditions on the site typic	cal for this time of v	rear? Yes	X No	(If No, explain in Remarks)	
Are Vegetation: Soil or Hydrology	significantly dis		Are "Normal Circun)
Are Vegetation: Soil or Hydrology	naturally probl	ematic?		any answers in Remarks.)	
SUMMARY OF FINDINGS - Attach a si					
Hydrophytic Vegetation Present? Yes	X No				
Hydric Soil Present? Yes	X No	Is the	Sampled Area		
Wetland Hydrology Present? Yes	X No	withir	n a Wetland?	Yes <u>X</u> No	
Remarks:		-1			
Sample plot on bench slightly above OHWM of tida wetland.	al channel. Surface	water present ir	n channel. Sample pl	ot meets 3 of 3 wetland criteria and is located wit	thin a
VEGETATION – Use scientific names					
	Absolute	Dominant	Indicator	Dominance Test Worksheet:	
<u>Tree Statum</u> (Plot size: 5m)	% Cover	Species?	Status	Number of Dominant Species	
1	0			That Are OBL, FACW, or FAC: 2	_ (A)
2.				Total Number of Dominant	
3.				Species Across All Strata: 2	– ^(B)
4				Percent of Dominant Species	
	0	= Total Cover		That Are OBL, FACW, or FAC: 100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)				Prevalence Index worksheet:	
1	0			Total % Cover of: Multiply by:	
2.				OBL species 30 x1= 30	_
3.				FACW species 70 x2= 140	_
4				FAC species x3= 0	_
5				FACU species x4= 0	-
Herb Stratum (Plot size: 1m)	0	= Total Cover		UPL species x5= 0	- (D)
	70	Yes	FACW	Column Totals:(A)170	– ^(B)
 Deschampsia caespitosa Carex lyngbyei 	70 30	Yes	- OBL	Prevalence Index = B/A = 1.70	١
2. Carex lyngbyei 3.		165	- — —	Hydrophytic Vegetation Indicators:	,
				X 1 - Rapid Test for Hydrophytic Vegetatio	n
4 5.				X 2 - Dominance Test is >50%	11
6.				X 3 - Prevalence Index is ≤3.0¹	
7.			- ———	4 - Morphological Adaptations¹ (Provide	
8.			- ———	data in Remarks or on a separate sh	neet)
9.				5 - Wetland Non-Vascular Plants ¹	1001)
10.				Problematic Hydrophytic Vegetation¹ (Ex	(nlain)
11.				¹Indicators of hydric soil and wetland hydrology	
	100	= Total Cover		must be present, unless disturbed or problema	
Woody Vine Stratum (Plot size: 3m)					
1.	0			Hydrophytic	
2.				Vegetation Yes X No	
	0	= Total Cover		Present?	-
% Bare Ground in Herb Stratum 0					
Remarks:				1	
Sample plot meets rapid test, dominance test, and	prevalence index t	for hydrophytic v	egetation.		

Depth	Matrix		Redo	ox Feature							
nches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Re	marks	
0-10	10YR 3/2	90	7.5YR 3/4	10	С	М	Silt Loam				
10-15	10YR 4/1	85	7.5YR 4/6	15	С	M	Sandy Loam	Gravelly	′		
15-17	10BG 3/1	100					Loamy Sand				
17-24	10B 2.5/1	100					Sandy Loam	Mucky			
			uced Matrix, CS=Cover		ted Sand G			cation: PL:			:Matrix
		le to all LRRs	, unless otherwise not	-			Indicators for Pro		Hydric S	oils*:	
	sol (A1)		Sandy Redox (S5				2 cm Muck		(TEO)		
	Epipedon (A2)		Stripped Matrix (S	,	(avaant MI	DI A 1)		t Material (. ,	-1 2)	
	Histic (A3) gen Sulfide (A4)		Loamy Mucky Min		(except ML	.KLA I)	Very Shall			-12)	
	ted Below Dark Surfac	ο (Δ11)	Loamy Gleyed Matrix (F2) X Depleted Matrix (F3) X Redox Dark Surface (F6)				Other (Exp	iaiii iii Keii	ilaiks)		
	Dark Surface (A12)	· (A 1)	 '	•			³ Indicators of hy	drophytics	/egetatio	and	
	/ Mucky Mineral (S1)		Depleted Dark Su)		wetland hydro		-		
	/ Gleyed Matrix (S4)		Redox Depressio	` '			unless disturb			,	
<u> </u>	Layer (if present):			- (/				F. 001			
Type:	Layer (ii present).										
. , , ,			•				Undria Cail Dra	sont?	Yes	X N	
Depth	(inches):						mvaric Soil Pre				NO.
marks: mple plot n		for A11 - depl	eted below dark surface	e, F3 - dep	leted matrix	x, and F6	Hydric Soil Pre		_		No _
marks: mple plot n	meets hydric indicators OGY ydrology Indicators:			e, F3 - dep	leted matrix	x, and F6	- redox dark surfa	ce.			<u> </u>
emarks: mple plot n YDROLC Wetland Hy Primary Ind	DGY ydrology Indicators:		neck all that apply)			x, and F6	- redox dark surfa	ce. eators (2 or		quired)	
YDROLO Wetland Hy Primary Ind	DGY ydrology Indicators: dicators (minimum of or ce Water (A1)		neck all that apply)Water-Stained Le	eaves (B9)		x, and F6	- redox dark surfa	ce. cators (2 on ned Leaves		quired)	
marks: mple plot n YDROLO Vetland Hy Primary Ind Surface High V	DGY ydrology Indicators: dicators (minimum of or ce Water (A1) Nater Tables (A2)		neck all that apply) Water-Stained Le	eaves (B9)		x, and F6	- redox dark surfa Secondary India Water Stai 4A, and	ce. cators (2 or ned Leaves	s (B9) (M	quired)	
marks: mple plot n YDROLC Vetland Hy Primary Ind Surfac High W	DGY ydrology Indicators: dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3)		neck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	eaves (B9)	(except	x, and F6	- redox dark surfa Secondary India Water Stai 4A, and Drainage F	cators (2 or ned Leaves 4B) Patterns (B	s (B9) (M 10)	quired)	
YDROLO Vetland Hy Primary Ind Surface High V X Satura Water	process of the second s		meck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebri	eaves (B9) a, and 4B) ates (B13)	(except	k, and F6	Secondary India Water Stai 4A, and Drainage F	ce. cators (2 or ned Leaves 4B) catterns (Bi n Water Ta	s (B9) (M 10) able (C2)	quired) RLA 1, :	2,
YDROLO Wetland Hy Primary Ind Surfac High V X Satura Water Sedim	process of the proces		water-Stained Le Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide	eaves (B9) a, and 4B) ates (B13) Odor (C1)	(except		Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation	ce. cators (2 or ned Leave: 4B) Patterns (Brant Talvisible on	s (B9) (M 10) able (C2) Aeriel Im	quired) RLA 1, :	2,
YDROLO Vetland Hy Primary Ind Surfac High V X Satura Water Sedim Drift D	preets hydric indicators OGY ydrology Indicators: dicators (minimum of or one Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3)		water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp	eaves (B9) a, and 4B) ates (B13) Odor (C1) oheres alor	(except) ng Living Ro		Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph	ce. cators (2 or ned Leaves 4B) catterns (Bi n Water Ta Visible on ic Position	s (B9) (M 10) able (C2) Aeriel Im (D2)	quired) RLA 1, :	2,
Marks: mple plot n YDROLO Vetland Hy Primary Ind Surfac High V X Satura Water Sedim Drift D Algal I	preets hydric indicators OGY ydrology Indicators: dicators (minimum of or		water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp	eaves (B9) ates (B13) Odor (C1) bheres alor	(except) ng Living Ro	oots (C3)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac	eators (2 or ned Leaves 4B) Patterns (Bin Water Ta Visible on ic Position quitard (D3)	s (B9) (M 10) able (C2) Aeriel Im (D2)	quired) RLA 1, :	2,
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YDROLO Vetland Hy Primary Ind Surfac High V X Satura Water Sedim Drift D Algal I Iron D Surfac	meets hydric indicators OGY ydrology Indicators: dicators (minimum of or	ne required; ch	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	eaves (B9) a, and 4B) ates (B13) Odor (C1) bheres alor uced Iron (uction in Tiled Plants	(except) ng Living Re(C4) Illed Soils (CD1) (LRR	oots (C3)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	ce. cators (2 or ned Leaves 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (l)	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRF	guired) RLA 1, :	2,
YDROLO Vetland Hy Primary Ind Surfac High V X Satura Water Sedim Drift D Algal I Iron D Surfac	meets hydric indicators OGY ydrology Indicators: dicators (minimum of or	ne required; ch	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) a, and 4B) ates (B13) Odor (C1) bheres alor uced Iron (uction in Tiled Plants	(except) ng Living Re(C4) Illed Soils (CD1) (LRR	oots (C3)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	ce. cators (2 or ned Leaves 4B) catterns (B' or Water Ta Visible on ic Position quitard (D3) al Test (D5)	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRF	guired) RLA 1, :	2,
YDROLO Vetland Hy Primary Ind Surface High V X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi	meets hydric indicators OGY ydrology Indicators: dicators (minimum of or	ne required; ch	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) a, and 4B) ates (B13) Odor (C1) bheres alor uced Iron (uction in Tiled Plants	(except) ng Living Re(C4) Illed Soils (CD1) (LRR	oots (C3)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	ce. cators (2 or ned Leaves 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (l)	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRF	guired) RLA 1, :	2,
YDROLO Wetland Hy Primary Ind Surfac High W X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Spars	process hydric indicators OGY ydrology Indicators: dicators (minimum of or	ne required; ch Imagery (B e Surface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) a, and 4B) ates (B13) Odor (C1) bheres alor uced Iron (uction in Tiled Plants	(except) ng Living Re(C4) Illed Soils (CD1) (LRR	oots (C3)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	ce. cators (2 or ned Leaves 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (l)	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRF	guired) RLA 1, :	2,
YDROLO Wetland Hy Primary Ind Surface High V X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi	process hydric indicators OGY ydrology Indicators: dicators (minimum of or	ne required; che la req	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) a, and 4B) ates (B13) Odor (C1) bheres alor uced Iron (uction in Tiled Plants	(except) ng Living Ro (C4) Illed Soils (C (D1) (LRR	oots (C3)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	ce. cators (2 or ned Leaves 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (l)	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRF	guired) RLA 1, :	2,
Marks: mple plot n YDROLO Vetland Hy Primary Ind Surface High V X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Water Table	meets hydric indicators OGY ydrology Indicators: dicators (minimum of or De Water (A1) Water Tables (A2) ation (A3) Marks (B1) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeriel Deposits (B5) Deterorate (B6) Det	Imagery (B e Surface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizospe Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) a, and 4B) ates (B13) Odor (C1) bheres alor uced Iron (uction in Tiled Plants	(except) ng Living Re(C4) Illed Soils (C(D1) (LRR)	oots (C3) C6) A)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An Frost-Head	eators (2 or ned Leaves 4B) Patterns (Bin Nater Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (I	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRF	quired) RLA 1, 3 agery (C	2,
YDROLO Wetland Hy Primary Ind Surface High V X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa Water Table Saturation I	meets hydric indicators OGY ydrology Indicators: dicators (minimum of or	Imagery (B e Surface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) a, and 4B) ates (B13) Odor (C1) bheres alor uced Iron (uction in Tiled Plants	(except) ng Living Ro (C4) Illed Soils (C (D1) (LRR	oots (C3) C6) A)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	eators (2 or ned Leaves 4B) Patterns (Bin Nater Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (I	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRF cks (D7)	quired) RLA 1, 3 agery (C	2 ,
YDROLO Wetland Hy Primary Ind Surface High W X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa Water Table Saturation I includes ca	meets hydric indicators OGY ydrology Indicators: dicators (minimum of or	Imagery (B e Surface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	eaves (B9) A, and 4B) ates (B13) Odor (C1) oheres alor cuced Iron (cuction in Tiled Plants Remarks)	(except) ng Living Re(C4) Illed Soils (C(D1) (LRR)	oots (C3) C6) A)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neuti Raised An Frost-Head	eators (2 or ned Leaves 4B) Patterns (Bin Nater Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (I	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRF cks (D7)	quired) RLA 1, 3 agery (C	2 ,
YDROLO Wetland Hy Primary Ind Surface High W X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa Water Table Saturation I includes ca	meets hydric indicators OGY ydrology Indicators: dicators (minimum of or	Imagery (B e Surface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizospe Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) A, and 4B) ates (B13) Odor (C1) oheres alor cuced Iron (cuction in Tiled Plants Remarks)	(except) ng Living Re(C4) Illed Soils (C(D1) (LRR)	oots (C3) C6) A)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neuti Raised An Frost-Head	eators (2 or ned Leaves 4B) Patterns (Bin Nater Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (I	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRF cks (D7)	quired) RLA 1, 3 agery (C	2 ,
YDROLO Wetland Hy Primary Ind Surface High W X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa Water Table Saturation I includes ca	meets hydric indicators OGY ydrology Indicators: dicators (minimum of or	Imagery (B e Surface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	eaves (B9) A, and 4B) ates (B13) Odor (C1) oheres alor cuced Iron (cuction in Tiled Plants Remarks)	(except) ng Living Re(C4) Illed Soils (C(D1) (LRR)	oots (C3) C6) A)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neuti Raised An Frost-Head	eators (2 or ned Leaves 4B) Patterns (Bin Nater Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (I	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRF cks (D7)	quired) RLA 1, 3 agery (C	2 ,
YDROLO Wetland Hy Primary Ind Surface High W X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa Water Table Saturation I includes ca	meets hydric indicators OGY ydrology Indicators: dicators (minimum of or	Imagery (B e Surface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebre Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	eaves (B9) A, and 4B) ates (B13) Odor (C1) oheres alor cuced Iron (cuction in Tiled Plants Remarks)	(except) ng Living Re(C4) Illed Soils (C(D1) (LRR)	oots (C3) C6) A)	Secondary India Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neuti Raised An Frost-Head	eators (2 or ned Leaves 4B) Patterns (Bin Nater Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (I	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRF cks (D7)	quired) RLA 1, 3 agery (C	2 ,



Photo Name: Photo_220819112455



Photo Name: Photo_220819113622



Project/Site: Port of Grays harbor Terminal 4	Expansion	City/County: A	Aberdeen, Grays H	arbor Sampling Da	te: 8/19/20	22	
Applicant/Owner: The Port of Grays Harbor		_	State: WA	Sampling Po	int: SP 1-4		
Investigators: STORY, DARTIGUENAVE		S	ection, Township,	Range: T17N R9W S	8		
Landform (hillslope, terrace, etc.): Hillslope		Local Relief	(concave, convex,	none): Convex		Slope(%): 40	<u> </u>
Subregion (LRR): A - Northwestern Forest,	Lat: 46.9659	<u>—</u> 981 Long: -	123.836487	Datum:	WGS84	_	
Soil Map Unit Name: Udorthents			NWI Classific	cation: UPL			
Are climatic / hydrologic conditions on the site typ	ical for this time of	year? Yes	X No	(If No, explain in Re	marks)		
Are Vegetation: Soil or Hydrology	significantly d	isturbed?	Are "Normal Circur	- nstances" present?	Yes		No X
Are Vegetation: Soil or Hydrology	naturally prob	lematic? (If needed, explain	any answers in Rema	arks.)		
SUMMARY OF FINDINGS - Attach a s	ite map show	ng sampling p	oint locations	, transects, imp	ortant fea	atures, etc).
Hydrophytic Vegetation Present? Yes	No X						
Hydric Soil Present? Yes	No X	Is the S	ampled Area				
Wetland Hydrology Present? Yes	No X		Wetland?	Yes		No X	
Remarks:							
Sample plot on steep fill slope above tidal channel not located within a wetland. VEGETATION – Use scientific names		Plot is 5 feet west a	and 4 feet above S	P 1-3. Sample plot m	eets 0 of 3 v	wetland criter	ria and is
VEGETATION - 03c 30lcillille flames	Absolute	Dominant	Indicator	Dominance Test \	Norkshoot:		
<u>Tree Statum</u> (Plot size: 5m)	% Cover	Species?	Status	Number of Dominal			
1. (Flot size, 5III)	0 Cover	Species?	Status	That Are OBL, FAC		1	(A)
2.				Total Number of Do			— ^(A)
3.				Species Across All		2	(B)
4.				Percent of Dominar			— ^(B)
4. <u> </u>	0	= Total Cover				50	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)		= Total Cover		That Are OBL, FAC			(A/B)
	0						
1.	0			Total % Cover of:		Multiply by:	
2.				OBL species		(1=	
3.				FACW species		(2= 70	
4				FAC species		(3= 0	
5.		T-1-1-0		FACU species		(4= 180	
Harb Otractors (District Ass)	0	= Total Cover		UPL species		(5= 0	— _(D)
Herb Stratum (Plot size: 1m)	0.5	V	E4011	Column Totals:	80 (A) <u>250</u>	(B)
Plantago lanceolata Plantago lanceolata	35	Yes	FACU	Dua valanca kad	D/A	2	. 40
2. Phalaris arundinacea	20	Yes	FACW	Prevalence Inde			3.13
3. Equisetum telmateia	15	No No	FACU	Hydrophytic Vege			. 4
4. Hypochaeris radicata	10	No	FACU	1 - Rapid Tes			ition
5.							
6.				3 - Prevalenc			d.
7.				4 - Morpholo	-		
8.						on a separate	sneet)
9.				5 - Wetland N			<i>(</i> -)
10.				Problematic I		-	
11				¹Indicators of hydric		-	
	80	= Total Cover		must be present, ur	ness disturb	ed or probler	matic.
Woody Vine Stratum (Plot size: 3m)							
1.	0			Hydrophytic			
2.				Vegetation	Yes _	No	X
	0	= Total Cover		Present?			
% Bare Ground in Herb Stratum 20							
Remarks:							

Veg is weedy roadside veg growing on fill slope. Likely mowed/maintained semi-regularly to control shrub establishment. Sample plot lacks indicators for hydrophytic vegetation, does not meet dominance test or prevalence index.

Depth	ription: (Describe Mati	_	ccucu IU (ox Features		me ause	noe or muicators.	,			
(inches)	Color (moist)	%	Col	or (moist)	%	Type ¹	Loc²	Texture		Rema	rks	
0-6	7.5YR 4/3	100						Silt Loam	Gravelly			
6-24	10YR 4/4	100	-					Sandy Loam	Gravelly			
		_	-									
		_	-									
			-									
		_										
		_										
			<u> </u>									
Type: C= Co	oncentration, D= De	pletion, RM=Re	educed Ma	trix, CS=Cover	red or Coat	ed Sand G	rains.	2L00	ation: PL:	=Pore Lining	g, M=Mati	rix.
	ndicators: (Applic	•						Indicators for Pro				
Histos	sol (A1)		Sa	andy Redox (S5	5)			2 cm Muck	(A10)			
— Histic	Epipedon (A2)		St	ripped Matrix (S	S6)			Red Parent	Material (TF2)		
Black	Histic (A3)		Lo	amy Mucky Mi	neral (F1) (except ML	RLA 1)	Very Shallo	w Dark St	ırface (TF12	2)	
—— Hydro	gen Sulfide (A4)		— Lo	amy Gleyed M	atrix (F2)			Other (Exp	ain in Ren	narks)		
Deple	ted Below Dark Sur	face (A11)	De	epleted Matrix ((F3)							
Thick	Dark Surface (A12)		Re	edox Dark Surfa	ace (F6)			³ Indicators of hyd	drophytic v	egetation a	nd	
Sandy	y Mucky Mineral (S1)	De	epleted Dark Su	urface (F7)			wetland hydrol	ogy must l	oe present,		
Sandy	y Gleyed Matrix (S4)	Re	edox Depressio	ons (F8)			unless disturbe	ed or probl	ematic.		
Restrictive	Layer (if present)	:										
Type:												
Depth	(inches):							Hydric Soil Pres	sent?	Yes	No	Х
	ydrology Indicator		obook all th	act apply)				Sacandan India	otoro /2 or	moro roqui	rod)	
	dicators (minimum o	one required;		ater-Stained Le		/oveent		Secondary Indic				-
	Water Tables (A2)			MRLA 1, 2, 4A		(except		4A, and		s (B9) (MRL	.A 1, 2,	
	ation (A3)			alt Crust (B11)	t, and 40)			Drainage P	,	10)		
	Marks (B1)			quatic Invertebr	ates (B13)			Dry-Season	,	•		
	nent Deposits (B2)			/drogen Sulfide	, ,					Aeriel Imag	erv (C9)	
	Deposits (B3)		`	kidized Rhizosp	, ,		oots (C3)	Geomorphi		•	, (,	
	Mat or Crust (B4)			esence of Red		-	(,	Shallow Aq		` '		
	Deposits (B5)			ecent Iron Redu			26)	FAC-Neutra				
Surfac	ce Soil Cracks (B6)			unted or Stress						D6) (LRR A)	
Inunda	ation Visible on Aer	iel Imagery (B	— Ot	her (Explain in	Remarks)			Frost-Heav	e Hummoo	cks (D7)		
Spars	ley Vegetated Cond	ave Surface (B	88)									
Field Obse	ervations:											
Surface Wa	ater Present? Ye	s No	X De	epth (inches):			İ					
Water Table	e Present? Ye	s No	X De	epth (inches):								
Saturation I	Present? Ye	s No	XDe	epth (inches):			Wetland	d Hydrology Prese	ent?	Yes	No	X
(includes ca	apillary fringe)											
Describe Rec	corded Date (stream	gauge, monito	ring well, a	erial photos, p	revious insp	pections), i	f availabl	e:				
Remarks:												
	r secondary wetland	d hydrology indi	cators obs	erved. Sample	plot is 4 fee	et above S	P 1-3. wh	ich is likelv at or ab	ove HTL o	of tidal chan	nel.	
		,			,		, ., .,		· · - ·			
ino primary or	i secondary wetiand	i riyarology indi	calors ods	erveu. Sample	ριυι is 4 tee	et above S	r 1-3, Wh	iich is likely at or ab) (ove⊓ı∟ເ	OVE HIL OF TIGAL CHALL	ove HTL of tidal channel.











WEIEAND DEIERMINA					_		
Project/Site: Port of Grays harbor Terminal 4 E	expansion	City/County: _/		larbor Sampling Date:			
Applicant/Owner: The Port of Grays Harbor			State: WA	Sampling Point:	SP 2-1		
Investigators: STORY, DARTIGUENAVE				Range: T17N R9W S7			
Landform (hillslope, terrace, etc.): Depression		_	(concave, convex,	,	Slope(%	6): 3	
Subregion (LRR): A - Northwestern Forest,	Lat: _46.9667	755 Long: <u>-</u>	-123.833694	Datum: WG	S84		
Soil Map Unit Name: Udorthents			NWI Classific	cation: PEM/PAB			
Are climatic / hydrologic conditions on the site typic		´ _	X No	(If No, explain in Rema	rks)		
Are Vegetation: Soil or Hydrology _	significantly d	isturbed?	Are "Normal Circur	nstances" present?	Yes X	N	٥
Are Vegetation: Soil or Hydrology _	naturally prob	lematic? ((If needed, explain	any answers in Remarks	.)		
SUMMARY OF FINDINGS - Attach a sit	te map show	ng sampling p	oint locations	, transects, import	ant features	s, etc.	
Hydrophytic Vegetation Present? Yes N	K No						
Hydric Soil Present? Yes >	X No	Is the S	Sampled Area				
Wetland Hydrology Present? Yes >	X No	within a	a Wetland?	Yes X		No	
Remarks:							
Sample plot located at edge of obvious seasonal in pad and railroad berm. Limited vegetation, likely fro	om frequent excav						ins fill
	Absolute	Dominant	Indicator	Dominance Test Wor	ksheet:		
Tree Statum (Plot size: 5m)	% Cover	Species?	Status	Number of Dominant S	pecies		
1. Malus fusca	7	Yes	FACW	That Are OBL, FACW,	•	2	(A)
2.				Total Number of Domir	_		- `′
3.				Species Across All Stra	ata:	2	(B)
4.				Percent of Dominant S			- `′
· -	7	= Total Cover		That Are OBL, FACW,		100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)				Prevalence Index wor			
1.	0			Total % Cover of:	Multiply	bv:	
2.				OBL species	x1=		
3.					35 x2=	70	_
4.				FAC species	5 x3=	15	_
5.			-	FACU species	x4=	0	_
	0	= Total Cover		UPL species	x5=	0	_
Herb Stratum (Plot size: 1m)		. 0.0.			40 (A)	85	— (B)
Epilobium ciliatum	15	Yes	FACW				_ (_)
Agrostis stolonifera	5	No	FAC	Prevalence Index =	= B/A=	2.1	3
3. Equisetum telmateia	5	No	FACW	Hydrophytic Vegetation			
4. Juncus effusus	5	No	FACW	X 1 - Rapid Test fo			on
5. Phalaris arundinacea	3	No	FACW	X 2 - Dominance T		, ogotatie	
6.				X 3 - Prevalence Ir			
7.				4 - Morphologica		(Provide	1
8.					arks or on a se		
9.				5 - Wetland Non-			,
10.				Problematic Hyd			xnlain)
11.				¹Indicators of hydric so			
···	33	= Total Cover		must be present, unles		-	-
Woody Vine Stratum (Plot size:)		- 13tai 30vei		made be present, unles	o diotarbed Of	2,00101110	
1.	0			Hydrophytic			
2.				Vegetation	Yes X No	`	
	0	= Total Cover		Present?			_
% Bare Ground in Herb Stratum 67		- Total Covel		i resent:			
Remarks:							
R PHIAIRS							

Sparse veg, vegetation located only along narrow fringe of seasonal ponding. Sample plot meets rapid test, dominance test, and prevalence index for hydrophytic vegetation.

Depth (inches) 0-5 5-24	Matrix Color (moist)		Rad	ox Feature	25		nce of indicators.)	
0-5			Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
			10YR 4/4				Silt Loam	Remains
5-24	10YR 3/1 10YR 3/2	60 30	101R 4/4	10	C		— Siit Loaiii	
	10 TR 5/2	80	5YR 4/6	10			Silty Clay Loam	
	1011 3/1		5YR 3/4	10	- <u>C</u>	PL RC	— Only Clay Loam	
	_		311 3/4			FLRC		
	_							
	_							
	_							
ne: C= Con	centration D= Deplet	tion RM-Redu	ced Matrix, CS=Cove	red or Coa	ted Sand G		2l ocation	: PL=Pore Lining, M=Matrix.
•			unless otherwise no		iou ound o		Indicators for Problem	<u> </u>
Histosol		,	Sandy Redox (St	-			2 cm Muck (A10	-
	pipedon (A2)	_	Stripped Matrix (Red Parent Mate	
	istic (A3)	_	Loamy Mucky Mi	,	(except ML	RLA 1)		rk Surface (TF12)
	en Sulfide (A4)	_	Loamy Gleyed M		(,	Other (Explain in	
	d Below Dark Surface	e (A11)	X Depleted Matrix (,
	ark Surface (A12)	_	X Redox Dark Surf				³ Indicators of hydroph	ytic vegetation and
	/ucky Mineral (S1)	_	Depleted Dark S	urface (F7))		wetland hydrology n	. •
Sandy G	Gleyed Matrix (S4)	_	Redox Depression	ons (F8)			unless disturbed or	problematic.
estrictive L	ayer (if present):	_						
Type:	, , ,							
Depth (ir	nches):						Hydric Soil Present?	Yes X No
-	Irology Indicators:						Canadam da dinatam	(O an magne way in al)
-	ators (minimum of on Water (A1)	e requirea; cne	Water-Stained Le	221/05 (BO)	(ovcont		Secondary Indicators	eaves (B9) (MRLA 1, 2,
	ater Tables (A2)	_	MRLA 1, 2, 4	` '	` •		4A, and 4B)	eaves (D9) (WINLA 1, 2,
— Saturatio			Salt Crust (B11)	t, and 46)			Drainage Patterr	ne (R10)
	Marks (B1)	_	Aquatic Invertebr	ates (R13)	١		Dry-Season Wat	` '
	nt Deposits (B2)	_	Hydrogen Sulfide	` '			 ′	e on Aeriel Imagery (C9)
	posits (B3)	-	Oxidized Rhizosp			oots (C3)	Geomorphic Pos	3 , , ,
	at or Crust (B4)	_	Presence of Red		-	0010 (00)	Shallow Aquitare	` ,
	posits (B5)	_	Recent Iron Redu			C6)	FAC-Neutral Tes	` ,
	Soil Cracks (B6)	_	Stunted or Stress					nds (D6) (LRR A)
	on Visible on Aeriel Ir	magery (B	Other (Explain in			,	Frost-Heave Hui	mmocks (D7)
	y Vegetated Concave	Surface (B8)						
Sparsley	vations:	·						
Sparsley Field Observ	er Present? Yes	No 2	X Depth (inches):					
Field Observ		No Z	X Depth (inches):					
Field Observ Surface Wate	Present? Yes		X Depth (inches):			Wetland	d Hydrology Present?	Yes X No
		No:	- Dopan (1		
Field Observ Surface Wate Water Table F	esent? Yes	No						
Field Observ Surface Wate Water Table F Saturation Pre (includes capi	esent? Yes illary fringe)			revious ins	spections),		e:	
Field Observ Surface Wate Water Table F Saturation Pre	esent? Yes illary fringe)		well, aerial photos, p	revious ins	spections),		ə:	
Field Observ Surface Wate Water Table F Saturation Pre (includes capi	esent? Yes illary fringe)			revious ins	spections),		e:	



Photo Name: Photo_220708111355



Photo Name: Photo_220708110906



Project/Site: Port of Grays harbor Terminal 4 E	xpansion	City/County: Ab	erdeen, Grays F	larbor Sampling Dat	te: 7/8/2022		
Applicant/Owner: The Port of Grays Harbor			State: WA	Sampling Poi			
Investigators: STORY, DARTIGUENAVE		Sec		Range: T17N R9W S			
Landform (hillslope, terrace, etc.): Flat				, none): Convex		pe(%): 10	
Subregion (LRR): A - Northwestern Forest,	Lat: 46.9677	_	23.832756	· -	WGS84	pc(70). <u>10</u>	
Soil Map Unit Name: Udorthents	Lat. 40.0077		NWI Classifi				
Are climatic / hydrologic conditions on the site typic	al for this time of	year? Yes		(If No, explain in Re	marks)		
Are Vegetation: Soil or Hydrology	significantly d	·		(ii 140, explain ii 140 nstances" present?	Yes	No	lo X
Are Vegetation: Soil or Hydrology	naturally prob			any answers in Rema			<u> </u>
SUMMARY OF FINDINGS - Attach a sit						ures, etc.	
Hydrophytic Vegetation Present? Yes	<u>-</u>			,,			
Hydric Soil Present? Yes		Is the Sar	mpled Area				
Wetland Hydrology Present? Yes	No X	within a \	-	Yes		No X	
Remarks:							
Sample located on fill slope 6 feet south and 3 feet		ample plot meets 1 of	3 wetland criter	ia and is not located w	rithin a wetlan	d.	
VEGETATION – Use scientific names of				1=			
	Absolute	Dominant	Indicator	Dominance Test V			
<u>Tree Statum</u> (Plot size: 5m)	% Cover	Species?	Status	Number of Dominar			(4)
1.	0			That Are OBL, FAC		1	_ (A)
2.				Total Number of Do		•	(D)
3.				Species Across All		2	— ^(B)
4				Percent of Dominan		50	(A /D)
0 1: (0) 1 0: (0)	0	= Total Cover		That Are OBL, FAC		50	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)	45	V	E4011	Prevalence Index v		lC- b b b	
1. Reynoutria japonica	45	Yes	FACU	Total % Cover of:		<u>ltiply by:</u>	
2. <u>Ilex aquifolium</u>	4	No	FACU	OBL species	x1=		_
3.				FACW species	63 x2=		_
4				FAC species	x3=		_
5.	40	Total Causes		FACU species	49 x4=		_
Herb Stratum (Plot size: 1m)	49	= Total Cover		UPL species	x5=		–
	00	Vaa	E4014/	Column Totals:	112 (A)	322	_ ^(B)
Equisetum telmateia Frilahium ciliatum	60 3	Yes	FACW FACW	. Prevalence Inde	D/A	2.0	.0
2. Epilobium ciliatum		No	FACW		•	2.88	<u> </u>
3.				Hydrophytic Veget			
4				1 - Rapid Tes	-	_	on
5.				2 - Dominano			
6.				X 3 - Prevalenc			
7.				4 - Morpholog	-		
8.					emarks or on	•	neet)
9.				5 - Wetland N			
10.				Problematic F		-	
11				¹Indicators of hydric			-
Washing Charles (Dist sizes 200)	63	= Total Cover		must be present, un	iless disturbed	or problema	atic.
Woody Vine Stratum (Plot size: 3m)	•						
1.	0			Hydrophytic	., .,		
2				Vegetation	Yes X	_ No	_
% Bare Ground in Herb Stratum 37	0	= Total Cover		Present?			
	<u> </u>						
Remarks:							
Sample plot does not meet dominance test, prevale	ence index not ap	plicable due to lack o	t nydric soil and	nyarology.			

Depth	Matrix	<	F	Redox Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks
0-8	10YR 4/4	98	7.5YR 5/4	_	<u>C</u>		Silty Clay	
8-16	10YR 5/2	8	7.5YR 5/6				Clay Loam	
	10YR 4/3	90					<u> </u>	
16-24	10YR 5/1	95	7.5YR 5/6				Clay Loam	
Type: C= Co	oncentration. D= Dec	letion. RM=Re	educed Matrix, CS=Co	overed or Coa	ted Sand G	Grains.	² Location	n: PL=Pore Lining, M=Matrix.
•	<u>.</u>		s, unless otherwise				Indicators for Problem	<u>_</u>
-	sol (A1)		Sandy Redox	-			2 cm Muck (A10	0)
	Epipedon (A2)		Stripped Matr	, ,			Red Parent Mat	•
	Histic (A3)		Loamy Mucky	` ,	(except ML	RLA 1)		ark Surface (TF12)
	gen Sulfide (A4)		Loamy Gleye		` .	,	Other (Explain i	` '
	ted Below Dark Surfa	ace (A11)	Depleted Mat					,
Thick	Dark Surface (A12)		Redox Dark S	Surface (F6)			3Indicators of hydroph	hytic vegetation and
Sandy	Mucky Mineral (S1)		Depleted Dar	k Surface (F7)		wetland hydrology i	must be present,
Sandy	Gleyed Matrix (S4)		Redox Depre	ssions (F8)			unless disturbed or	problematic.
Restrictive	Layer (if present):							
Type:								
Depth	(inches):		_				Hydric Soil Present	? Yes No X
HYDROLO								
	OGY							
Wetland Hy	OGY ydrology Indicators	:						
			check all that apply)				Secondary Indicators	s (2 or more required)
Primary Ind	ydrology Indicators		check all that apply) Water-Staine	d Leaves (B9)	(except			s (2 or more required) Leaves (B9) (MRLA 1, 2,
Primary Ind	ydrology Indicators licators (minimum of		Water-Staine	d Leaves (B9)				. , ,
Primary Ind	ydrology Indicators licators (minimum of ce Water (A1)		Water-Staine	, 4A, and 4B)			Water Stained L	Leaves (B9) (MRLA 1, 2,
Primary Ind Surface High \ Satura	ydrology Indicators licators (minimum of ce Water (A1) Water Tables (A2)		Water-Staine MRLA 1, 2	, 4A , and 4B)			Water Stained L 4A, and 4B)	Leaves (B9) (MRLA 1, 2,
Primary Ind Surfac High V Satura Water	ydrology Indicators dicators (minimum of the Water (A1) Water Tables (A2) ation (A3)		Water-Staine MRLA 1, 2 Salt Crust (B	, 4A , and 4B) 11) tebrates (B13)		Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa	Leaves (B9) (MRLA 1, 2,
Primary Ind Surface High \ Satura Water Sedim	ydrology Indicators licators (minimum of ce Water (A1) Water Tables (A2) ation (A3) Marks (B1)		Water-Staine MRLA 1, 2 Salt Crust (B' Aquatic Inver	, 4A , and 4B) (11) tebrates (B13) (fide Odor (C1)	oots (C3)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib	rns (B10) ater Table (C2) ele on Aeriel Imagery (C9)
Primary Ind Surface High V Satura Water Sedim	ydrology Indicators licators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2)		Water-Stainer MRLA 1, 2 Salt Crust (B' Aquatic Inver	, 4A , and 4B) 11) tebrates (B13) Ifide Odor (C1) cospheres alo)) ng Living R	oots (C3)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib	eaves (B9) (MRLA 1, 2, ens (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2)
Primary Ind Surface High V Satura Water Sedim Drift D Algal I	ydrology Indicators licators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) thent Deposits (B2) deposits (B3)		Water-Stainer MRLA 1, 2 Salt Crust (B' Aquatic Inver Hydrogen Sui Oxidized Rhiz	, 4A, and 4B) 11) tebrates (B13 lfide Odor (C1 zospheres alo Reduced Iron)) ng Living R (C4)		Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po	caves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ale on Aeriel Imagery (C9) asition (D2) ad (D3)
Primary Ind Surface High V Satura Water Sedim Drift D Algal I	ydrology Indicators dicators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) thent Deposits (B2) Deposits (B3) Mat or Crust (B4)		Water-Staine MRLA 1, 2 Salt Crust (B' Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F	, 4A, and 4B) (11) tebrates (B13 Iffide Odor (C1 cospheres alo Reduced Iron Reduction in T)) ng Living R (C4) illed Soils (C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	ceaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) d (D3) est (D5) unds (D6) (LRR A)
Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface	ydrology Indicators licators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) deposits (B5)	one required;	Water-Stainer MRLA 1, 2 Salt Crust (B' Aquatic Inverior Hydrogen Sui Oxidized Rhiz Presence of F	, 4A, and 4B) (11) tebrates (B13) (fide Odor (C1) cospheres alo Reduced Iron Reduction in T ressed Plants) ng Living R (C4) illed Soils ((D1) (LRR	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	ceaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) d (D3) est (D5) unds (D6) (LRR A)
Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda	ydrology Indicators licators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) thent Deposits (B2) Deposits (B3) Mat or Crust (B4) deposits (B5) the Soil Cracks (B6)	one required;	Water-Stainer MRLA 1, 2 Salt Crust (B' Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron F Stunted or St Other (Explai	, 4A, and 4B) (11) tebrates (B13) Ifide Odor (C1) cospheres alo Reduced Iron Reduction in T ressed Plants) ng Living R (C4) illed Soils ((D1) (LRR	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	ceaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) d (D3) est (D5) unds (D6) (LRR A)
Primary Ind Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda	ydrology Indicators dicators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) The Soil Cracks (B6) Action Visible on Aerical Deposits (B5) Deposits (B6)	one required;	Water-Stainer MRLA 1, 2 Salt Crust (B' Aquatic Inver Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron F Stunted or St Other (Explai	, 4A, and 4B) (11) tebrates (B13) Ifide Odor (C1) cospheres alo Reduced Iron Reduction in T ressed Plants) ng Living R (C4) illed Soils ((D1) (LRR	C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	ceaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) sition (D2) d (D3) est (D5) unds (D6) (LRR A)
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Photo Name: Photo_220708115824



Project/Site: Port of Grays harbor Terminal	4 Expansion	City/County:	Aberdeen, Grays H	arbor Sampling Da	ate: 7/8/2022		
Applicant/Owner: The Port of Grays Harbor		_	State: WA	Sampling Po	int: SP 2-3		
Investigators: STORY, DARTIGUENAVE			Section, Township,	Range: T17N R9W S	38		
Landform (hillslope, terrace, etc.): Flat		Local Reli	ef (concave, convex,	none): None	Slc	ppe(%): 0	
Subregion (LRR): A - Northwestern Forest,	Lat: 46.9676		-123.832817	Datum:	WGS84		
Soil Map Unit Name: Udorthents			NWI Classific	cation: UPL			
Are climatic / hydrologic conditions on the site type	oical for this time of	year? Yes	X No	(If No, explain in Re	emarks)		
Are Vegetation: SoilX or Hydrology	significantly d	sturbed?	Are "Normal Circun	nstances" present?	Yes	X N	No
Are Vegetation: Soil or Hydrology	naturally prob	ematic?	(If needed, explain	any answers in Rema	arks.)		
SUMMARY OF FINDINGS - Attach a	site map showi	ng sampling	point locations	, transects, imp	ortant feat	ures, etc.	
Hydrophytic Vegetation Present? Yes	No X						
Hydric Soil Present? Yes	No X	Is the	Sampled Area				
Wetland Hydrology Present? Yes	No _X	withir	n a Wetland?	Yes		No X	
Remarks:		I					
Sample plot located on RR fill prism, upslope of \	WL boundary. Samp	le plot meets 0 o	f 3 wetland criteria a	nd is not located with	in a wetland.		
		•					
VEGETATION – Use scientific names	s of plants.						
	Absolute	Dominant	Indicator	Dominance Test	Worksheet:		
<u>Tree Statum</u> (Plot size: 5m)	% Cover	Species?	Status	Number of Domina	nt Species		
1.	0			That Are OBL, FAC	W, or FAC:	0	(A)
2.				Total Number of Do	ominant		
3.				Species Across All	Strata:	2	(B)
4.				Percent of Domina	nt Species		_
	0	= Total Cover		That Are OBL, FAC	W, or FAC:	0	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)				Prevalence Index	worksheet:		
1.	0			Total % Cover of:	<u>Mu</u>	ıltiply by:	
2				OBL species	x1=	=	
3.	_			FACW species	x2=	=0	_
4.				FAC species	x3=	= 0	
5				FACU species	20x4=		_
	0	= Total Cover		UPL species	x5=		_
Herb Stratum (Plot size: 1m)				Column Totals:	(A)	80	— ^(B)
Plantago lanceolata	15	Yes	FACU				
Hypochaeris radicata	5	Yes	FACU	Prevalence Ind		4.0	30
3.			_	Hydrophytic Vege			
4					st for Hydroph	-	ion
5.					ce Test is >50° ce Index is ≤3.		
6. 7.					ce muex is ≤s. gical Adaptatio		0
8.					Remarks or on		
9.	-		-		Non-Vascular	•	Silect)
10.	-		- ———		Hydrophytic V		Evnlain)
11.				¹Indicators of hydric		-	
	20	= Total Cover		must be present, u			
Woody Vine Stratum (Plot size: 3m)				р. с. с. т.			
1.	0			Hydrophytic			
2.				Vegetation	Yes	No X	(
	0	= Total Cover	_	Present?			_
% Bare Ground in Herb Stratum 80							
Remarks:				1			
Veg largely disturbance tolerant species. Sparse	patchy veg. Sampl	e plot lacks indica	ators for hydrophytic	vegetation			
Salary English to the control openion openion	, ,, .og. oampi			- g v			

Depth (inches)	Matrix			Redox Feature	es					
(inches)	Color (moist)	%	Color (mois	it) %	Type ¹	Loc ²	Texture		Remarks	
0-11	10YR 3/2	100					Silt Loam	Gravelly		
11-21	10YR 3/2	95	7.5YR 4/4	5			Sandy Loam	Fill materia	I, Gravel and co	bble
Type: C= Co	ncentration, D= Depl	etion, RM=Re	educed Matrix, CS	=Covered or Coa	ated Sand G	Grains.	²Loc	ation: PL=Po	ore Lining, M=M	atrix.
Hydric Soil In	dicators: (Applical	ole to all LRR	s, unless otherw	ise noted.)			Indicators for Pro	blematic Hy	dric Soils³:	
Histoso	ol (A1)		Sandy Re	dox (S5)			2 cm Muck	(A10)		
Histic F	Epipedon (A2)		Stripped N	Matrix (S6)			Red Paren	Material (TF:	2)	
Black H	Histic (A3)		Loamy Mu	icky Mineral (F1)	(except ML	RLA 1)	Very Shallo	w Dark Surfa	ce (TF12)	
—— Hydrog	gen Sulfide (A4)		Loamy Gl	eyed Matrix (F2)			Other (Exp	lain in Remarl	ks)	
Deplete	ed Below Dark Surfa	ce (A11)	Depleted	Matrix (F3)						
Thick D	Dark Surface (A12)		Redox Da	rk Surface (F6)			³ Indicators of hy	drophytic veg	etation and	
Sandy	Mucky Mineral (S1)		Depleted	Dark Surface (F7	')		wetland hydrol	ogy must be p	present,	
Sandy	Gleyed Matrix (S4)		Redox De	pressions (F8)			unless disturbe	ed or problem	atic.	
Restrictive	Layer (if present):		_ 							
Type:										
Depth	(inches):		_				Hydric Soil Pre	sent? Ye	s No	Х
•	drology Indicators:		check all that anni	v)			Secondary India	ators /2 or mo	ore required)	
Primary Indi	cators (minimum of c			,) (except		Secondary Indic	-		
Primary India	cators (minimum of c		Water-Sta	ined Leaves (B9)	, · •		Water Stair	ned Leaves (E	ore required) 39) (MRLA 1, 2,	_
Primary India Surface High W	cators (minimum of c e Water (A1) /ater Tables (A2)		Water-Sta	ined Leaves (B9)	, · •		Water Stair	ned Leaves (E 4B)	39) (MRLA 1, 2,	_
Primary India Surface High W Saturat	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3)		Water-Sta MRLA Salt Crust	ined Leaves (B9 1, 2, 4A, and 4B) (B11))		Water Stair 4A, and Drainage F	ned Leaves (E 4B) atterns (B10)	39) (MRLA 1, 2,	_
Primary India Surface High W Saturat Water I	cators (minimum of c e Water (A1) /ater Tables (A2) tion (A3) Marks (B1)		Water-Sta MRLA Salt Crust Aquatic In	ined Leaves (B9) 1, 2, 4A, and 4B) (B11) vertebrates (B13)) ()		Water Stain 4A, and Drainage F Dry-Season	ned Leaves (E 4B) atterns (B10) n Water Table	39) (MRLA 1, 2,	
Primary India Surface High W Saturat Water I Sedime	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2)		Water-Sta MRLA Salt Crust Aquatic In Hydrogen	ined Leaves (B9) 1, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1)	s)	oots (C3)	Water Stair 4A, and Drainage F Dry-Seasor Saturation	ned Leaves (E 4B) atterns (B10) n Water Table	39) (MRLA 1, 2, e (C2) riel Imagery (C9	
Primary India Surface High W Saturat Water I Sedime	cators (minimum of c e Water (A1) /ater Tables (A2) tion (A3) Marks (B1)		Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I	ined Leaves (B9) 1, 2, 4A, and 4B) (B11) vertebrates (B13)	(i) (i) (i) (ii) (iii) (oots (C3)	Water Stair 4A, and Drainage F Dry-Seasor Saturation	ned Leaves (E 4B) atterns (B10) n Water Table Visible on Aer c Position (D2	39) (MRLA 1, 2, e (C2) riel Imagery (C9)
Primary India Surface High W Saturat Water I Sedime Drift De	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)		Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence	ined Leaves (B9) 1, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alo	s) 1) ong Living R (C4)		Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Ac	ned Leaves (E 4B) atterns (B10) n Water Table Visible on Aer c Position (D2	39) (MRLA 1, 2, e (C2) riel Imagery (C9)
Primary India Surface High W Saturat Water I Sedime Drift De Algal W Iron De	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4)		Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Iro	ined Leaves (B9) I, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alo of Reduced Iron	(C4)	C6)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Ac	ned Leaves (E 4B) ratterns (B10) n Water Table Visible on Aer c Position (D2 uitard (D3)	(C2) riel Imagery (C9))
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4) eposits (B5)	one required; (Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Iro Stunted o	ined Leaves (B9) I, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres aloution freduced Iron in Reduction in T	ong Living R (C4) (C1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Ac FAC-Neutr Raised Ant	ned Leaves (E 4B) latterns (B10) n Water Table Visible on Ael c Position (D2 uitard (D3) al Test (D5)	39) (MRLA 1, 2, e (C2) riel Imagery (C9 2))
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6)	one required; of	Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	ined Leaves (B9) 1, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alo of Reduced Iron in Reduction in T	ong Living R (C4) (C1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Ac FAC-Neutr Raised Ant	ned Leaves (E 4B) atterns (B10) n Water Table Visible on Aer c Position (D2 uitard (D3) al Test (D5) Mounds (D6)	39) (MRLA 1, 2, e (C2) riel Imagery (C9 2))
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel ey Vegetated Concav	one required; of	Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	ined Leaves (B9) 1, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alo of Reduced Iron in Reduction in T	ong Living R (C4) (C1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Ac FAC-Neutr Raised Ant	ned Leaves (E 4B) atterns (B10) n Water Table Visible on Aer c Position (D2 uitard (D3) al Test (D5) Mounds (D6)	39) (MRLA 1, 2, e (C2) riel Imagery (C9 2))
Primary India Surface High W Saturat Water I Sedime Drift De Algal W Iron De Surface Inunda Sparsle	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel ey Vegetated Concaverations:	one required; of	Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	ined Leaves (B9) 1, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alo of Reduced Iron in Reduction in T Stressed Plants plain in Remarks	ong Living R (C4) (C1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Ac FAC-Neutr Raised Ant	ned Leaves (E 4B) atterns (B10) n Water Table Visible on Aer c Position (D2 uitard (D3) al Test (D5) Mounds (D6)	39) (MRLA 1, 2, e (C2) riel Imagery (C9 2))
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsle	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel ey Vegetated Concaveryations: ter Present? Yes	ne required; of the second sec	Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	ined Leaves (B9) 1, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alo of Reduced Iron on Reduction in T of Stressed Plants plain in Remarks thes):	ong Living R (C4) (C1) (LRR	C6)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Ac FAC-Neutr Raised Ant	ned Leaves (E 4B) atterns (B10) n Water Table Visible on Aer c Position (D2 uitard (D3) al Test (D5) Mounds (D6)	39) (MRLA 1, 2, e (C2) riel Imagery (C9 2))
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Water	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel ey Vegetated Concar rvations: ter Present? Yes	Imagery (B	Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	ined Leaves (B9) I, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alo of Reduced Iron on Reduction in T Stressed Plants plain in Remarks thes): hes):	ong Living R (C4) (C1) (LRR	C6) A)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Ac FAC-Neutr Raised Ant	ned Leaves (E 4B) atterns (B10) n Water Table Visible on Aei c Position (D2 uitard (D3) al Test (D5) Mounds (D6) e Hummocks	39) (MRLA 1, 2, e (C2) riel Imagery (C9 2) (LRR A) (D7)	
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation P	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel ey Vegetated Concave rvations: ter Present? Yes	Imagery (B	Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	ined Leaves (B9) I, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alo of Reduced Iron on Reduction in T Stressed Plants plain in Remarks thes): hes):	ong Living R (C4) (C1) (LRR	C6) A)	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (E 4B) atterns (B10) n Water Table Visible on Aei c Position (D2 uitard (D3) al Test (D5) Mounds (D6) e Hummocks	39) (MRLA 1, 2, e (C2) riel Imagery (C9 2) (LRR A) (D7)	
Primary India Surface High W Saturat Water I Sedime Drift De Algal W Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation P (includes cap	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel ey Vegetated Concave reations: ter Present? Yes Present? Yes Present? Yes	Imagery (B	Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	ined Leaves (B9) 1, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alo of Reduced Iron in Reduction in T Stressed Plants blain in Remarks hes): hes): hes):	ong Living R (C4) Filled Soils (C4)	C6) A) Wetland	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (E 4B) atterns (B10) n Water Table Visible on Aei c Position (D2 uitard (D3) al Test (D5) Mounds (D6) e Hummocks	39) (MRLA 1, 2, e (C2) riel Imagery (C9 2) (LRR A) (D7)	
Primary India Surface High W Saturat Water I Sedime Drift De Algal W Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation P (includes cap	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel ey Vegetated Concave revations: ter Present? Yes Present? Yes pillary fringe)	Imagery (B	Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	ined Leaves (B9) 1, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alo of Reduced Iron in Reduction in T Stressed Plants blain in Remarks hes): hes): hes):	ong Living R (C4) Filled Soils (C4)	C6) A) Wetland	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (E 4B) atterns (B10) n Water Table Visible on Aei c Position (D2 uitard (D3) al Test (D5) Mounds (D6) e Hummocks	39) (MRLA 1, 2, e (C2) riel Imagery (C9 2) (LRR A) (D7)	
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation P (includes cap	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel ey Vegetated Concave revations: ter Present? Yes Present? Yes pillary fringe)	Imagery (B	Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Ex	ined Leaves (B9) 1, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alo of Reduced Iron in Reduction in T Stressed Plants blain in Remarks hes): hes): hes):	ong Living R (C4) Filled Soils (C4)	C6) A) Wetland	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (E 4B) atterns (B10) n Water Table Visible on Aei c Position (D2 uitard (D3) al Test (D5) Mounds (D6) e Hummocks	39) (MRLA 1, 2, e (C2) riel Imagery (C9 2) (LRR A) (D7)	
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation P (includes cap Describe Reco	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel ey Vegetated Concave rvations: ter Present? Yes Present? Yes Present? Yes pillary fringe) orded Date (stream gets)	Imagery (B ve Surface (Bi	Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Exp X Depth (incompring well, aerial phonomer)	ined Leaves (B9) 1, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alo of Reduced Iron in Reduction in T Stressed Plants blain in Remarks hes): hes): hes):	ong Living R (C4) Filled Soils (C4)	C6) A) Wetland	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (E 4B) atterns (B10) n Water Table Visible on Aei c Position (D2 uitard (D3) al Test (D5) Mounds (D6) e Hummocks	39) (MRLA 1, 2, e (C2) riel Imagery (C9 2) (LRR A) (D7)	
Primary India Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation P (includes cap Describe Reco	cators (minimum of ce Water (A1) /ater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeriel ey Vegetated Concave revations: ter Present? Yes Present? Yes pillary fringe)	Imagery (B ve Surface (Bi	Water-Sta MRLA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent Irc Stunted o Other (Exp X Depth (incompring well, aerial phonomer)	ined Leaves (B9) 1, 2, 4A, and 4B) (B11) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alo of Reduced Iron in Reduction in T Stressed Plants blain in Remarks hes): hes): hes):	ong Living R (C4) Filled Soils (C4)	C6) A) Wetland	Water Stain 4A, and Drainage F Dry-Season Saturation Geomorphi Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves (E 4B) atterns (B10) n Water Table Visible on Aei c Position (D2 uitard (D3) al Test (D5) Mounds (D6) e Hummocks	39) (MRLA 1, 2, e (C2) riel Imagery (C9 2) (LRR A) (D7)	



Photo Name: Photo_220708122546



Photo Name: Photo_220708122540



Project/Site: Port of Grays harbor Terminal 4 Ex	coansion	City/County: Ab	perdeen, Grays H	arbor Sampling Date	e: 7/8/2022		
Applicant/Owner: The Port of Grays Harbor			State: WA	Sampling Poin			
Investigators: DARTIGUENAVE, STORY		Sec		Range: T17N R9W S8			
Landform (hillslope, terrace, etc.): Depression			concave, convex,			e(%): 0	
Subregion (LRR): A – Northwest Forest, Forage	lat: 46 9667	_	23.836151	·	/GS84	0(70).	
Soil Map Unit Name: Udorthents			NWI Classific				
Are climatic / hydrologic conditions on the site typica	I for this time of	year? Yes		(If No, explain in Rer	narks)		
Are Vegetation: Soil or Hydrology	significantly d	<u> </u>		nstances" present?		X No	.
Are Vegetation: Soil or Hydrology	naturally prob			any answers in Remar			
SUMMARY OF FINDINGS - Attach a site						res, etc.	
Hydrophytic Vegetation Present? Yes X	<u>-</u>	T		· · ·			
Hydric Soil Present? Yes X		Is the Sa	mpled Area				
Wetland Hydrology Present? Yes X	No	within a	Wetland?	Yes X	(No	
Remarks:					<u> </u>		
Sample plot meets 3 of 3 wetland criteria and is loca		land.					
VEGETATION – Use scientific names o				T			
	Absolute	Dominant	Indicator	Dominance Test W			
<u>Tree Statum</u> (Plot size: 5m)	% Cover	Species?	Status	Number of Dominant			
1. Alnus rubra	2	Yes	FAC	That Are OBL, FACV		2	_ (A)
2.				Total Number of Don			(D)
3.				Species Across All S		2	_ (B)
4		= Total Cover		Percent of Dominant		400	(
Capling/Chrub Stratum (Dlat size: 2m)	2	= Total Cover		That Are OBL, FACV		100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m) 1.	0			Total % Cover of:		ply by:	
2.				OBL species	<u>wunu</u> x1=	ріу бу.	
3.				FACW species	92 x2=	184	_
4.				FAC species	$\frac{92}{2}$ $x3=$	6	_
5.				FACU species	5 x4=	20	-
·	0	= Total Cover		UPL species	x5=	0	_
Herb Stratum (Plot size: 1m)		. 510. 5515.		Column Totals:	99 (A)	210	– (B)
Phalaris arundinacea	90	Yes	FACW	_	()		_ (-/
2. Galium aparine	5	No	FACU	Prevalence Inde	x = B/A =	2.12	2
3. Equisetum telmateia	2	No	FACW	Hydrophytic Vegeta	ation Indicato	rs:	
4.				1 - Rapid Test	for Hydrophyt	ic Vegetatio	n
5.				X 2 - Dominance	e Test is >50%		
6.				X 3 - Prevalence	Index is ≤3.0	ı	
7.				4 - Morphologi	cal Adaptation	ns¹ (Provide	
8.				data in Re	marks or on a	separate sl	neet)
9.				5 - Wetland No	on-Vascular P	ants1	
10.				Problematic H	ydrophytic Ve	getation¹ (E	xplain)
11.				¹ Indicators of hydric	soil and wetlar	nd hydrology	/
	97	= Total Cover		must be present, unl	ess disturbed	or problema	ıtic.
Woody Vine Stratum (Plot size: 3m)							
1	0			Hydrophytic			
2.				Vegetation	Yes X	No	_
	0	= Total Cover		Present?			
% Bare Ground in Herb Stratum 3	<u> </u>						
Remarks:							
Sample plot meets dominance test and prevalence i	ndex for hydroph	nytic vegetation.					

	Matrix		Redo	ox Feature	es.			
Depth (inches)	Color (moist)	<u></u> %	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-9	10YR 2/1	100			-1900		Silt Loam	remano
9-15	2.5Y 4/1	80	7.5YR 4/4	15			Sandy Loam	
9-13	2.51 4/1		5YR 3/4	5	- <u>C</u>	PL RC	— — —	
15-19	10GY 3/1	100	31K 3/4			FLRC	Loamy Sand	
19-24	10G 1 3/1	90					Sandy Clay	
	5B 2.5/1	10					— Sandy Clay	
	3B 2.3/1							
	ncentration D= Denle	tion RM-Redu	iced Matrix, CS=Cover	ed or Coa	ted Sand G	rains	2l ocatio	n: PL=Pore Lining, M=Matrix.
			unless otherwise not		tou ouriu c		Indicators for Proble	
Histoso		,	Sandy Redox (S5	-			2 cm Muck (A1	•
	Epipedon (A2)	-	Stripped Matrix (S				Red Parent Ma	
	Histic (A3)	-	Loamy Mucky Mir	,	(except ML	.RLA 1)		Park Surface (TF12)
	gen Sulfide (A4)	_	Loamy Gleyed Ma			ŕ	Other (Explain	
	ed Below Dark Surfac	e (A11)	X Depleted Matrix (
	Dark Surface (A12)	_	Redox Dark Surfa				³ Indicators of hydrop	hytic vegetation and
Sandy	Mucky Mineral (S1)	_	Depleted Dark Su)		wetland hydrology	must be present,
Sandy	Gleyed Matrix (S4)	_	Redox Depressio	ns (F8)			unless disturbed o	r problematic.
Restrictive	Layer (if present):							
Type:								
Depth	(inches):						Hydric Soil Present	? Yes X No
ample plot m	neets hydric soil indica	tors A11 - depl	eted below dark surfac	e and F3 -	- depleted r	natrix.		
ample plot m IYDROLO Wetland Hy	GY drology Indicators:			e and F3 -	- depleted r	natrix.		
IYDROLO Wetland Hy Primary Indi	GY rdrology Indicators:		eck all that apply)			natrix.	Secondary Indicator	s (2 or more required)
IYDROLO Wetland Hy Primary Indi Surface	reets hydric soil indicators: cators (minimum of ore Water (A1)		eck all that apply) Water-Stained Le	eaves (B9)	(except	natrix.	Secondary Indicators Water Stained	Leaves (B9) (MRLA 1, 2,
IYDROLO Wetland Hy Primary Indi Surface X High W	GY rdrology Indicators: ficators (minimum of or e Water (A1) Vater Tables (A2)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A	eaves (B9)	(except	natrix.	Secondary Indicator Water Stained 4A, and 4B)	Leaves (B9) (MRLA 1, 2,
IYDROLO Wetland Hy Primary Indi Surface X High W X Satura	rdrology Indicators: cators (minimum of or e Water (A1) Vater Tables (A2) tion (A3)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	eaves (B9)	(except	natrix.	Secondary Indicator Water Stained 4A, and 4B) Drainage Patte	Leaves (B9) (MRLA 1, 2,
IYDROLO Wetland Hy Primary Indi Surface X High W X Satura Water	reets hydric soil indicators: icators (minimum of or e Water (A1) Vater Tables (A2) tion (A3) Marks (B1)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra	eaves (B9) a, and 4B) ates (B13)	(except	natrix.	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2)
IYDROLO Wetland Hy Primary Indi Surface X High W X Satura Water Sedime	reets hydric soil indical GY rdrology Indicators: cators (minimum of or e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide	eaves (B9) a, and 4B) ates (B13) Odor (C1	(except		Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9)
IYDROLO Wetland Hy Primary Indi Surface X High W X Satura Water Sedime	reets hydric soil indical GY Idrology Indicators: Ideators (minimum of or Ideators (Mainimum o		water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp	eaves (B9) a, and 4B) ates (B13) Odor (C1	(except)) ng Living R		Secondary Indicator Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bsition (D2)
IYDROLO Wetland Hy Primary Indi Surface X High W X Satura Water Sedime Algal M	reets hydric soil indicators: icators (minimum of or e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)		eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	eaves (B9) ates (B13) Odor (C1 bheres alor	(except)) ng Living R (C4)	oots (C3)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) osition (D2) rd (D3)
IYDROLO Wetland Hy Primary Indi Surface X High W X Satura Water Sedime Drift De Algal M	reets hydric soil indical regy regrology Indicators: recators (minimum of or re Water (A1) Vater Tables (A2) tion (A3) Marks (B1) rent Deposits (B2) reposits (B3) Mat or Crust (B4) reposits (B5)		water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	eaves (B9) a, and 4B) ates (B13) Odor (C1 cheres alor uced Iron ((except)) ng Living R (C4) illed Soils (oots (C3)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita FAC-Neutral Te	rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5)
IYDROLO Wetland Hy Primary Indi	reets hydric soil indicators: icators (minimum of or e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)	ne required; che - - - - - -	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	eaves (B9) a, and 4B) ates (B13) Odor (C1 bheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita FAC-Neutral Te	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bistion (D2) rd (D3) est (D5) unds (D6) (LRR A)
IYDROLO Wetland Hy Primary Indi Surface X High W X Satura Water Sedime Drift De Algal M Iron De Surface Inunda	reets hydric soil indical GY rdrology Indicators: ficators (minimum of or e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6)	ne required; che	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	eaves (B9) a, and 4B) ates (B13) Odor (C1 bheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquita FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bistion (D2) rd (D3) est (D5) unds (D6) (LRR A)
Algal North Algal	reets hydric soil indical regy regrology Indicators: recators (minimum of or e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) attion Visible on Aeriel	ne required; che	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	eaves (B9) a, and 4B) ates (B13) Odor (C1 bheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquita FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bistion (D2) rd (D3) est (D5) unds (D6) (LRR A)
IYDROLO Wetland Hy Primary Indi Surface X High W X Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle	reets hydric soil indical GY rdrology Indicators: ficators (minimum of or e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) htion Visible on Aeriel I ey Vegetated Concaveryations:	ne required; che	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	eaves (B9) a, and 4B) ates (B13) Odor (C1 bheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquita FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bistion (D2) rd (D3) est (D5) unds (D6) (LRR A)
Primary Indi Surface X High W X Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle	reets hydric soil indical GY Idrology Indicators: Idrators (minimum of or Idrology Indicators: Idrators (minimum of or Idrology Indicators: Idrology Indio	ne required; che	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) a, and 4B) ates (B13) Odor (C1 bheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquita FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bistion (D2) rd (D3) est (D5) unds (D6) (LRR A)
IYDROLO Wetland Hy Primary Indi Surface X High W X Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Water	reets hydric soil indical GY Idrology Indicators: Ideators (minimum of or Ideators (Male	ne required; che	Peck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	eaves (B9) a, and 4B) ates (B13) Odor (C1 bheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquita FAC-Neutral Te Raised Ant More	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
Algal Molecular Surface Surface X High W X Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation P	reets hydric soil indical ref of Y ref ology Indicators: cators (minimum of or e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concave rvations: ter Present? Yes e Present? Yes	magery (B Surface (B8)	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	eaves (B9) a, and 4B) ates (B13) Odor (C1 bheres alor uced Iron (uction in Ti	(except) ng Living R (C4) illed Soils (illed Soils (IL) (D1) (LRR	oots (C3) C6) A)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita FAC-Neutral Te Raised Ant Moo Frost-Heave Ho	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
Primary Indi Surface X High W X Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Wat Water Table Saturation P (includes ca	reets hydric soil indical GY redrology Indicators: ficators (minimum of or e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Aeriel I ey Vegetated Concave rvations: ter Present? Yes e Present? Yes epillary fringe)	magery (B e Surface (B8) No X No	eck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	eaves (B9) ates (B13) Odor (C1 cheres alor uced Iron (uction in Ti ed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita FAC-Neutral Te Raised Ant Mod Frost-Heave Ho	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
AYDROLO Wetland Hy Primary Indi Surface X High W X Saturar Water Sedime Drift De Algal M Iron De Surface Inunda Sparske Field Obser Surface Wat Water Table Saturation P (includes ca	reets hydric soil indical GY redrology Indicators: ficators (minimum of or e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Aeriel I ey Vegetated Concave rvations: ter Present? Yes e Present? Yes epillary fringe)	magery (B e Surface (B8) No X No	Peck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	eaves (B9) ates (B13) Odor (C1 cheres alor uced Iron (uction in Ti ed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita FAC-Neutral Te Raised Ant Mod Frost-Heave Ho	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
AYDROLO Wetland Hy Primary Indi Surface X High W X Saturar Water Sedime Drift De Algal M Iron De Surface Inunda Sparske Field Obser Surface Wat Water Table Saturation P (includes ca	reets hydric soil indical GY redrology Indicators: ficators (minimum of or e Water (A1) Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Aeriel I ey Vegetated Concave rvations: ter Present? Yes e Present? Yes epillary fringe)	magery (B e Surface (B8) No X No	Peck all that apply) Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	eaves (B9) ates (B13) Odor (C1 cheres alor uced Iron (uction in Ti ed Plants Remarks)	(except)) ng Living R (C4) illed Soils ((D1) (LRR	oots (C3) C6) A)	Secondary Indicators Water Stained 4A, and 4B) Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita FAC-Neutral Te Raised Ant Mod Frost-Heave Ho	Leaves (B9) (MRLA 1, 2, rns (B10) ater Table (C2) ble on Aeriel Imagery (C9) bestion (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)



Photo Name: Photo_220708142048



Photo Name: Photo_220708142113



Project/Site: Port of Grays harbor Terminal 4 E.	xpansion	City/County: Ab	erdeen, Grays H	larbor Sampling Da	ate: 7/8/2022		
Applicant/Owner: The Port of Grays Harbor			State: WA	Sampling Po			
Investigators: STORY, DARTIGUENAVE		Sec		Range: T17N R9W S			
Landform (hillslope, terrace, etc.): Flat			concave, convex,			e(%): 2	
Subregion (LRR): A - Northwestern Forest,	Lat: 46.966	_ `	23.836136	Datum:	WGS84		
Soil Map Unit Name: Udorthents			NWI Classifi				
Are climatic / hydrologic conditions on the site typica	al for this time of	year? Yes		(If No, explain in R	emarks)		
Are Vegetation: Soil or Hydrology	significantly of			nstances" present?		X N	0
Are Vegetation: Soil or Hydrology	naturally prob			any answers in Rem			ٽ —
SUMMARY OF FINDINGS - Attach a site						es. etc.	
Hydrophytic Vegetation Present? Yes X		T		, ,			
Hydric Soil Present? Yes	No X	Is the Sa	mpled Area				
Wetland Hydrology Present? Yes	No X	within a \	_	Yes		No X	
Remarks:							
Sample plot located on fill slope above swale with S 3 wetland criteria and is not within a wetland. VEGETATION – Use scientific names of		5 feet N and 2 feet ab	ove 4-1. Dense r	oots from ALRU in sa	ample plot. Samp	ole plot mee	ets 1 of
VEGETATION - Ose scientific flames of	Absolute	Dominant	Indicator	Dominance Test	Workshoot:		
Tron Statum (Diat size: Em)							
Tree Statum (Plot size: 5m) 1. Alnus rubra	% Cover 60	Species? Yes	Status FAC	Number of Domina	•	3	(1)
Alnus rubra 2.			— FAC	That Are OBL, FAC	-	<u> </u>	— ^(A)
3.				Species Across All		5	(B)
4.				Percent of Domina	-		– (b)
	60	= Total Cover		That Are OBL, FAC		60	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)		= Total Cover		Prevalence Index	-		(A/D)
Rubus armeniacus	30	Yes	FAC	Total % Cover of:		oly by:	
Reynoutria japonica	20	Yes	FACU	OBL species	x1=	<u>oly by.</u>	
3.			1700	FACW species	55 x2=	110	_
4.				FAC species	$\frac{00}{90}$ x3=	270	_
5.				FACU species	65 x4=	260	_
	50	= Total Cover		UPL species	x5=	0	_
Herb Stratum (Plot size: 1m)				Column Totals:	210 (A)	640	— (B)
Equisetum telmateia	45	Yes	FACW				- ` ′
Dactylis glomerata	30	Yes	FACU	Prevalence Ind	lex = B/A =	3.0	5
Cirsium vulgare	10	No	FACU	Hydrophytic Vege	tation Indicator	rs:	
4. Phalaris arundinacea	7	No	FACW	1 - Rapid Te	st for Hydrophyti	c Vegetatio	on
5. Geranium robertianum	5	No	FACU	X 2 - Dominan	ce Test is >50%		
6. Epilobium ciliatum	3	No	FACW	3 - Prevalen	ce Index is ≤3.0¹		
7.				4 - Morpholo	gical Adaptation	s¹ (Provide	;
8.				data in F	Remarks or on a	separate s	heet)
9.				5 - Wetland	Non-Vascular Pla	ants¹	,
10.				Problematic	Hydrophytic Veg	etation¹ (E	xplain)
11.				¹Indicators of hydri			
	100	= Total Cover		must be present, u		-	-
Woody Vine Stratum (Plot size: 3m)						-	
1.				Hydrophytic			
2.		-		Vegetation	Yes X	No	
		= Total Cover		Present?			_
% Bare Ground in Herb Stratum 0							
Remarks:	_						
Veg is largely disturbance tolerant/weedy. Sample p	olot meets domin	ance test for hydroph	ytic vegetation.				

Depth	Matri	x		Redo	x Feature	s					
(inches)	Color (moist)	%	Cold	or (moist)	%	Type ¹	Loc²	Texture		Remarks	
0-12	7.5YR 3/4	100						Silt Loam	Gravel a	and angular cobb	le (quar
Гуре: C= Co	oncentration, D= De	pletion, RM=Re	educed Mat	rix, CS=Covere	ed or Coat	ed Sand G	rains.	²Lo	cation: PL	.=Pore Lining, M=	Matrix.
ydric Soil I	ndicators: (Application	able to all LRR	Rs, unless	otherwise not	ed.)			Indicators for Pr	oblematic	Hydric Soils ³ :	
Histos	sol (A1)		Sa	ndy Redox (S5	5)			2 cm Mucl	(A10)		
	Epipedon (A2)			ipped Matrix (S	,			Red Parer		` '	
	Histic (A3)			amy Mucky Mir	, ,	(except ML	.RLA 1)			urface (TF12)	
	ogen Sulfide (A4)			amy Gleyed Ma				Other (Exp	olain in Rer	marks)	
<u> </u>	eted Below Dark Surf	ace (A11)		pleted Matrix (I							
	Dark Surface (A12)			dox Dark Surfa	` '			³ Indicators of hy		•	
	y Mucky Mineral (S1)			pleted Dark Su				wetland hydro			
	y Gleyed Matrix (S4)		Ke	dox Depression	ns (F8)			unless disturb	ea or prop	iematic.	
	e Layer (if present):										
Type:											
Depth	ı (inches):		_					Hydric Soil Pre	sent?	Yes1	اه <u> </u>
HYDROLO Wetland H											
D .	ydrology Indicators							0 1 1 "			
	dicators (minimum of				(DO)	/				r more required)	
Surfac	dicators (minimum of ce Water (A1)		Wa	ater-Stained Le		(except		Water Sta	ned Leave	r more required) es (B9) (MRLA 1,	2,
Surface	dicators (minimum of ce Water (A1) Water Tables (A2)		Wa	ater-Stained Le		(except		Water Star	ned Leave	es (B9) (MRLA 1 ,	2,
Surface High \ Satura	dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3)		Wa Sa	ater-Stained Le MRLA 1, 2, 4A It Crust (B11)	, and 4B)	(except		Water Stai 4A, and Drainage I	ned Leave 4B) Patterns (B	es (B9) (MRLA 1 ,	2,
Surface High \ Satura Water	dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1)		Wa Sa Aq	ater-Stained Le MRLA 1, 2, 4A It Crust (B11) uatic Invertebra	, and 4B) ates (B13)			Water Stai 4A, and Drainage I Dry-Seaso	ned Leave 4B) Patterns (B in Water Ta	es (B9) (MRLA 1 , s10) able (C2)	
Surface High \ Satura Water Sedim	dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2)		Wa I Sa Aq Hy	ater-Stained Le WRLA 1, 2, 4A It Crust (B11) uatic Invertebra drogen Sulfide	, and 4B) ates (B13) Odor (C1)		oots (C3)	Water Stai 4A, and Drainage I Dry-Seaso Saturation	ned Leave 4B) Patterns (B In Water Ta Visible on	es (B9) (MRLA 1, a10) able (C2) Aeriel Imagery (C	
Surface High \ Satura Water Sedim Drift D	dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3)		Wa Sa Aq Hy Ox	ater-Stained Le MRLA 1, 2, 4A It Crust (B11) uatic Invertebra drogen Sulfide idized Rhizosp	, and 4B) ates (B13) Odor (C1) heres alor	ng Living R	oots (C3)	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph	ned Leave 4B) Patterns (B n Water Ta Visible on ic Position	es (B9) (MRLA 1, a10) able (C2) Aeriel Imagery (C (D2)	
Surface High \ Satura Water Sedim Drift D Algal	dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4)		Wa I Sa Aq Hy Ox	ater-Stained Le MRLA 1, 2, 4A It Crust (B11) uatic Invertebra drogen Sulfide idized Rhizosp esence of Redu	, and 4B) ates (B13) Odor (C1) heres alon uced Iron (ng Living R C4)		Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ad	ned Leave 4B) Patterns (B In Water Ta Visible on Iic Position quitard (D3	es (B9) (MRLA 1, s10) able (C2) Aeriel Imagery (C (D2)	
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Surface Water Table Saturation (includes ca	dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aericsley Vegetated Concervations: ater Present? Yes Present? Yes	el Imagery (Bave Surface (Bave	Wa Sa Aq Hy Ox Pre Stu Ott 8) X De X De	ater-Stained Le MRLA 1, 2, 4A It Crust (B11) uatic Invertebra drogen Sulfide idized Rhizosp esence of Redu cent Iron Redu unted or Stress ner (Explain in pth (inches): pth (inches):	, and 4B) ates (B13) Odor (C1) heres alor uced Iron (ction in Til ed Plants Remarks)	ng Living R C4) lled Soils (0 (D1) (LRR	C6) A) Wetlan	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ar FAC-Neut Raised An Frost-Hear	ned Leave 4B) Patterns (B In Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds (ve Hummo	es (B9) (MRLA 1, a10) able (C2) Aeriel Imagery (C (D2) 3) 5) (D6) (LRR A) acks (D7)	C9)
Surface High \ Satura Water Sedim Drift D Algal Iron D Surface Inunda Spars Field Obse Surface Wa Water Tabl Saturation (includes ca	dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Inent Deposits (B6) In	el Imagery (Bave Surface (Bave	Wa Sa Aq Hy Ox Pre Stu Ott 8) X De X De	ater-Stained Le MRLA 1, 2, 4A It Crust (B11) uatic Invertebra drogen Sulfide idized Rhizosp esence of Redu cent Iron Redu unted or Stress ner (Explain in pth (inches): pth (inches):	, and 4B) ates (B13) Odor (C1) heres alor uced Iron (ction in Til ed Plants Remarks)	ng Living R C4) lled Soils (0 (D1) (LRR	C6) A) Wetlan	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ar FAC-Neut Raised An Frost-Hear	ned Leave 4B) Patterns (B In Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds (ve Hummo	es (B9) (MRLA 1, a10) able (C2) Aeriel Imagery (C (D2) 3) 5) (D6) (LRR A) acks (D7)	C9)
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Surface High V Satura Water Sedim Drift D Algal Iron D Surface Inunda Spars Field Obse Surface Wa Water Tabl Saturation I (includes ca	dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6) lation Visible on Aericsley Vegetated Concervations: later Present? Yes Present? Yes apillary fringe) corded Date (stream	el Imagery (Bave Surface (Bave No No No gauge, monito	Wa Sa Sa Aq Hy Ox Pre Stu Oth 8)	ater-Stained Le MRLA 1, 2, 4A It Crust (B11) uatic Invertebra drogen Sulfide idized Rhizosp esence of Redu cent Iron Redu unted or Stress ner (Explain in pth (inches): pth (inches): pth (inches):	, and 4B) ates (B13) Odor (C1) heres alor aced Iron (action in Til ed Plants Remarks)	ng Living R C4) lled Soils (0 (D1) (LRR	C6) A) Wetlan	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ar FAC-Neut Raised An Frost-Hear	ned Leave 4B) Patterns (B In Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds (ve Hummo	es (B9) (MRLA 1, a10) able (C2) Aeriel Imagery (C (D2) 3) 5) (D6) (LRR A) acks (D7)	C9)
Surface High V Satura Water Sedim Drift D Algal Iron D Surface Inunda Spars Field Obse Surface Wa Water Tabl Saturation I (includes ca	dicators (minimum of ce Water (A1) Water Tables (A2) ation (A3) If Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Inent Deposits (B6) In	el Imagery (Bave Surface (Bave No No No gauge, monito	Wa Sa Sa Aq Hy Ox Pre Stu Oth 8)	ater-Stained Le MRLA 1, 2, 4A It Crust (B11) uatic Invertebra drogen Sulfide idized Rhizosp esence of Redu cent Iron Redu unted or Stress ner (Explain in pth (inches): pth (inches): pth (inches):	, and 4B) ates (B13) Odor (C1) heres alor aced Iron (action in Til ed Plants Remarks)	ng Living R C4) lled Soils (0 (D1) (LRR	C6) A) Wetlan	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ar FAC-Neut Raised An Frost-Hear	ned Leave 4B) Patterns (B In Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds (ve Hummo	es (B9) (MRLA 1, a10) able (C2) Aeriel Imagery (C (D2) 3) 5) (D6) (LRR A) acks (D7)	C9)











Project/Site: Port of Grays harbor Terminal 4 E	kpansion	City/County:	Aberdeen, Grays H	arbor Sampling Date	e: 8/5/2022		
Applicant/Owner: The Port of Grays Harbor	-		State: WA	Sampling Poir	nt: SP 5-1		
Investigators: STORY		;	Section, Township,	 Range: T17N R9W S8			
Landform (hillslope, terrace, etc.): Flat		Local Relie	f (concave, convex,	none): Concave	Slope(%): 1	
Subregion (LRR): A - Northwestern Forest,	Lat: 46.9673	_ 19	-123.824432	Datum: V	WGS84		
Soil Map Unit Name: Udorthents			NWI Classific	cation: PEM			
Are climatic / hydrologic conditions on the site typica	al for this time of y	/ear? Yes	X No	(If No, explain in Rei	marks)		
Are Vegetation: Soil X or Hydrology	significantly di		Are "Normal Circun	nstances" present?	Yes X	No	J
Are Vegetation: Soil or Hydrology	naturally probl	ematic?	(If needed, explain	any answers in Rema	rks.)		
SUMMARY OF FINDINGS - Attach a site	— e map showi:	ng sampling i	point locations	, transects, impo	rtant feature	s, etc.	
Hydrophytic Vegetation Present? Yes X		T	•	, ,			
Hydric Soil Present? Yes X		Is the	Sampled Area				
Wetland Hydrology Present? Yes X			a Wetland?	Yes >	<	No	
Remarks:							
Sample plot in low point of ditch adjacent to RR trac frequently dredged/excavated. Sample plot meets 3 VEGETATION – Use scientific names of	of 3 wetland crite			signs of ponding and	hydric soils, spai	se veg. Lil	kely
VEGETATION - Use scientific flames of	Absolute	Dominant	Indicator	Dominance Test W	/outrala anti-		
<u>Tree Statum</u> (Plot size: 5m)	% Cover		Indicator				
1.	0	Species?	Status	Number of Dominan That Are OBL, FAC		2	(A)
2.				Total Number of Dor	_		- (A)
3.				Species Across All S		2	(B)
4.				Percent of Dominan	_		- (D)
···	0	= Total Cover	-	That Are OBL, FAC		100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)		_ 10tai 0010i		Prevalence Index v		100	(,,,,,
1.	0			Total % Cover of:	Multiply	v bv:	
2.				OBL species	x1=	, 5,.	
3.				FACW species	12 x2=	24	-
4.				FAC species	x3=	0	-
5.				FACU species	x4=	0	-
	0	= Total Cover		UPL species	x5=	0	-
Herb Stratum (Plot size: 1m)				Column Totals:	12 (A)	24	(B)
1. Juncus bufonius	7	Yes	FACW	_	` `		- `´
2. Phalaris arundinacea	5	Yes	FACW	Prevalence Inde	x = B/A =	2.00	Į
3.				Hydrophytic Veget	ation Indicators	:	
4.				X 1 - Rapid Test	t for Hydrophytic	Vegetation	n
5.					e Test is >50%	-	
6.				X 3 - Prevalence	e Index is ≤3.0¹		
7.				4 - Morpholog	ical Adaptations ¹	(Provide	
8.				data in Re	emarks or on a se	eparate sh	eet)
9.				5 - Wetland N	on-Vascular Plar	nts¹	
10.				Problematic H	lydrophytic Vege	tation¹ (Ex	plain)
11.				¹ Indicators of hydric	soil and wetland	hydrology	
	12	= Total Cover		must be present, un	less disturbed or	problemat	iic.
Woody Vine Stratum (Plot size: 3m)							
1	0			Hydrophytic			
2.				Vegetation	Yes X N	0	_
	0	= Total Cover		Present?			-
% Bare Ground in Herb Stratum 88							
Remarks:				•			

Bare ground in ditch from ponding, also likely from frequent excavation/dredging. Sample plot meets rapid test, dominance test, and prevalence index for hydrophytic vegetation.

Depth	Matrix		Red	ox Feature:	S				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Remarks	
0-4	5GY 3/1	70	10YR 3/6	30	C	M	Sandy Clay Loam		
4-16	5Y 3/1	55					Loamy Sand		
	5GY 3/1	40	10YR 3/6	5	C	М			
16-24	10GY 4/1	85	10YR 4/4	15	C	M	Clay		
ype: C= Cc	oncentration, D= Dep	etion, RM=Re	duced Matrix, CS=Cover	red or Coat	ed Sand G	rains.	²Location	: PL=Pore Lining, M=Matrix.	
ydric Soil Ir	ndicators: (Applical	ole to all LRR	s, unless otherwise no	ted.)			Indicators for Problem	natic Hydric Soils³:	
Histos	ol (A1)		X Sandy Redox (St	5)			2 cm Muck (A10))	
Histic	Epipedon (A2)		Stripped Matrix (S6)			Red Parent Mate	erial (TF2)	
Black	Histic (A3)		Loamy Mucky Mi	neral (F1)	(except ML	.RLA 1)	Very Shallow Da	ark Surface (TF12)	
Hydro	gen Sulfide (A4)		Loamy Gleyed M	atrix (F2)			Other (Explain in	n Remarks)	
Deplet	ted Below Dark Surfa	ce (A11)	Depleted Matrix ((F3)					
Thick !	Dark Surface (A12)		X Redox Dark Surfa	ace (F6)			³ Indicators of hydroph	nytic vegetation and	
Sandy	Mucky Mineral (S1)		Depleted Dark St	urface (F7)			wetland hydrology r	ology must be present,	
Sandy	Gleyed Matrix (S4)		Redox Depression	ns (F8)			unless disturbed or	problematic.	
Restrictive	Layer (if present):								
Type:			_						
Depth	(inches):						Hydric Soil Present?	? Yes X No	
	GY								
	drology Indicators:								
Primary Ind	drology Indicators:		11.37	(50)			Secondary Indicators		
Primary Ind	ydrology Indicators: icators (minimum of c ce Water (A1)		Water-Stained Le	` '	(except		Water Stained L	(2 or more required) eaves (B9) (MRLA 1, 2,	
Primary Ind Surfac High V	ydrology Indicators: icators (minimum of o ce Water (A1) Vater Tables (A2)		Water-Stained Le	` '	(except		Water Stained L 4A, and 4B)	eaves (B9) (MRLA 1, 2,	
Primary Ind Surfac High V Satura	ydrology Indicators: icators (minimum of o ce Water (A1) Vater Tables (A2) ation (A3)		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	A, and 4B)	(except		Water Stained L 4A, and 4B) Drainage Pattern	ns (B10)	
Primary Ind Surfac High V Satura X Water	ydrology Indicators: icators (minimum of one Water (A1) Water Tables (A2) ation (A3) Marks (B1)		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr	A, and 4B) rates (B13)			Water Stained L 4A, and 4B) Drainage Patteri Dry-Season Water	ns (B10) ter Table (C2)	
Primary Ind Surfac High V Satura X Water Sedim	ydrology Indicators: icators (minimum of one Water (A1) Water Tables (A2) ation (A3) Marks (B1) tent Deposits (B2)		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide	A, and 4B) rates (B13) e Odor (C1))	oots (C3)	Water Stained L 4A, and 4B) Drainage Pattern Dry-Season Wat Saturation Visible	ns (B10) ter Table (C2) le on Aeriel Imagery (C9)	
Primary Ind Surfac High V Satura X Water Sedim Drift D	ydrology Indicators: icators (minimum of of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) tent Deposits (B2) deposits (B3)		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp	A, and 4B) rates (B13) e Odor (C1) pheres alor) ng Living R	oots (C3)	Water Stained L 4A, and 4B) Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2)	
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Primary Ind Surface High V Satura X Water Sedim Drift D Algal N Iron Do X Surface Inunda X Sparsl Field Obse Surface Wa Water Table Saturation F (includes calescribe Recommends)	rydrology Indicators: icators (minimum of of the Water (A1) Vater Tables (A2) ation (A3) Marks (B1) Ment Deposits (B2) Meposits (B3) Mat or Crust (B4) Meposits (B5) Mesonic Cracks (B6) Metion Visible on Aeriel Mey Vegetated Concar Mervations: Meter Present? Mesonic Present? Mesonic Present? Mesonic Present? Mesonic Present? Mesonic Present (Mesonic Present) Mesonic Present (Mes	Imagery (B ve Surface (B8 No X No auge, monitor	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): X Depth (inches): Depth (inches):	A, and 4B) rates (B13) Produced Iron (cuction in Till sed Plants Remarks)	ng Living R C4) Illed Soils (I (D1) (LRR	Wetlan	Water Stained L 4A, and 4B) Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mou Frost-Heave Hun d Hydrology Present?	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7) Yes X No	
Primary Ind Surface High V Satura X Water Sedim Drift D Algal N Iron Do X Surface Inunda X Sparsl Field Obse Surface Wa Water Table Saturation F (includes ca	rydrology Indicators: icators (minimum of ote Water (A1) Vater Tables (A2) ation (A3) Marks (B1) Ident Deposits (B2) Ident Deposits (B3) Mat or Crust (B4) Idenosits (B5) Idenosits (B5) Idenosits (B6) I	Imagery (B ve Surface (B8 No X No auge, monitor	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): X Depth (inches): Depth (inches): ing well, aerial photos, p	A, and 4B) rates (B13) Produced Iron (cuction in Till sed Plants Remarks) revious ins	g Living R C4) Illed Soils (I (D1) (LRR 13.0 pections),	Wetlan if availab	Water Stained L 4A, and 4B) Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Post Shallow Aquitard FAC-Neutral Test Raised Ant Mout Frost-Heave Hund d Hydrology Present? le: ter marks on soil/rocks, season	eaves (B9) (MRLA 1, 2, ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)	



Photo Name: Photo_220805132159



Photo Name: Photo_220805132144



Yes Ac? (I ampling power within a	(concave, convex, 123.825012 NWI Classification No Line "Normal Circum f needed, explain a	Sampling Point range: T17N R9W S8 none): None Datum: Wation: UPL	rt: SP 5-	Slope		0
YesAd? Ac? (I ampling power within a	(concave, convex, 123.825012 NWI Classific X No re "Normal Circum f needed, explain a point locations, ampled Area	tange: T17N R9W S8 none): None Datum: W ation: UPL (If No, explain in Renstances" present? Iny answers in Remartransects, impo	narks) Yes	Slope	N	0
YesAd? Ac? (I ampling power within a	(concave, convex, 123.825012 NWI Classific X No re "Normal Circum f needed, explain a point locations, ampled Area	none): None Datum: W	/GS84 narks) Yes ks.)	X	N	О
YesAd? Ac? (I ampling po	NWI Classification NWI Classification No Incre "Normal Circum f needed, explain a point locations, ampled Area	Datum: Wation: UPL (If No, explain in Renstances" present? Iny answers in Remartransects, impo	narks) Yes ks.)	X	N	o
Yes Ac? (I ampling po	NWI Classifica X No re "Normal Circum f needed, explain a pint locations, ampled Area	ation: UPL (If No, explain in Rerstances" present? Iny answers in Remartransects, impo	Yes ks.)			o
d? A c? (I ampling po Is the Sa within a	X No re "Normal Circum f needed, explain a pint locations, ampled Area	(If No, explain in Renstances" present? Iny answers in Remartransects, impo	Yes ks.)			0
o? (I ampling po Is the Sa within a	f needed, explain a	stances" present? Iny answers in Remar transects, impo	Yes ks.)			0
o? (I ampling po Is the Sa within a	f needed, explain a	transects, impo				
Is the Sa	oint locations,	transects, impo		eatur	es, etc.	
Is the Sa within a	ampled Area	-			,	
within a	_	Yes				
within a	_	Yes				
					No X	
s gravel fill. S				•	<u> </u>	
s gravel fill. S						
	Sample plot meets (of 3 wetland criteria	and is no	ot withi	n a wetlan	ıd.
ominant	Indicator	Dominance Test W	orkshee	et:		
pecies?	Status	Number of Dominant	Species	3		
		That Are OBL, FACV	V, or FA	D: _	1	(A)
		Total Number of Don	ninant			
		Species Across All S	trata:	_	2	_ (B)
		Percent of Dominant	Species			
otal Cover		That Are OBL, FACV	V, or FA	D:	50	(A/B)
		Prevalence Index w	orkshee	et:		
		Total % Cover of:		Multip	ly by:	
		OBL species		x1=		_
		FACW species	10	x2=	20	
		FAC species	21	x3=	63	
		FACU species	23	x4=	92	
otal Cover		UPL species		x5=	0	
		Column Totals:	54	(A)	175	(B)
Yes	FACU					
Yes	FAC	Prevalence Inde	x = B/A =		3.2	4
No	FACW	Hydrophytic Vegeta	tion Inc	licator	s:	
No	FAC	1 - Rapid Test	for Hydr	ophytic	: Vegetati	on
No	FACU	2 - Dominance	Test is	>50%		
No	FAC	3 - Prevalence	Index is	s ≤3.0¹		
		4 - Morphologi	cal Adap	otations	¹ (Provide)
		data in Re	marks o	r on a s	separate s	sheet)
		5 - Wetland No	on-Vascı	ılar Pla	nts¹	
		Problematic H	ydrophyt	ic Veg	etation¹ (E	xplain)
		¹ Indicators of hydric s	soil and	wetland	d hydrolog	y
otal Cover		must be present, unl	ess distu	ırbed o	r problem	atic.
		Hydrophytic				
		Vegetation	Yes	1	۸o <u>X</u>	
otal Cover		Present?				_
		1				
	Yes No No	Species? Status Status Sotal Cover Yes FACU Yes FAC No FACW No FACU No FACU No FACU Total Cover Sotal Cover Status	Status Number of Dominant That Are OBL, FACV Total Number of Dom Species Across All S Percent of Dominant That Are OBL, FACV Prevalence Index w Total % Cover of: OBL species FACW species FACU species UPL species Column Totals: Yes FAC No FAC No FAC No FAC No FAC 1 - Rapid Test Prevalence A - Morphologi data in Re 5 - Wetland No Problematic H Indicators of hydric s must be present, unle Hydrophytic Vegetation Present?	Status Number of Dominant Species That Are OBL, FACW, or FACT Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FACT Prevalence Index workshee Total % Cover of: OBL species FACW species FACW species FACU Species Column Totals: Yes FAC No FAC	Status Number of Dominant Species	Number of Dominant Species

Depth Matrix Redox Features (Inches) Color (moist) % Color (moist) % Type Loc Texture Remarks (Inches) Color (moist) % Type Loc Silit Losm Cravelly fill material. 10.4 10VR 3/3 100 Silit Losm Gravelly fill material. 11. Texture Remarks (Inches) Silit Losm (Inches) Silit Silit Losm (Inches) Silit Silit Losm (Inches) Silit Sil		IVIa	ntrix		Redo	x Feature	s					
Fype: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ### Location: PL=Pore Lining, M=Matrix (pdf) (A)	,/	Color (moist)	%		Color (moist)	%	Type ¹	Loc²	Texture		Remarks	
Histosel (A1) Sandy Redox (S5) 2 cm Muck (A10) 2 cm Muck (A10) 4 Histosel (A1) Sandy Redox (S5) 2 cm Muck (A10) 4 Sandy Redox (S5) 2 cm Muck (A10) 4 Redox (A10) 4 Histosel (A1) 4 Coarry Mucky Mineral (F1) (except MLRLA 1) 4 Very Shallow Dark Surface (TF12) 5 Other (Explain in Remarks) 5 Other (Explain in Remarks) 6 Other (Explain in Remarks) 6 Other (Explain in Remarks) 7 Nother (Explain in Remarks) 8 Nother (Explain in Remarks) 9 Nother	0-4	10YR 3/3	100		_				Silt Loam	Gravelly	fill material.	
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Problematic Hydric Soils*: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Problematic Hydric Soils*: Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Usery Shallow Dark Surface (A11) Depleted Matrix (F2) Usery Shallow Dark Surface (TF12) Usery Shallow Dark Surface (TF12) Usery Shallow Dark Surface (TF12) Usery Shallow Dark Surface (A11) Depleted Matrix (F2) Usery Shallow Dark Surface (TF12) Usery Shallow Shallow				-								
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Problematic Hydric Soils*: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Problematic Hydric Soils*: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Red Problematic Hydric Soils*: Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Martix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Martix (F2) Other (Explain in Remarks) Princk Dark Surface (A12) Redox Dark Surface (F6) andicators of hydrophytic vegetation and welland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Primary Indicators (minimum of one required: check all that apply) Surface Water (A1) Water Stained Leaves (B9) (except Water (S6)) Surface Water (A1) Water Stained Leaves (B9) (except Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Drainage Patterns (B10) Dorit Deposits (B3) Oxidized Rizizospheres along Living Roots (C3) Saturation (D2) Surface Soil Cracks (B6) Stunde or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inducation (Nisible on Aeriel Imagery (C9) Sparsely Operated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Surface Root Research Plants (D1) (LRR A) Frost-Heave Hummocks (D7) Sparsiev Operated Concave Surface (B8) Field Observations: Surface Root Root Again Hydrology Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth				-								
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Sparsley Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No (includes capillary fringe) Secribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	High W Satura Water Sedimo Drift Do Algal M	Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)		check a	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	ates (B13) Odor (C1) Oheres alon uced Iron (ng Living Ro C4) Iled Soils (C	26)	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr	ned Leaves 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 ral Test (D5	s (B9) (MRLA 1, 10) able (C2) Aeriel Imagery (C) (D2))	
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Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: Demarks:	High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle	Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae ey Vegetated Cor	s) eriel Imagery (B		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress	ates (B13) Odor (C1) heres alor uced Iron (action in Til	ng Living Ro C4) Iled Soils (C	26)	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	ned Leaves 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds (s (B9) (MRLA 1, 10) able (C2) Aeriel Imagery (C (D2)) 5) D6) (LRR A)	
Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No (includes capillary fringe) escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: emarks:	High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle	Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ae ey Vegetated Cor rvations:	s) eriel Imagery (B ncave Surface (B		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) heres alor uced Iron (action in Til	ng Living Ro C4) Iled Soils (C	26)	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	ned Leaves 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds (s (B9) (MRLA 1, 10) able (C2) Aeriel Imagery (C (D2)) 5) D6) (LRR A)	
escribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: emarks:	High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser	Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Ace ey Vegetated Corrvations: ter Present? Y	eriel Imagery (B ncave Surface (B		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in	ates (B13) Odor (C1) heres alor uced Iron (action in Til	ng Living Ro C4) Iled Soils (C	26)	Water Stai 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neuti Raised An	ned Leaves 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds (s (B9) (MRLA 1, 10) able (C2) Aeriel Imagery (C (D2)) 5) D6) (LRR A)	
emarks:	High W Satura Water Sedime Drift De Algal N Iron De Surface Inunda Sparske Field Obser Surface Water	Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Ac ey Vegetated Cor rvations: ter Present? Y	eriel Imagery (B ncave Surface (B res No res No		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1) heres alor uced Iron (action in Til	ng Living Ro C4) Iled Soils (C	C6) A)	Water Stai 4A, and Drainage I Dry-Sease Saturation Geomorph Shallow Ad FAC-Neutt Raised An Frost-Hear	ned Leaves 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds () ve Hummon	s (B9) (MRLA 1, 10) able (C2) Aeriel Imagery (C (D2)) 5) D6) (LRR A) cks (D7)	C9)
emarks:	High W Satura Water Sedime Drift De Algal M Iron De Surface Inunda Sparsle Field Obser Surface Water Table Saturation F	Vater Tables (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Acey Vegetated Corrvations: ter Present? Present? Yeresent? Yeresent? Yeresent? Yeresent?	eriel Imagery (B ncave Surface (B res No res No		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Stunted or Stress Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1) heres alor uced Iron (action in Til	ng Living Ro C4) Iled Soils (C	C6) A)	Water Stai 4A, and Drainage I Dry-Sease Saturation Geomorph Shallow Ad FAC-Neutt Raised An Frost-Hear	ned Leaves 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds () ve Hummon	s (B9) (MRLA 1, 10) able (C2) Aeriel Imagery (C (D2)) 5) D6) (LRR A) cks (D7)	C9)
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Photo Name: Photo_220805134049



Photo Name: Photo_220805134957





Project/Site: Port of Grays harbor Terminal 4 E	kpansion	City/County:	Aberdeen, Grays H	arbor Sampling Da	ite: 8/5/202	22	
Applicant/Owner: The Port of Grays Harbor		_	State: WA	Sampling Po	int: SP 6-1		
Investigators: STORY, DARTIGUENAVE			Section, Township, I	Range: T17N R9W S			
Landform (hillslope, terrace, etc.): Flat		Local Reli	ef (concave, convex,			Slope(%):	1
Subregion (LRR): A - Northwestern Forest,	Lat: 46.9667	_	-123.825203		WGS84	' ` ′ -	
Soil Map Unit Name: Udorthents			NWI Classific	ation: PEM			
Are climatic / hydrologic conditions on the site typica	al for this time of v	/ear? Yes		(If No, explain in Re	emarks)		
Are Vegetation: Soil or Hydrology	significantly di		Are "Normal Circun	- ` '	Yes	Х	No
Are Vegetation: Soil or Hydrology	naturally probl			any answers in Rema	_		
SUMMARY OF FINDINGS - Attach a site						atures, e	tc.
Hydrophytic Vegetation Present? Yes X		Ī	·	· · · · · · · · · · · · · · · · · · ·			
Hydric Soil Present? Yes X		Is the	Sampled Area				
Wetland Hydrology Present? Yes X	No	withir	n a Wetland?	Yes	X	No	
Remarks:							
Sample plot at low point of RR ditch on SW side of t wetland.	racks between R	R and access roa	ad. Sample plot mee	ts 3 of 3 wetland crite	ria and is lo	cated within	n a
VEGETATION – Use scientific names o	f plants.						
	Absolute	Dominant	Indicator	Dominance Test	Worksheet	:	
<u>Tree Statum</u> (Plot size: 5m)	% Cover	Species?	Status	Number of Domina	nt Species		
1.	0			That Are OBL, FAC	W, or FAC	: 2	(A)
2.				Total Number of Do	ominant		
3.				Species Across All	Strata:	2	(B)
4.				Percent of Domina	nt Species		
	0	= Total Cover		That Are OBL, FAC	W, or FAC	: 100	0 (A/B)
Sapling/Shrub Stratum (Plot size: 3m)				Prevalence Index	worksheet		
1.	0			Total % Cover of:	Ī	Multiply by:	
2.				OBL species	2 >	x1= 2	
3.				FACW species	30	x2= 60	
4.				FAC species	25	x3= 75	
5.				FACU species	,	x4= 0	
	0	= Total Cover		UPL species	,	x5= 0	
Herb Stratum (Plot size: 1m)				Column Totals:	 57 ((A) 13	7 (B)
Agrostis capillaris	20	Yes	FAC			· <i>'</i> ———	`
Phalaris arundinacea	20	Yes	FACW	Prevalence Ind	ex = B/A =		2.40
3. Juncus effusus	10	No	FACW	Hydrophytic Vege		cators:	
4. Lotus corniculatus	5	No	FAC	1 - Rapid Tes			etation
5. Typha latifolia		No No	OBL	X 2 - Dominano	•		AGUOTT
6.				X 3 - Prevalence			
7.				4 - Morpholo			wide
8.					Remarks or	,	
				5 - Wetland N			ile sileel)
9.							al (Evalaia)
10.				Problematic		_	
11				¹Indicators of hydrid		-	
W 1.15 Oct (Division)	57	= Total Cover		must be present, ur	niess disturi	bea or probl	iematic.
Woody Vine Stratum (Plot size: 3m)	_						
1	0			Hydrophytic			
2.				Vegetation	Yes _	X No	
% Bare Ground in Herb Stratum 43	0	= Total Cover		Present?			
	<u> </u>						
Remarks:							
Sample plot meets the dominance test and prevaler	ice index for hydr	ophytic vegetation	on.				

Inches Color (moist)	0-9 9-15	Mat	:rix			Redo	ox Feature	s			
9-15 2.57 4/1 30 10YR 4/6 10 C M 9-15 2.57 4/2 80 7.57R 4/4 20 C PL M 15-24 2.57 4/1 85 10YR 3/6 5 C PL Silty Clay pre: C= Concentration, D= Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains. red Coated Sand Grains. red Coated Sand Grains. red Coated Sand Grains. red Coated Sand Grains. red Coated Sand Grains. red Coated Sand Grains. red Coated Sand Grains. red Coated Sand Grains. red Coated Sand Grains. red Coated Sand Grains. red Coated Sand Grains. red Coated Sand Grains. red Coated Sand Grains. re	9-15	Color (moist)		%		Color (moist)	%	Type ¹	Loc²	Texture	Remarks
9-15		10YR 3/1		60						Silty Clay Loam	
pe: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. **Location: PL=Pore Lining, M=Matrix Gold Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histosol (A1) Histosol (A2) Black Histic (A3) Histosol (A2) Stripped Matrix (S5) Tinick Dark Surface (A12) Sandy Rodox (S5) Sandy Motoxy Mineral (S1) Sandy Motoxy Mineral (S1) Sandy Motoxy Mineral (S1) Sandy Cleyed Matrix (A1) Matrix (B1) Sandy Cleyed Matrix (A1) Sandy Cleyed Matrix (A1) Matrix (B1) Sandy Cleyed Matrix (A1) Matrix (B1) Sandy Cleyed Matrix (A1) Matrix (B1) Surface Water (A1) Water Stained Leaves (B9) (except Matrix, and F6 - redox dark surface. **Redox Dark Surface (F7) **Water Stained Leaves (B9) (except Matrix (F2) Sandy Mudoxy Mineral (S1) Surface Water (A1) Water Stained Leaves (B9) (except Matrix (B1) Surface Water (A1) Water Stained Leaves (B9) (except Matrix (B1) Surface Water (A1) Water Stained Leaves (B9) (except Matrix (B1) Salution (A3) Salut Crust (B1) Salut Crust (B1) Sediment Deposits (B2) Hydrogen Surface Off (C1) Salution (C7) Water Stained Cleaves (B9) (MRLA 1, 2, 4A, and 4B) Drainage Patterns (B10) Water Stained (C7) Salution (C7) S		2.5Y 4/1		30		10YR 4/6	10	С	M		
pe: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Tocation: PL=Pore Lining, M=Matrix file Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils*:	15-24	2.5Y 4/2		80		7.5YR 4/4	20	C	PL M	Silty Clay	
Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histosol (A1) Histosol (A2) Biack Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Hydrogen Sulfice (A4) Loamy Mucky Mineral (F1) (except MLRLA 1) Thick Dark Surface (A11) Thick Dark Surface (A12) Thick Dark Surface		2.5Y 4/1		95		10YR 3/6	5	С	PL	Silty Clay	
Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histosol (A1) Histosol (A2) Sandy Redox (S5) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Thick Dark Surface (A11) Thick Dark Surface (A11) Thick Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Bedox Depressions (F8) Betrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Type: Image: Image											
rice Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histosol (A1) Histosol (A1) Histosol (A1) Histosol (A2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Thick Dark Surface (A11) Thick Dark Surface (A11) Thick Dark Surface (A12) Thick Dark Surface (F6) Thick Dark Surface (F6) Thick Dark Surface (F7) Thick Dark Surface (A12) Thick Dark Surface (F7) Thick Dark Surface (F8) Thick Dark Sur											
Inition Coll Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoscol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histoscol (A2) Schipped Martix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Martix (F2) Other (Explain in Remarks) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Martix (F2) Other (Explain in Remarks) Very Shallow Dark Surface (TF12) Thick Dark Surface (A11) X Depleted Martix (F3) Thick Dark Surface (A12) X Redox Dark Surface (F6) andicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Martix (S4) Redox Depressions (F8) unless disturbed or problematic. **Strictive Layer (if present): Type: Depth (inches): Type: Depth (inches): **Type: Depth (inches): Dep											
Inition Coll Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoscol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histoscol (A2) Schipped Martix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRLA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Martix (F2) Other (Explain in Remarks) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Martix (F2) Other (Explain in Remarks) Very Shallow Dark Surface (TF12) Thick Dark Surface (A11) X Depleted Martix (F3) Thick Dark Surface (A12) X Redox Dark Surface (F6) andicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Martix (S4) Redox Depressions (F8) unless disturbed or problematic. **Strictive Layer (if present): Type: Depth (inches): Type: Depth (inches): **Type: Depth (inches): Dep											
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histos Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (except MLRLA 1) Hydrogen Sulfide (A4) Loamy Sulfy Mineral (F1) (except MLRLA 1) Hydrogen Sulfide (A4) Loamy Sulfy Mineral (F1) (except MLRLA 1) Hydrogen Sulfide (A4) Loamy Sulface (A11) X Depleted Matrix (F2) Thick Dark Surface (A12) X Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Sardy Gleyed Matrix (S4) Redox Depressions (F8) Unless disturbed or problematic. Bestrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes X No narks: The problematic Surface (A11) Water-Stained Leaves (B9) (except Matrix, and F6 - redox dark surface. DROLOGY Belland Hydrology Indicators: Inimary Indicators (minimum of one required; check all that apply) Surface Water (A11) Water-Stained Leaves (B9) (except Matrix, and F6 - redox dark surface. MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) X Dyn-Seson Water Tables (A2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Difft Deposits (B3) X Oxidized Rhizospheres along Living Roots (C3) Seconorphic Position (D2) Sparsiey Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsiey Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsiey Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Prost-Heave Hummocks (D7) Sparsiey Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mo	oe: C= Co	ncentration, D= D	epletion	, RM=Re	educed	Matrix, CS=Covere	ed or Coat	ted Sand G	Frains.	² Location	n: PL=Pore Lining, M=Matri
Histic Epipedon (A2)	lric Soil In	dicators: (Appli	cable to	all LRR	ts, unle	ess otherwise not	ed.)			Indicators for Problen	natic Hydric Soils³:
Black Histic (A3)	Histoso	ol (A1)				Sandy Redox (S5	5)			2 cm Muck (A10	0)
Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Depleted Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Sandy Gleyed Matrix (F3) Secondary Gleyed Matrix (F4) Bedox Depressions (F8) Bedox Depressions (F8) Wetland hydrology must be present, unless disturbed or problematic. Wetland hydrology must be present, unless disturbed or problematic. Betrictive Layer (if present): Type: Depth (inches): Bepth (inches): Beth (inc	_					•					, ,
Depleted Below Dark Surface (A11)		` '						(except ML	_RLA 1)	Very Shallow Da	ark Surface (TF12)
Thick Dark Surface (A12) X Redox Dark Surface (F6) and indicators of hydrophytic vegetation and wetland hydrology must be present. Sandy Mucky Mineral (S1) Redox Depressions (F8) unless disturbed or problematic. strictive Layer (if present): Type: Depth (inches): ype: Depth (inches): Depth (inches): Type: Depth (inches):							, ,			Other (Explain in	n Remarks)
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Strictictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes X No Darks: piple plot meets hydric soil indicators for A11 - depleted below dark surface, F3 - depleted matrix, and F6 - redox dark surface. DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) (except Water Stained Leaves (B9) (MRLA 1, 2, 4, and 4B) High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aeriel Imagery (C9) Drift Deposits (B3) X Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Inon Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FACA-Waterial Test (D5) Surface Soil Cracks (B6) Sturtade or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) eld Observations: unless disturbed or problematic. Hydrice Soil Present? Yes X No Depth (inches): 20.0 Wetland Hydrology Present? Yes X No Depth (inches): 20.0 Wetland Hydrology Present? Yes X No Depth (inches): 20.0 Wetland Hydrology Present? Yes X No Depth (inches): 20.0 Wetland Hydrology Present? Yes X No Depth (inches): 20.0 Wetland Hydrology Present? Yes X No Depth (inches): 20.0 Saturation (P2) Available:	_			11)		•					
Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Bastrictive Layer (if present): Type: Depth (inches): Depth					X		, ,				-
estrictive Layer (if present): Type: Depth (inches): Inple plot meets hydric soil indicators for A11 - depleted below dark surface, F3 - depleted matrix, and F6 - redox dark surface. Present						•)			
Type:	Sandy	Gleyed Matrix (S ²	1)			Redox Depression	ns (F8)			unless disturbed or	problematic.
Depth (inches):	estrictive	Layer (if present):								
DROLOGY etland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Tables (A2) Water Stained Leaves (B9) (except High Water Tables (A2) MRLA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) X Oxidized Rhizospheres along Living Roots (C3) Iron Deposits (B4) Presence of Reduced Iron (C4) Sourdace Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Living Roots (D3) A Depth (inches): Lardace Water Present? Yes X No Depth (inches): Lardace Water Present? Yes X No Depth (inches): Lardace Water Bail And As Survailable: Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) Mater Table (C2) Secondary Indicators (2 or more required) Water Stained Leaves (B9) (MRLA 1, 2, 4A, and 4B) A 4A, and 4B) Drainage Patterns (B10) X Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Saturation Visible on Aeriel Imagery (B) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes X No Depth (inches): Lardace Water Present? Yes X No Depth (inch	Type:				_						
ple plot meets hydric soil indicators for A11 - depleted below dark surface, F3 - depleted matrix, and F6 - redox dark surface. DROLOGY	Depth ((inches):			_					Hydric Soil Present	? Yes <u>X</u> No
Surface Water (A1)	_										
High Water Tables (A2) Saturation (A3) Salt Crust (B11) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) X Oxidized Rhizospheres along Living Roots (C3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Water Marks (B1) Aquatic Invertebrates (B13) X Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Water Marks (B1) Aquatic Invertebrates (B13) X Dry-Season Water Table (C2) Saturation Visible on Aeriel Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) Water Table Present? Yes No Depth (inches): Valer Table Present? Yes X No Depth (inches		•	of one re	equired; o	check a		(5.0)	, .			· · · · · · · · · · · · · · · · · · ·
Saturation (A3) Water Marks (B1) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Sediment Deposits (B2) Drift Deposits (B3) X Oxidized Rhizospheres along Living Roots (C3) Bediment Deposits (B4) Drift Deposits (B3) X Oxidized Rhizospheres along Living Roots (C3) Feesence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) Depth (inches): Jater Table Present? Yes X No Depth (inches): Jater Table Present? Yes X No Depth (inches): Jater Table Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:		` ,				•					.eaves (B9) (MRLA 1, 2,
Water Marks (B1)	_						., and 4B)			,	(D40)
Sediment Deposits (B2)	_					• ` ` `	otoo (D12)				, ,
Drift Deposits (B3) X Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) X Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) X Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) X Sparsley Vegetated Concave Surface (B8) Ield Observations: urface Water Present? Yes No Depth (inches): //ater Table Present? Yes X No Depth (inches):	_	` ,				• '	, ,			<u> </u>	` ,
X Algal Mat or Crust (B4)									loots (C3)		
Iron Deposits (B5)	_					•		•	.0015 (C3)		
Surface Soil Cracks (B6) Inundation Visible on Aeriel Imagery (B Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aeriel Imagery (B Sparsley Vegetated Concave Surface (B8) Frost-Heave Hummocks (D7) Total Concave Surface (B8) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D						•			C6)		, ,
Inundation Visible on Aeriel Imagery (B Other (Explain in Remarks) Frost-Heave Hummocks (D7) X Sparsley Vegetated Concave Surface (B8) ield Observations: urface Water Present? Yes No X Depth (inches): //ater Table Present? Yes X No Depth (inches): 20.0 aturation Present? Yes X No Depth (inches): 14.0 wetland Hydrology Present? Yes X No nocludes capillary fringe) coribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:		. ,	1			•		,	,		
X Sparsley Vegetated Concave Surface (B8) ield Observations: urface Water Present? Yes No X Depth (inches): Vater Table Present? Yes X No Depth (inches): 20.0 aturation Present? Yes X No Depth (inches): 14.0 wetland Hydrology Present? Yes X No ncludes capillary fringe) scribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:		` ,		ierv (B					,		, , , ,
ield Observations: urface Water Present? Yes No X Depth (inches): //ater Table Present? Yes X No Depth (inches): aturation Present? Yes X No Depth (inches): ncludes capillary fringe) wetland Hydrology Present? Yes X No cribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:			_	, , ,	8)						
urface Water Present? Yes No X Depth (inches): //ater Table Present? Yes X No Depth (inches): aturation Present? Yes X No Depth (inches): //ater Table Present? Yes X No De	_	-							I		
Adater Table Present? Yes X No Depth (inches): 20.0 atturation Present? Yes X No Depth (inches): 14.0 Wetland Hydrology Present? Yes X No ncludes capillary fringe) Socribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:	X Sparsle		es	No	Х	Depth (inches):					
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ncludes capillary fringe) scribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: marks:	X Sparsle ield Obser urface Wat					· · · · · · -			Wetland	Hydrology Present?	Yes X No
scribe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available: marks:	X Sparsle ield Obser urface Wat /ater Table	Present? Ye	-0 A			· · · · / -			1		
marks:	X Sparsle ield Obser furface Wat Vater Table saturation P										
	X Sparsle ield Obser iurface Wat vater Table taturation P ncludes ca	pillary fringe)		monitor	ring we	II aerial nhotos nr	evious ins	enections)	if available	٥٠.	
	X Sparsle ield Obser iurface Wat vater Table taturation P ncludes ca	pillary fringe)		, monito	ring we	ll, aerial photos, pr	evious ins	spections),	if available	e:	
al many and contains an allocation and the Original white and the contract of	X Sparsle ield Obser surface Wat Vater Table saturation P ncludes cap scribe Reco	pillary fringe)		, monito	ring we	ll, aerial photos, pr	evious ins	spections),	if available	:	



Photo Name: Photo_220805141150



Photo Name: Photo_220805141126



Project/Site: Port of Grays harbor Terminal 4 E	xpansion	City/County: Ab	erdeen, Grays F	larbor Sampling Date: 8	3/5/2022		
Applicant/Owner: The Port of Grays Harbor		,	State: WA	Sampling Point: S			
Investigators: STORY, DARTIGUENAVE		Sec	_	Range: T17N R9W S8			
Landform (hillslope, terrace, etc.): Flat				, none): Convex	Slone	(%): 5	
Subregion (LRR): A - Northwestern Forest,	Lat: 46.9674	_ `		Datum: WGS		,70).	
Soil Map Unit Name: Udorthents	Lat. 40.007		NWI Classifi				
Are climatic / hydrologic conditions on the site typic	al for this time of	year? Yes		(If No, explain in Remark	<u></u>		
Are Vegetation: X Soil X or Hydrology	significantly d	´ —		nstances" present?	Yes X	. No	0
Are Vegetation: Soil or Hydrology Are Vegetation: Soil or Hydrology	naturally prob			any answers in Remarks.)			<i></i>
SUMMARY OF FINDINGS - Attach a sit						as atc	
	K No		int locations	, transects, importa	- Teature	-5, etc.	
Hydric Soil Present? Yes	No X	le the Sar	npled Area				
Wetland Hydrology Present? Yes	$\frac{100 \times 100}{100 \times 100}$	within a V	_	Yes		No X	
Remarks:							
Sample plot on RR ballast. Limited soil, limited veg Sample plot meets 1 of 3 wetland criteria and is no	t located within a		6-1.				
VEGETATION – Use scientific names of				T			
	Absolute	Dominant	Indicator	Dominance Test Work			
<u>Tree Statum</u> (Plot size: 5m)	% Cover	Species?	Status	Number of Dominant Sp			
1	0			That Are OBL, FACW, o	_	1	_ (A)
2.				Total Number of Domina			
3.				Species Across All Strati	_	1	_ ^(B)
4				Percent of Dominant Spo			
	0	= Total Cover		That Are OBL, FACW, o	r FAC:	100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)				Prevalence Index work	sheet:		
1.	0			Total % Cover of:	<u>Multipl</u>	<u>ly by:</u>	
2.				OBL species	x1=		_
3.				FACW species	x2=	0	_
4.				FAC species 3	0 x3= _	90	_
5.				FACU species	x4=	0	_
	0	= Total Cover		UPL species	x5=	0	_
<u>Herb Stratum</u> (Plot size: 1m)				Column Totals: 3	0 (A) _	90	_ (B)
Equisetum arvense	30	Yes	FAC	.			
2.				Prevalence Index = I	B/A=	3.00	0
3.				Hydrophytic Vegetation	n Indicators	3:	
4.				1 - Rapid Test for	Hydrophytic	: Vegetatio	n
5.				X 2 - Dominance Te	st is >50%		
6.				X 3 - Prevalence Inc	lex is ≤3.0¹		
7.				4 - Morphological	Adaptations	¹ (Provide	
8				data in Rema	rks or on a s	eparate sl	heet)
9				5 - Wetland Non-\	/ascular Pla	nts¹	
10.				Problematic Hydro	phytic Vege	etation¹ (Ex	xplain)
11.		<u></u>		¹ Indicators of hydric soil	and wetland	l hydrology	у
	30	= Total Cover		must be present, unless	disturbed or	r problema	atic.
Woody Vine Stratum (Plot size: 3m)							
1	0			Hydrophytic			
2.				Vegetation Y	res X N	10	_
	0	= Total Cover		Present?			_
% Bare Ground in Herb Stratum 70							
Remarks:				1			
Sample plot meets dominance test for hydrophytic	vegetation, but is	sparsely vegetated.					

(inches) Color (10 ft) (inches) Color (10 ft) (inches) Color (10 ft) (inches) Color (10 ft) (inches):	(A4) Park Surface (A12) Peral (S1) Potrix (S4) Present): all and gra	le to all LRR			ted.) 5) S6) ineral (F1) latrix (F2) (F3) face (F6) urface (F7)	(except ML	ı	2 cm Muck Red Parent Very Shallo	ation: PL=Poblematic Hy (A10) Material (TF w Dark Surfa ain in Remar drophytic veg ogy must be	r2) ace (TF12) rks) getation and present,	
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (Black Histic (A3) Hydrogen Sulfide Depleted Below I Thick Dark Surfa Sandy Mucky Min Sandy Gleyed Martic (A) Restrictive Layer (if property prope	(A4) Oark Surface (A12) eral (S1) trix (S4) resent): all and gra	etion, RM=Re le to all LRR ee (A11)		ess otherwise no Sandy Redox (Sandy Redox (Sandy Redox Matrix (Sandy Mucky Matrix (Sandy Gleyed Matrix (Sandy Gleyed Matrix (Sandy Gleyed Depleted Matrix (Sandy Gleyed Depleted Dark Sandy Gleyed Dark Sandy Gleyed Dark S	ted.) 5) S6) ineral (F1) latrix (F2) (F3) face (F6) urface (F7)	(except ML	ı	2Loc Indicators for Pro 2 cm Muck Red Parent Very Shallo Other (Expl	ation: PL=Poblematic Hy (A10) Material (TF w Dark Surfa ain in Remar drophytic veg ogy must be	ore Lining, M=N rdric Soils³:	
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (Black Histic (A3) Hydrogen Sulfide Depleted Below I Thick Dark Surfact Sandy Mucky Min Sandy Gleyed Manager (If property of the pr	(Applicab A2) (A4) Park Surface (A12) Peral (S1) Patrix (S4) resent): Pall and gradus	le to all LRR		ess otherwise no Sandy Redox (Sandy Redox (Sandy Redox Matrix (Sandy Mucky Matrix (Sandy Gleyed Matrix (Sandy Gleyed Matrix (Sandy Gleyed Depleted Matrix (Sandy Gleyed Depleted Dark Sandy Gleyed Dark Sandy Gleyed Dark S	ted.) 5) S6) ineral (F1) latrix (F2) (F3) face (F6) urface (F7)	(except ML	ı	2 cm Muck Red Parent Very Shallo Other (Expl	blematic Hy (A10) Material (TF w Dark Surfa ain in Remar drophytic veg ogy must be	rdric Soils³: (2) ace (TF12) rks) getation and present,	latrix.
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Histosol (A1) Histic Epipedon (Black Histic (A3) Hydrogen Sulfide Depleted Below I Thick Dark Surfactive Layer (if property of the company o	(Applicab A2) (A4) Park Surface (A12) Peral (S1) Patrix (S4) resent): Pall and gradus	le to all LRR		ess otherwise no Sandy Redox (Sandy Redox (Sandy Redox Matrix (Sandy Mucky Matrix (Sandy Gleyed Matrix (Sandy Gleyed Matrix (Sandy Gleyed Depleted Matrix (Sandy Gleyed Depleted Dark Sandy Gleyed Dark Sandy Gleyed Dark S	ted.) 5) S6) ineral (F1) latrix (F2) (F3) face (F6) urface (F7)	(except ML	ı	2 cm Muck Red Parent Very Shallo Other (Expl	blematic Hy (A10) Material (TF w Dark Surfa ain in Remar drophytic veg ogy must be	rdric Soils³: (2) ace (TF12) rks) getation and present,	latrix.
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Histosol (A1) Histic Epipedon (Black Histic (A3) Hydrogen Sulfide Depleted Below I Thick Dark Surfa Sandy Mucky Min Sandy Gleyed Min Restrictive Layer (if property in the pr	(A4) Park Surface See (A12) Peral (S1) Potrix (S4) Present): all and gradus	ve (A11)	Rs, uni	Sandy Redox (Sandy Redox (Sandy Mucky Michael Loamy Gleyed Michael Matrix Redox Dark Surfice Depleted Dark S	5) S6) ineral (F1) latrix (F2) (F3) face (F6) urface (F7)			2 cm Muck Red Parent Very Shallo Other (Expl Indicators of hyd wetland hydrol	(A10) Material (TF w Dark Surfa ain in Remar drophytic veg ogy must be	r2) ace (TF12) rks) getation and present,	
Histic Epipedon (Black Histic (A3) Hydrogen Sulfide Depleted Below I Thick Dark Surface Sandy Mucky Min Sandy Gleyed Ma Restrictive Layer (if p Type: Quarry sp Depth (inches): Depth (inches): Demarks:	(A4) Park Surface (A12) Peral (S1) Patrix (S4) Present): Pall and gra 4	vel fill		Stripped Matrix (Loamy Mucky Mi Loamy Gleyed M Depleted Matrix Redox Dark Surf Depleted Dark S	S6) ineral (F1) latrix (F2) (F3) face (F6) urface (F7)		RLA 1)	Red Parent Very Shallo Other (Expl 3Indicators of hyd wetland hydrol	Material (TF w Dark Surfa ain in Remar drophytic veg ogy must be	rks) Jetation and present,	
Black Histic (A3) Hydrogen Sulfide Depleted Below I Thick Dark Surfar Sandy Mucky Min Sandy Gleyed Ma Restrictive Layer (if p Type: Quarry sp Depth (inches): Remarks: Remarks	(A4) Park Surface (A12) Peral (S1) Patrix (S4) resent): Pall and gra 4	vel fill		Loamy Mucky Mi Loamy Gleyed M Depleted Matrix Redox Dark Surf Depleted Dark S	ineral (F1) latrix (F2) (F3) face (F6) urface (F7)		RLA 1)	Other (Expl 3Indicators of hydrol wetland hydrol	w Dark Surfa ain in Remar drophytic veg ogy must be	rks) Jetation and present,	
Hydrogen Sulfided Depleted Below I Thick Dark Surfact Sandy Mucky Min Sandy Gleyed Materia Sandy Gleyed Sandy Gleye	ee (A12) eral (S1) atrix (S4) resent): all and gra	vel fill		Loamy Gleyed M Depleted Matrix Redox Dark Surf Depleted Dark S	fatrix (F2) (F3) face (F6) urface (F7)		RLA 1)	Other (Expland) 3Indicators of hydrol wetland hydrol	ain in Remar drophytic veg	rks) letation and present,	
Depleted Below I Thick Dark Surfar Sandy Mucky Min Sandy Gleyed Min Sandy Gleyed Min Restrictive Layer (if property in the pro	ee (A12) eral (S1) atrix (S4) resent): all and gra	vel fill		Depleted Matrix Redox Dark Surf Depleted Dark S	(F3) face (F6) urface (F7)			³ Indicators of hydrol	drophytic veg	etation and present,	
Thick Dark Surface Sandy Mucky Mir Sandy Gleyed Mir Sandy Gleyed Mir Restrictive Layer (if property of	ee (A12) eeral (S1) etrix (S4) resent): all and gra	vel fill		Redox Dark Surf Depleted Dark S	ace (F6) urface (F7)			wetland hydrol	ogy must be	present,	
Sandy Mucky Min Sandy Gleyed Ma Restrictive Layer (if p Type: Quarry sp Depth (inches): Remarks: Remar	resent): all and gra			Depleted Dark S	urface (F7)			wetland hydrol	ogy must be	present,	
Sandy Gleyed Market Find Sandy Gleyed Market Find Sample plot lacks hydric Find Sample plot lacks hydric Find Sample Primary Indicators (min Surface Water (A High Water Table Saturation (A3) Water Marks (B1)	resent): all and gra			_				-			
Restrictive Layer (if party party per	resent): all and gra			_ Redox Depression	ons (F8)			unless disturbe	ed or problem	natic.	
Type: Quarry sponsor Depth (inches): Remarks: R	all and gra		<u> </u>								
Depth (inches): Remarks: Sample plot lacks hydric HYDROLOGY Wetland Hydrology Ir Primary Indicators (min Surface Water (A High Water Table Saturation (A3) Water Marks (B1	4		<u> </u>								
Remarks: Sample plot lacks hydric HYDROLOGY Wetland Hydrology Ir Primary Indicators (min Surface Water (A High Water Table Saturation (A3) Water Marks (B1		ors.	_				l l				
HYDROLOGY Wetland Hydrology Ir Primary Indicators (min Surface Water (A High Water Table Saturation (A3) Water Marks (B1	soil indicat	ors.						Hydric Soil Pres	sent? Ye	es No) X
Surface Water (A High Water Table Saturation (A3) Water Marks (B1			-11-					Casandan Judia	-t (O	O	
High Water Table Saturation (A3) Water Marks (B1		ne required;	check		(50)	, ,		Secondary Indic			
Saturation (A3) Water Marks (B1	•			- Water-Stained Lo	` ′	(except			•	B9) (MRLA 1, 2 ,	,
Water Marks (B1	5 (AZ)			MRLA 1, 2, 44 Salt Crust (B11)	4, anu 46)			4A, and	4Ե յ atterns (B10)		
				- Aquatic Inverteb	rates (R13)				n Water Table		
Occument Depos				- Hydrogen Sulfide	` ′			<u> </u>		eriel Imagery (C9	a)
Drift Deposits (B3				Oxidized Rhizos			nots (C3)		c Position (D		')
Algal Mat or Crus	•			Presence of Red			3010 (00)	Shallow Aq		_,	
Iron Deposits (B5	, ,			Recent Iron Red			26)	FAC-Neutra	, ,		
Surface Soil Crac				Stunted or Stress		,	,		Mounds (D6)) (LRR A)	
Inundation Visible	on Aeriel	Imagery (B		– Other (Explain in		`	,		e Hummocks		
Sparsley Vegetat			8)	- ` `							
Field Observations:											
Surface Water Presen	? Yes	No	Х	Depth (inches):							
Water Table Present?	Yes	— No	X	Depth (inches):							
Saturation Present?	Yes	No	Х	Depth (inches):			Wetland	l Hydrology Prese	ent? Ye	es No	X
(includes capillary fring	e)			_						<u> </u>	
Describe Recorded Date	(stream ga	auge, monito	ring we	ell, aerial photos, p	revious ins	pections), i	f available) :			
Remarks:											
No primary or secondary				observed.							



Photo Name: Photo_220805142804



Photo Name: Photo_220805142754



Project/Site: Port of Grays harbor Terminal 4 E	- -xpansion	City/County: Ab	erdeen, Grays H	larbor Sampling Da	te: 8/5/2022		
Applicant/Owner: The Port of Grays Harbor	- пратогот		State: WA	Sampling Poi			
Investigators: STORY, DARTIGUENAVE		Sec		Range: T17N R9W S			
Landform (hillslope, terrace, etc.): Flat				none): Concave		pe(%): 0	
Subregion (LRR): A – Northwest Forest, Forag			23.827484		WGS84	30(70).	
Soil Map Unit Name: Udorthents	<u></u>			cation: PEM			
Are climatic / hydrologic conditions on the site typic	al for this time of	year? Yes		(If No, explain in Re			
Are Vegetation: Soil or Hydrology	significantly d	·		nstances" present?	Yes	X No	0
Are Vegetation: Soil or Hydrology	naturally prob			any answers in Rema			ٽ —
SUMMARY OF FINDINGS - Attach a si						ures, etc.	
	X No	T		· ·			
Hydric Soil Present? Yes 7	X No	Is the Sar	mpled Area				
Wetland Hydrology Present? Yes	X No	within a \	Wetland?	Yes	X	No	
Remarks:							
Sample plot meets 3 of 3 wetland criteria and is loc		land.					
VEGETATION – Use scientific names	· ·			1=			
T (D) () ()	Absolute	Dominant	Indicator	Dominance Test \			
<u>Tree Statum</u> (Plot size: 5m)	% Cover	Species?	Status	Number of Dominar			(4)
1.	0			That Are OBL, FAC		2	_ (A)
2				Total Number of Do			(D)
3.				Species Across All		2	_ ^(B)
4		= Total Cover	-	Percent of Dominar		100	(A/D)
Capling/Chruh Stratum (Diot size: 2m)	0	= Total Cover		That Are OBL, FAC		100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m) 1.	0			Total % Cover of:		tiply by:	
2.				OBL species	3 x1=		
3.				FACW species	22 x2=		_
4.				FAC species	$\frac{22}{2}$ $\times 3=$		_
5.				FACU species	x4=		_
	0	= Total Cover		UPL species	x5=		_
Herb Stratum (Plot size: 1m)		- 10tal 00101		Column Totals:	27 (A)	53	— (B)
Phalaris arundinacea	10	Yes	FACW	-	(/ //		_(=)
2. Juncus bufonius	7	Yes	FACW	Prevalence Inde	ex = B/A =	1.9	6
3. Juncus effusus	5	No	FACW	Hydrophytic Vege	tation Indicate		
4. Typha latifolia	3	No	OBL	X 1 - Rapid Tes			on
5. Equisetum arvense	2	No	FAC		e Test is >50%	_	
6.				X 3 - Prevalenc	e Index is ≤3.0)¹	
7.				4 - Morpholog	gical Adaptatio	ns¹ (Provide)
8.				data in R	emarks or on	a separate s	heet)
9.				5 - Wetland N	Non-Vascular F	Plants ¹	
10.				Problematic I	Hydrophytic Ve	egetation¹ (E	xplain)
11.				¹ Indicators of hydric	soil and wetla	and hydrolog	у
	27	= Total Cover		must be present, ur	nless disturbed	l or problema	atic.
Woody Vine Stratum (Plot size: 3m)							
1.	0			Hydrophytic			
2.				Vegetation	Yes X	No	_
	0	= Total Cover	<u> </u>	Present?			_
% Bare Ground in Herb Stratum 73							
Remarks:				•			
Sample plot meets rapid test, dominance test, and	prevalence index	for hydrophytic vege	tation.				

(inches)	Matrix		Reu	ox Feature	s 			
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-10	2.5Y4/2	40					Sandy Clay Loam	
	10YR3/1	55	7.5YR4/4	5	С	PL M		
10-17	2.5Y4/1	70	5YR4/6	30	С	PL M	Silty Clay Loam	
17-24	5GY4/1	90	10YR4/6	5	С	M	Silty Clay	
			7.5YR3/4	5	С	PL		
pe: C= Cc	oncentration, D= Depl	etion, RM=Rec	luced Matrix, CS=Cover	red or Coat	ed Sand C	Frains.	² Location	n: PL=Pore Lining, M=Matrix
dric Soil Ir	ndicators: (Applical	ole to all LRRs	, unless otherwise no	ted.)			Indicators for Problem	natic Hydric Soils³:
Histos	ol (A1)		Sandy Redox (St	5)			2 cm Muck (A10))
Histic I	Epipedon (A2)		Stripped Matrix (S6)			Red Parent Mat	erial (TF2)
Black !	Histic (A3)		Loamy Mucky Mi	ineral (F1)	(except MI	_RLA 1)	Very Shallow Da	ark Surface (TF12)
Hydro	gen Sulfide (A4)		Loamy Gleyed M	latrix (F2)			Other (Explain in	n Remarks)
Deplet	ed Below Dark Surfa	ce (A11)	X Depleted Matrix ((F3)				
	Dark Surface (A12)		Redox Dark Surf				³ Indicators of hydroph	•
	Mucky Mineral (S1)		Depleted Dark S				wetland hydrology r	
Sandy	Gleyed Matrix (S4)		Redox Depression	ons (F8)			unless disturbed or	problematic.
Restrictive	Layer (if present):							
Type:			_					
Depth	(inches):		_				Hydric Soil Present	? Yes X No _
YDROLO	GY							
	GY vdrology Indicators:							
Wetland Hy Primary Indi	rdrology Indicators: icators (minimum of o						Secondary Indicators	
Wetland Hy Primary Indi Surfac	rdrology Indicators: icators (minimum of c e Water (A1)		Water-Stained Le	, ,	(except		Water Stained L	(2 or more required) eaves (B9) (MRLA 1, 2,
Vetland Hy Primary Indi Surfac High V	rdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2)		Water-Stained Le	, ,	(except		Water Stained L 4A, and 4B)	Leaves (B9) (MRLA 1, 2,
Vetland Hy Primary Indi Surfac High V Satura	rdrology Indicators: icators (minimum of of the Water (A1) Vater Tables (A2) ation (A3)		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11)	A, and 4B)			Water Stained L 4A, and 4B) Drainage Patter	ns (B10)
Primary Indi Surfac High V Satura Water	rdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) ation (A3) Marks (B1)		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr	A, and 4B) rates (B13)	` .		Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa	ns (B10) ter Table (C2)
Primary Indi Surfac High V Satura Water Sedim	rdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2)		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide	A, and 4B) rates (B13) e Odor (C1))		Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib	ns (B10) ter Table (C2) le on Aeriel Imagery (C9)
Primary Indi Surface High V Satura Water Sedim Drift D	rdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) ition (A3) Marks (B1) ent Deposits (B2) eposits (B3)		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp	A, and 4B) rates (B13) e Odor (C1) oheres alor) ng Living R	coots (C3)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2)
Primary Indi Surfac High V Satura Water Sedim Drift D X Algal N	rdrology Indicators: icators (minimum of of the Water (A1) Vater Tables (A2) ation (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp Presence of Red	A, and 4B) rates (B13) e Odor (C1) pheres alor) ng Living R C4)		Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3)
Primary Indi Surfac High V Satura Water Sedim Drift D X Algal N	rdrology Indicators: icators (minimum of or the Water (A1) Vater Tables (A2) ution (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)		Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp Presence of Red Recent Iron Redu	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til) ng Living R C4) lled Soils (C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Ter	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5)
Primary Indi Surface High V Satura Water Sedim Drift D X Algal N Iron Do X Surface	rdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Intion (A3) Marks (B1) Interpreted (B2) Interpreted (B2) Interpreted (B3) Interpreted (B4) Interpreted (B4) Interpreted (B4) Interpreted (B5) Interpreted (B6) Interpreted	one required; ch	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living R C4) lled Soils (C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Tes Raised Ant Mou	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Primary Indi Surfac High V Satura Water Sedim Drift D X Algal N Iron Do X Surfac Inunda	rdrology Indicators: icators (minimum of of the Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Aeriel	one required; ch	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living R C4) lled Soils (C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Ter	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Primary Indi Surfac High V Satura Water Sedim Drift D X Algal N Iron Do X Surfac Inunda Sparsl	rdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Intion (A3) Marks (B1) Interpreted (B2) Interpreted (B3) Interpreted (B4) Interpreted (B4) Interpreted (B5) Interpreted (B5) Interpreted (B6) Interpreted	one required; ch	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living R C4) lled Soils (C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Tes Raised Ant Mou	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Primary Indi Surface High V Satura Water Sedim Drift D X Algal N Iron Do X Surface Inunda Sparsl	rdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Aution (A3) Marks (B1) Aution (B2) Aution (B3) Marks (B3) Aution Crust (B4) Aution Crust (B4) Aution Crust (B6) Aution Visible on Aeriel Aution Visible on Aeriel Autions:	Imagery (B	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living R C4) lled Soils (C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Tes Raised Ant Mou	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Primary Indi Surface High W Satura Water Sedim Drift D X Algal N Iron Do X Surface Inunda Sparsl Field Obsel	rdrology Indicators: icators (minimum of of the Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concar rvations: Iter Present? Yes	Imagery (B	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living R C4) lled Soils (C6)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Tes Raised Ant Mou	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Primary Indi Surfac High V Satura Water Sedim Drift D X Algal N Iron Do X Surfac Inunda Sparsl Field Obset Surface Wa	rdrology Indicators: icators (minimum of of the Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concar rvations: ter Present? Yes e Present? Yes	Imagery (B ve Surface (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living R C4) lled Soils (C6) A)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Ter Raised Ant Mou Frost-Heave Hu	ns (B9) (MRLA 1, 2, ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
Primary Indi Surface High V Satura Water Sedim Drift D X Algal N Iron Do X Surface Inunda Sparsl Field Obsel Surface Water Table Saturation F	rdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Intion (A3) Marks (B1) Interpreted (B2) Interpreted (B2) Interpreted (B4) Interpreted (B4) Interpreted (B4) Interpreted (B5) Interpreted (B6) Interpreted	Imagery (B	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1) oheres alor luced Iron (uction in Til sed Plants) ng Living R C4) lled Soils (C6) A)	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Tes Raised Ant Mou	ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Primary Indi Surfac High W Satura Water Sedim Drift D X Algal N Iron Do X Surfac Inunda Sparsl Field Obset Surface Wa Water Table Saturation F (includes ca	rdrology Indicators: icators (minimum of of the Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concar rvations: ter Present? Yes expresent? Yes apillary fringe)	Imagery (B ve Surface (B8)	Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in X Depth (inches): X Depth (inches):	rates (B13) e Odor (C1) pheres alor luced Iron (luction in Til sed Plants Remarks)	ng Living R C4) Iled Soils ((D1) (LRR	C6) A) Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Te Raised Ant Mou Frost-Heave Hu d Hydrology Present?	ns (B9) (MRLA 1, 2, ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
Primary Indi Surfac High W Satura Water Sedim Drift D X Algal N Iron Do X Surfac Inunda Sparsl Field Obsel Surface Wa Water Table Saturation F (includes ca	rdrology Indicators: icators (minimum of of the Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concar rvations: ter Present? Yes expresent? Yes apillary fringe)	Imagery (B ve Surface (B8)	Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in	rates (B13) e Odor (C1) pheres alor luced Iron (luction in Til sed Plants Remarks)	ng Living R C4) Iled Soils ((D1) (LRR	C6) A) Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Te Raised Ant Mou Frost-Heave Hu d Hydrology Present?	ns (B9) (MRLA 1, 2, ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
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Primary Indi Surfac High W Satura Water Sedim Drift D X Algal N Iron Do X Surfac Inunda Sparsl Field Obset Surface Wa Water Table Saturation F (includes ca	rdrology Indicators: icators (minimum of of the Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Aeriel ey Vegetated Concar rvations: ter Present? Yes expresent? Yes apillary fringe)	Imagery (B ve Surface (B8)	Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp Presence of Red Recent Iron Red Stunted or Stress Other (Explain in X Depth (inches): X Depth (inches):	rates (B13) e Odor (C1) pheres alor luced Iron (luction in Til sed Plants Remarks)	ng Living R C4) Iled Soils ((D1) (LRR	C6) A) Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Te Raised Ant Mou Frost-Heave Hu d Hydrology Present?	ns (B9) (MRLA 1, 2, ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7)
Primary Indi Surface High W Satura Water Sedim Drift D X Algal M Iron Do X Surface Inunda Sparsl Field Obset Surface Wa Water Table Saturation F (includes ca	rdrology Indicators: icators (minimum of one Water (A1) Vater Tables (A2) Ition (A3) Marks (B1) In the Deposits (B2) In the Deposits (B3) In the Crust (B4) In the Soil Cracks (B6) In the Soil Cracks	Imagery (B ve Surface (B8) No No No auge, monitoria	Water-Stained Le MRLA 1, 2, 44 Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide X Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): X Depth (inches): X Depth (inches): ng well, aerial photos, p	A, and 4B) rates (B13) e Odor (C1) pheres alor luced Iron (luction in Til sed Plants Remarks) revious ins	pections),	C6) A) Wetland	Water Stained L 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pos Shallow Aquitare FAC-Neutral Te Raised Ant Mou Frost-Heave Hu d Hydrology Present?	ns (B9) (MRLA 1, 2, ns (B10) ter Table (C2) le on Aeriel Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D7) Yes X No



Photo Name: Photo_220805150155



Project/Site: Port of Grays harbor Terminal 4 E	Expansion	City/County:	Aberdeen, Grays H	arbor Sampling Dat	e: 8/5/2022		
Applicant/Owner: The Port of Grays Harbor	•	_	State: WA	Sampling Poi			
Investigators: STORY, DARTIGUENAVE			Section, Township, I	Range: T17N R9W S	8		
Landform (hillslope, terrace, etc.): Flat		Local Reli	ef (concave, convex,	none): None	Slo	pe(%): 0	
Subregion (LRR): A – Northwest Forest, Forag	je, Lat: 46.9662	<u> </u>	-123.827454	Datum:	WGS84		
Soil Map Unit Name: Udorthents	_		NWI Classific	ation: UPL			
Are climatic / hydrologic conditions on the site typic	al for this time of	year? Yes	X No	(If No, explain in Re	marks)		
Are Vegetation: Soil or Hydrology	significantly d	listurbed?	Are "Normal Circun	- nstances" present?	Yes	X N	lo
Are Vegetation: Soil or Hydrology	naturally prob	olematic?	(If needed, explain	any answers in Rema	rks.)		
SUMMARY OF FINDINGS - Attach a sit	te map show	ing sampling	point locations	, transects, impo	ortant feati	ıres, etc.	
Hydrophytic Vegetation Present? Yes	X No						
Hydric Soil Present? Yes		Is the	Sampled Area				
Wetland Hydrology Present? Yes	No X	withir	n a Wetland?	Yes		No X	
Remarks:				-			
Sample plot meets 1 of 3 wetland criteria and is no Limited soil development and patchy vegetation.		wetland. Sample	plot located on grave	el road shoulder appro	oximately 2 fee	et above SP	7-1.
VEGETATION – Use scientific names of				T			
	Absolute	Dominant	Indicator	Dominance Test V			
Tree Statum (Plot size: 5m)	% Cover	Species?	Status	Number of Dominar	•	0	(4)
1	0			That Are OBL, FAC		2	(A)
2 3.				Total Number of Do		2	(D)
4.				Species Across All S Percent of Dominan			— ^(B)
	0	= Total Cover		That Are OBL, FAC	•	100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)		= Total Cover		Prevalence Index v	•	100	(٨١٥)
<u>зарініў знаво знавоні — (Flot size. зні)</u> 1.	0			Total % Cover of:		tiply by:	
2.				OBL species	<u>wu</u> x1=	tiply by:	
3.				FACW species	x1= x2=		_
4.			-	FAC species	20 x3=		_
5.				FACU species	x4=		_
	0	= Total Cover		UPL species	x5=		_
Herb Stratum (Plot size: 1m)				Column Totals:	20 (A)	60	— (B)
1. Equisetum arvense	15	Yes	FAC	-	(/		_` ′
2. Rubus armeniacus	5	Yes	FAC	Prevalence Inde	ex = B/A =	3.0	00
3.				Hydrophytic Veget	ation Indicat	ors:	
4.				1 - Rapid Tes	t for Hydrophy	tic Vegetati	on
5.				X 2 - Dominanc	e Test is >509	%	
6.				X 3 - Prevalence	e Index is ≤3.0	O¹	
7.				4 - Morpholog	jical Adaptatio	ns¹ (Provide	Э
8.				data in R	emarks or on	a separate s	sheet)
9.				5 - Wetland N	lon-Vascular F	Plants ¹	
10.				Problematic H	Hydrophytic Ve	egetation¹ (E	Explain)
11.				¹ Indicators of hydric	soil and wetla	and hydrolog	ЭУ
	20	= Total Cover		must be present, un	less disturbed	l or problem	atic.
Woody Vine Stratum (Plot size: 3m)							
1	0			Hydrophytic			
2.				Vegetation	Yes X	No	_
% Bare Ground in Herb Stratum 85	0	= Total Cover		Present?			
Remarks: Sample plot meets dominance test for hydrophytic	vegetation.						

	ivia	trix	R	edox Featur	es						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture		Remarks		
0-5	10YR3/3	100	-	_			Sandy Loam	Gravel fil	I		
	•										
	•							-			
	-		_								
		· ·									
		· ·									
	-		_								
	-										
ype: C= C	oncentration, D= D	epletion, RM=R	educed Matrix, CS=Co	vered or Co	ated Sand G	rains.	²Loc	cation: PL=	Pore Lining, M	l=Matrix	х.
ydric Soil I	Indicators: (Appl	icable to all LR	Rs, unless otherwise	noted.)		I	ndicators for Pro	blematic H	Hydric Soils ³ :		
Histos	sol (A1)		Sandy Redox	(S5)			2 cm Muck	(A10)			
—— Histic	Epipedon (A2)		Stripped Matri	x (S6)			Red Paren	t Material (TF2)		
—— Black	Histic (A3)		Loamy Mucky	Mineral (F1) (except ML	.RLA 1)	Very Shallo	ow Dark Su	rface (TF12)		
—— Hydro	ogen Sulfide (A4)		Loamy Gleyed	Matrix (F2)			Other (Exp	lain in Rem	arks)		
 Deple	eted Below Dark Su	urface (A11)	Depleted Matr	ix (F3)							
Thick	Dark Surface (A12	2)	Redox Dark S	urface (F6)			³ Indicators of hy	drophytic v	egetation and		
Sand	y Mucky Mineral (S	S1)	Depleted Dark	Surface (F	7)		wetland hydro	logy must b	e present,		
Sand	y Gleyed Matrix (S	4)	Redox Depres	sions (F8)			unless disturb	ed or proble	ematic.		
Restrictive	e Layer (if presen	t):									
Type:	[
Depth	n (inches):						Hydric Soil Pre	sent?	Yes	No	Х
ample plot l	lacks hydric soil ind	dicators.									
ample plot I	OGY lydrology Indicate	ors:	check off that apply)				Coopeday, India	otoro (2) or			
IYDROLO Wetland H Primary Ind	OGY lydrology Indicato dicators (minimum	ors:	check all that apply)	Lower (PC	D) (avcent		Secondary Indic				
YDROLO Wetland H Primary Inc	DGY lydrology Indicate dicators (minimum ce Water (A1)	ors:	Water-Stained				Water Stair	ned Leaves	more required) s (B9) (MRLA 1		
IYDROLO Wetland H Primary Inc Surfa High	DGY lydrology Indicate dicators (minimum ce Water (A1) Water Tables (A2)	ors:	Water-Stained	4A, and 4B			Water Stair	ned Leaves 4B)	6 (B9) (MRLA 1		
IYDROLO Wetland H Primary Inc Surfa High	DGY lydrology Indicated dicators (minimum ce Water (A1) Water Tables (A2) ation (A3)	ors:	Water-Stained MRLA 1, 2, Salt Crust (B1	4A , and 4B	3)		Water Stair 4A, and Drainage F	ned Leaves 4B) Patterns (B1	6 (B9) (MRLA 1		
IYDROLO Wetland H Primary Inc Surfa High Satur Wate	DGY Addicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1)	ors:	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverte	4A , and 4B 1) ebrates (B13	3)		Water Stain 4A, and Drainage F Dry-Seaso	ned Leaves 4B) Patterns (B1 n Water Tal	6 (B9) (MRLA 1 0) ble (C2)	, 2,	
YDROLO Wetland H Primary Inc Surfac High Satur Water Sedin	DGY Addicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2)	ors:	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Invert Hydrogen Sult	4A , and 4B 1) ebrates (B13 ide Odor (C	3) 3) 1)	oots (C3)	Water Stain 4A, and Drainage F Dry-Seaso Saturation	ned Leaves 4B) Patterns (B1 n Water Tai Visible on A	(B9) (MRLA 1 0) ble (C2) Aeriel Imagery	, 2,	
IYDROLO Wetland H Primary Inc Surfa High Satur Wate Sedin Drift I	DGY Addicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1)	ors:	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverte	4A, and 4B 1) ebrates (B13 ide Odor (C ospheres ald	3) 3) 1) ong Living R	oots (C3)	Water Stain 4A, and Drainage F Dry-Seaso	ned Leaves 4B) Patterns (B1 n Water Ta Visible on A ic Position (6 (B9) (MRLA 1 0) ble (C2) Aeriel Imagery (D2)	, 2,	
Wetland H Primary Inc Surfa High ' Satur. Water Sedin Drift E Algal	DGY lydrology Indicated dicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3)	ors:	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverted Hydrogen Sulf	4A, and 4B 1) ebrates (B13 ide Odor (C ospheres ald educed Iron	3) 1) ong Living R i (C4)		Water Stail 4A, and Drainage F Dry-Seaso Saturation Geomorph	ned Leaves 4B) Patterns (B1 In Water Tai Visible on A Ic Position (puitard (D3)	(B9) (MRLA 1 0) ble (C2) Aeriel Imagery (D2)	, 2,	
IYDROLO Wetland H Primary Inc Surfa High Satur Water Sedin Drift I Algal Iron D	DGY Iydrology Indicated dicators (minimum ce Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4)	ors: of one required;	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverted Hydrogen Sulfed Oxidized Rhize Presence of R	4A, and 4B 1) ebrates (B13 ide Odor (C ospheres ald educed Iron eduction in ¹	B) 1) ong Living R (C4) Filled Soils (6	C6)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr	ned Leaves 4B) Patterns (B1 n Water Tal Visible on A ic Position (juitard (D3) al Test (D5	(B9) (MRLA 1 0) ble (C2) Aeriel Imagery (D2)	, 2,	
IYDROLO Wetland H Primary Inc Surfa High Satur Wate Sedin Drift [Algal Iron [Surfa	DGY Addicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5)	ors: of one required;	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Invert Hydrogen Sult Oxidized Rhiz Presence of R Recent Iron R	4A, and 4B 1) ebrates (B13 ide Odor (C ospheres ald educed Iron eduction in ⁻	B) 1) 2) 2) 2) 3) 4) 5) 6) 6) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 7) 7) 8) 7) 8) 8) 8)	C6)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr	ned Leaves 4B) Patterns (B1 n Water Tal Visible on A ic Position (juitard (D3) al Test (D5)	(B9) (MRLA 1 (0) ble (C2) Aeriel Imagery (D2) (D2)	, 2,	
IYDROLO Wetland H Primary Inc Surfa High V Satur Water Sedin Drift I Algal Iron I Surfa Inund	DGY Address (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6	ors: of one required;	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverted Hydrogen Sulfed Oxidized Rhize Presence of Recent Iron Re	4A, and 4B 1) ebrates (B13 ide Odor (C ospheres ald educed Iron eduction in ⁻	B) 1) 2) 2) 2) 3) 4) 5) 6) 6) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 7) 7) 8) 7) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8)	C6)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant	ned Leaves 4B) Patterns (B1 n Water Tal Visible on A ic Position (juitard (D3) al Test (D5)	(B9) (MRLA 1 (0) ble (C2) Aeriel Imagery (D2) (D2)	, 2,	
Wetland H Primary Inc Surfa High Satur Wate Sedin Drift I Algal Iron I Surfa Inund Spars	DGY Addicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6 lation Visible on Aesley Vegetated Cor	ors: of one required;	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverted Hydrogen Sulfed Oxidized Rhize Presence of Recent Iron Re	4A, and 4B 1) ebrates (B13 ide Odor (C ospheres ald educed Iron eduction in ⁻	B) 1) 2) 2) 2) 3) 4) 5) 6) 6) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 7) 7) 8) 7) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8)	C6)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant	ned Leaves 4B) Patterns (B1 n Water Tal Visible on A ic Position (juitard (D3) al Test (D5)	(B9) (MRLA 1 (0) ble (C2) Aeriel Imagery (D2) (D2)	, 2,	
YDROLO Wetland H Primary Inc Surfa High V Sedin Drift E Algal Iron E Surfa Inund Spars	DGY lydrology Indicator dicators (minimum ce Water (A1) Water Tables (A2) ation (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6 lation Visible on Ae sley Vegetated Cor	ors: of one required;	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverted Hydrogen Sulfed Oxidized Rhize Presence of Recent Iron Re	4A, and 4B 1) brates (B13 ide Odor (C ospheres ald educed Iron eduction in 1 essed Plants in Remarks	B) 1) 2) 2) 2) 3) 4) 5) 6) 6) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 7) 7) 8) 7) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8)	C6)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant	ned Leaves 4B) Patterns (B1 n Water Tal Visible on A ic Position (juitard (D3) al Test (D5)	(B9) (MRLA 1 (0) ble (C2) Aeriel Imagery (D2) (D2)	, 2,	
Wetland H Primary Inc Surfa High V Satur Water Sedin Drift E Algal Iron E Surfa Inund Spars Field Obse	DGY Iydrology Indicated dicators (minimum ce Water (A1)) Water Tables (A2) Pation (A3) In Marks (B1) Inent Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Ince Soil Cracks (B6) Pation Visible on Aerole Vegetated Corervations: Interpresent? Interpresent (A1) Interpresent (A2) Interpresent (A2) Interpresent (A3) Interpres	ors: of one required;) eriel Imagery (B	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Invert Hydrogen Sult Oxidized Rhiz Presence of R Recent Iron R Stunted or Str Other (Explain	4A, and 4B 1) berates (B13 ide Odor (C bespheres ald educed Iron eduction in T essed Plants in Remarks	B) 1) 2) 2) 2) 3) 4) 5) 6) 6) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 7) 7) 8) 7) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8)	C6)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant	ned Leaves 4B) Patterns (B1 n Water Tal Visible on A ic Position (juitard (D3) al Test (D5)	(B9) (MRLA 1 (0) ble (C2) Aeriel Imagery (D2) (D2)	, 2,	
YDROLO Wetland H Primary Inc Surfa High V Satur. Water Sedin Drift D Algal Iron D Surfa Inund Spars Field Obse Surface Water Table	DGY Industry Industr	ors: of one required; riel Imagery (Bacave Surface (E	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverted Hydrogen Sulfed Oxidized Rhize Presence of Recent Iron Re	4A, and 4B 1) brates (B13 ide Odor (C ospheres ald educed Iron eduction in essed Plants in Remarks	B) 1) 2) 2) 2) 3) 4) 5) 6) 6) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 7) 7) 8) 7) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8)	C6) A)	Water Stain 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant	ned Leaves 4B) Patterns (B1 n Water Tai Visible on A ic Position (juitard (D3) al Test (D5 Mounds (E Pe Hummoc	(B9) (MRLA 1 (0) ble (C2) Aeriel Imagery (D2)) (D6) (LRR A) eks (D7)	, 2,	X
Wetland H Primary Inc Surfa High Satur Water Sedin Drift E Algal Iron E Surfae Inund Spars Field Obse Surface Water Tabl Saturation	DGY Industry Industr	ors: of one required; eriel Imagery (B ncave Surface (E	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverted Hydrogen Sulfed Oxidized Rhize Presence of Recent Iron Re	4A, and 4B 1) brates (B13 ide Odor (C ospheres ald educed Iron eduction in essed Plants in Remarks	B) 1) 2) 2) 2) 3) 4) 5) 6) 6) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 6) 7) 7) 7) 8) 7) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8)	C6) A)	Water Stail 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Act FAC-Neutr Raised Ant Frost-Heav	ned Leaves 4B) Patterns (B1 n Water Tai Visible on A ic Position (juitard (D3) al Test (D5 Mounds (E Pe Hummoc	(B9) (MRLA 1 (0) ble (C2) Aeriel Imagery (D2)) (D6) (LRR A) eks (D7)	, 2 , (C9)	×
Primary Inc Surfac High Satur Water Sedin Drift E Algal Iron E Surfac Inund Spars Field Obse Surface Water Tabl Saturation (includes c	DGY Iydrology Indicator dicators (minimum ce Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6 dation Visible on Active Vegetated Corervations: ater Present? Present? Y rapillary fringe)	ors: of one required; of one required; oriel Imagery (B ncave Surface (E es No es No es No	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverted Hydrogen Sulfed Oxidized Rhize Presence of Recent Iron Re	4A, and 4B 1) berates (B13) ide Odor (Copspheres ald educed Iron eduction in Tessed Plants in Remarks	3) 1) 2) 2) 3) 1) 2) 3) 4) 4) 5) 6) 6) 7) 6) 7) 6) 8) 7) 8) 8)	C6) A) Wetland	Water Stail 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant Frost-Heav Hydrology Pres	ned Leaves 4B) Patterns (B1 n Water Tai Visible on A ic Position (juitard (D3) al Test (D5 Mounds (E Pe Hummoc	(B9) (MRLA 1 (0) ble (C2) Aeriel Imagery (D2)) (D6) (LRR A) eks (D7)	, 2 , (C9)	x
Wetland H Primary Inc Surfa High V Satur Water Sedin Drift E Algal Iron E Surfac Inund Spars Field Obse Surface Water Tabl Saturation (includes c	DGY Iydrology Indicator dicators (minimum ce Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6 dation Visible on Active Vegetated Corervations: ater Present? Present? Y rapillary fringe)	ors: of one required; of one required; oriel Imagery (B ncave Surface (E es No es No es No	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverted Hydrogen Sulfed Oxidized Rhize Presence of Recent Iron Re	4A, and 4B 1) berates (B13) ide Odor (Copspheres ald educed Iron eduction in Tessed Plants in Remarks	3) 1) 2) 2) 3) 1) 2) 3) 4) 4) 5) 6) 6) 7) 6) 7) 6) 8) 7) 8) 8)	C6) A) Wetland	Water Stail 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant Frost-Heav Hydrology Pres	ned Leaves 4B) Patterns (B1 n Water Tai Visible on A ic Position (juitard (D3) al Test (D5 Mounds (E Pe Hummoc	(B9) (MRLA 1 (0) ble (C2) Aeriel Imagery (D2)) (D6) (LRR A) eks (D7)	, 2 , (C9)	
IYDROLO Wetland H Primary Inc Surfac High ' Satur Water Sedin Drift E Algal Iron E Surfac Inund Spars Field Obse Surface Water Table Saturation (includes c	DGY Industry Industr	ors: of one required; of one required; oriel Imagery (Boucave Surface (Boucave Surface) es No es No es No em gauge, monitor	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverted Hydrogen Sulted Oxidized Rhized Presence of Recent Iron R	4A, and 4B 1) berates (B13) ide Odor (Copspheres ald educed Iron eduction in Tessed Plants in Remarks	3) 1) 2) 2) 3) 1) 2) 3) 4) 4) 5) 6) 6) 7) 6) 7) 6) 8) 7) 8) 8)	C6) A) Wetland	Water Stail 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant Frost-Heav Hydrology Pres	ned Leaves 4B) Patterns (B1 n Water Tai Visible on A ic Position (juitard (D3) al Test (D5 Mounds (E Pe Hummoc	(B9) (MRLA 1 (0) ble (C2) Aeriel Imagery (D2)) (D6) (LRR A) eks (D7)	, 2 , (C9)	
Wetland H Primary Inc Surfac High V Satur Water Sedin Drift E Algal Iron E Surface Water Tabl Saturation (includes c escribe Rece	DGY Iydrology Indicator dicators (minimum ce Water (A1) Water Tables (A2) ration (A3) r Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) ce Soil Cracks (B6 dation Visible on Active Vegetated Corervations: ater Present? Present? Y rapillary fringe)	ors: of one required; of one required; oriel Imagery (Boucave Surface (Boucave Surface) es No es No es No em gauge, monitor	Water-Stained MRLA 1, 2, Salt Crust (B1 Aquatic Inverted Hydrogen Sulted Oxidized Rhized Presence of Recent Iron R	4A, and 4B 1) berates (B13) ide Odor (Copspheres ald educed Iron eduction in Tessed Plants in Remarks	3) 1) 2) 2) 3) 1) 2) 3) 4) 4) 5) 6) 6) 7) 6) 7) 6) 8) 7) 8) 8)	C6) A) Wetland	Water Stail 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ac FAC-Neutr Raised Ant Frost-Heav Hydrology Pres	ned Leaves 4B) Patterns (B1 n Water Tai Visible on A ic Position (juitard (D3) al Test (D5 Mounds (E Pe Hummoc	(B9) (MRLA 1 (0) ble (C2) Aeriel Imagery (D2)) (D6) (LRR A) eks (D7)	, 2 , (C9)	,



Project/Site: Port of Grays harbor Terminal 4 E	-ynansion	City/County:	Aberdeen Gravs H	arbor Sampling Da	ate: 8/19/2022		
Applicant/Owner: The Port of Grays Harbor			State: WA	Sampling Po			
Investigators: STORY, DARTIGUENAVE				Range: T17N R9W S			
Landform (hillslope, terrace, etc.): Flat			ef (concave, convex,			e(%): 2	
Subregion (LRR): A – Northwest Forest, Forag	ne. Lat: 46.9662		-123.830734	Datum:	WGS84	5(70). 2	
Soil Map Unit Name: Udorthents	<u></u>	Long.		Batum. cation: PEM			
<u> </u>	al for this time of	veer? Vee					
Are climatic / hydrologic conditions on the site typic		-	X No	(If No, explain in Re		V N	1_
Are Vegetation: Soil or Hydrology	significantly d		Are "Normal Circun			<u>X</u> N	°
Are Vegetation: Soil or Hydrology	naturally prob			any answers in Rema			
SUMMARY OF FINDINGS - Attach a si	-	ing sampling	point locations	, transects, imp	ortant featu	res, etc.	
<i>-</i>	X No						
· —	X No		Sampled Area				
Wetland Hydrology Present? Yes	X No	within	a Wetland?	Yes	<u> </u>	No	
Remarks:		•					
Sample plot meets 3 of 3 wetland criteria and is loc VEGETATION – Use scientific names of		land.					
VEGETATION - 030 3010111110 Harries	Absolute	Dominant	Indicator	Dominance Test	Workshoot:		
Tree Statum (Plot size: 5m)	% Cover	Species?	Status	Number of Domina			
1. (Flot size, 5iii)	0	Species?	- Status	That Are OBL, FAC		2	(
			·				_ (A)
2.			· ———	Total Number of Do		2	(D)
3.			· ———	Species Across All		2	— ^(B)
4		Tatal Causa		Percent of Domina	•	400	(A /D)
Openition (Ohmuh Otentura (Plateina Open	0	= Total Cover		That Are OBL, FAC		100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)	0			Prevalence Index		la la colonia	
1	0			Total % Cover of:		iply by:	
2				OBL species	x1=		_
3.				FACW species	52 x2=	104	_
4				FAC species	x3=	150	_
5				FACU species	x4=	0	_
	0	= Total Cover		UPL species	x5=	0	—
Herb Stratum (Plot size: 1m)				Column Totals:	(A)	254	_ ^(B)
1. Lotus corniculatus	40	Yes	FAC				_
2. Phalaris arundinacea	25	Yes	FACW	Prevalence Ind		2.4	9
3. Juncus effusus	20	No	FACW_	Hydrophytic Vege			
4. Rubus armeniacus	10	No	FAC		st for Hydrophyt	-	on
5. Equisetum telmateia	7	No No	FACW_	X 2 - Dominano			
6.				X 3 - Prevalence			
7				4 - Morpholo	gical Adaptation	ıs¹ (Provide)
8					Remarks or on a	•	heet)
9					Non-Vascular Pl		
10					Hydrophytic Ve	-	
11				¹ Indicators of hydric	soil and wetlar	nd hydrolog	У
	102	= Total Cover		must be present, ur	nless disturbed	or problema	atic.
Woody Vine Stratum (Plot size: 3m)							
1	0		. <u> </u>	Hydrophytic			
2			. <u> </u>	Vegetation	Yes X	No	_
~~	0	= Total Cover		Present?			
% Bare Ground in Herb Stratum 0	<u> </u>						
Remarks:							
Sample plot meets dominance test and prevalence	index for hydropl	hytic vegetation.					

0-8 8-14 14-24 ype: C= Conce	ators: (Applicabl	% 95 50 85	Color (moist) 10YR 4/4 10YR 4/4 7.5YR 4/4	% 5 50 15	Type¹ C C C	M M PL M	Silt Loam Sandy Loam Clay Loam	Remarks
8-14 14-24 //pe: C= Conce dric Soil Indic Histosol (A	10YR 4/2 10YR 4/1 ntration, D= Deple	50 85	10YR 4/4	50	С	М	Sandy Loam	
/pe: C= Conce rdric Soil Indic Histosol (A	10YR 4/1 ntration, D= Deple ators: (Applicable	85						
ype: C= Conce /dric Soil Indic Histosol (A	ntration, D= Deple ators: (Applicabl		7.5YR 4/4	15	C	PL M	Clay Loam	
Histosol (A	ators: (Applicabl							
Histosol (A	ators: (Applicabl							
Histosol (A	ators: (Applicabl							
/dric Soil Indic Histosol (A	ators: (Applicabl							
Histosol (A	ators: (Applicabl							
Histosol (A	ators: (Applicabl							
Histosol (A		tion, RM=Re	duced Matrix, CS=Cove	red or Coat	ted Sand G	3rains.	² Location	: PL=Pore Lining, M=Matrix
Histic Epip		e to all LRR	s, unless otherwise no	oted.)			Indicators for Problem	natic Hydric Soils³:
	.1)		Sandy Redox (S				2 cm Muck (A10)	
Black Histi			Stripped Matrix (. ,			Red Parent Mate	` '
			Loamy Mucky M		(except ML	_RLA 1)		ark Surface (TF12)
	Sulfide (A4)		Loamy Gleyed M				Other (Explain in	n Remarks)
	Below Dark Surfac	e (A11)	X Depleted Matrix					
	Surface (A12)		X Redox Dark Surf	, ,			³ Indicators of hydroph	•
	cky Mineral (S1)		Depleted Dark S		1		wetland hydrology n	
_	yed Matrix (S4)		Redox Depression	ons (F8)			unless disturbed or	problematic.
_	er (if present):							
Type:			_					
Depth (inc	hes):		_				Hydric Soil Present?	Yes X No
-	logy Indicators:		shoot all that are ha				O a a a mala mada a dia atau a	(0
-	•	ne requirea; o	check all that apply)	201/22 (DO)	/avaant		Secondary Indicators	
Surface W	r Tables (A2)		Water-Stained Le				4A, and 4B)	eaves (B9) (MRLA 1, 2 ,
Saturation			Salt Crust (B11)				Drainage Patterr	ns (B10)
Water Mar	` '		Aquatic Inverteb		i		Dry-Season Wat	
	Deposits (B2)		Hydrogen Sulfide					le on Aeriel Imagery (C9)
Drift Depos			Oxidized Rhizos			oots (C3)	X Geomorphic Pos	• • • •
	or Crust (B4)		Presence of Red		-	(,	Shallow Aquitaro	
Iron Depos	` '		Recent Iron Red			C6)	X FAC-Neutral Tes	, ,
Surface So	oil Cracks (B6)		Stunted or Stress					nds (D6) (LRR A)
Inundation	Visible on Aeriel I	magery (B	Other (Explain in	n Remarks)			Frost-Heave Hur	mmocks (D7)
Sparsley \	egetated Concave	e Surface (B	3)					
Field Observat	ions:					T		
Surface Water F	Present? Yes	No	X Depth (inches):					
Water Table Pre	esent? Yes	No	X Depth (inches):					
Saturation Pres	ent? Yes	No	X Depth (inches):			Wetland	d Hydrology Present?	Yes X No
includes capilla	ry fringe)							
	d Date (stream ga	uge, monitor	ing well, aerial photos, p	orevious ins	pections),	if available	e:	



Photo Name: Photo_220819102226



Project/Site: Port of Grays harbor Terminal 4 E	Expansion	City/County:	Aberdeen, Grays H	arbor Sampling Da	ite: 8/19/	2022		
Applicant/Owner: The Port of Grays Harbor	·	_	State: WA	Sampling Po				
Investigators: STORY, DARTIGUENAVE			Section, Township, F	Range: T17N R9W S	38			
Landform (hillslope, terrace, etc.): Flat		Local Reli	ef (concave, convex,			Slope	e(%): 2	
Subregion (LRR): A – Northwest Forest, Forag	e, Lat: 46.9662	_ 21 Long:	-123.830811	Datum:	WGS84	_		
Soil Map Unit Name: Udorthents	_		NWI Classific	ation: UPL				
Are climatic / hydrologic conditions on the site typic	al for this time of y	rear? Yes	s X No	(If No, explain in Re	 emarks)			
Are Vegetation: Soil X or Hydrology	significantly dis	sturbed?	Are "Normal Circum	stances" present?	Yes	;)	K N	lo
Are Vegetation: Soil or Hydrology	naturally probl	ematic?	(If needed, explain a	any answers in Rema	arks.)			
SUMMARY OF FINDINGS - Attach a sit	te map showir	ng sampling	point locations	transects, imp	ortant f	eatur	es, etc.	
Hydrophytic Vegetation Present? Yes	No X							
Hydric Soil Present? Yes	No X	Is the	Sampled Area					
Wetland Hydrology Present? Yes	No X	withir	n a Wetland?	Yes		_	No X	
Remarks:				<u> </u>				
Sample plot located on gravel access road shoulde located within a wetland. No soil development, and			8 feet NW from SP 8-	1. Sample plot meets	s 0 of 3 w	etland o	criteria and	d is not
VEGETATION – Use scientific names of	of plants.							
	Absolute	Dominant	Indicator	Dominance Test	Workshe	et:		
<u>Tree Statum</u> (Plot size: 5m)	% Cover	Species?	Status	Number of Domina	nt Specie	S		
1	0			That Are OBL, FAC	W, or FA	.C:	1	(A)
2.				Total Number of Do	ominant			
3.				Species Across All		_	2	(B)
4				Percent of Domina	•			
	0	= Total Cover		That Are OBL, FAC			50	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)				Prevalence Index	workshe			
1	0			Total % Cover of:			oly by:	
2				OBL species		_ x1= _		_
3.				FACW species	7	_ ^{x2=} _	14	_
4				FAC species	30	_ x3= _	90	_
5		Total Causes	-	FACU species	30	_ x4= _	120	_
Horb Stratum (Diet size: 1m)	0	= Total Cover		UPL species Column Totals:	67	- ^{x5=} -	224	— _(B)
Herb Stratum (Plot size: 1m) 1. Plantago lanceolata	25	Yes	FACU	Column Totals.		– ^(A) –		— ^(B)
Poa annua	15	Yes	FACO	Prevalence Ind	lov — R/Δ-	_	3.3	RЛ
3. Holcus lanatus	10	No	FAC	Hydrophytic Vege				
4. Equisetum telmateia	7	No	FACW	1 - Rapid Te				on
5. Lotus corniculatus	5	No	FAC	2 - Dominano	-		o vegetati	OII
6. Hypochaeris radicata	5	No	FACU	3 - Prevalence				
7.				4 - Morpholo			s¹ (Provide	9
8.					_		separate s	
9.				5 - Wetland I				,
10.			_	Problematic	Hydrophy	tic Veg	etation¹ (E	Explain)
11.				¹ Indicators of hydric	soil and	wetlan	d hydrolog	ЗУ
	67	= Total Cover		must be present, u	nless dist	urbed c	or problem	atic.
Woody Vine Stratum (Plot size: 3m)								
1.	0			Hydrophytic				
2.				Vegetation	Yes	1	No X	
% Bare Ground in Herb Stratum 33	0	= Total Cover		Present?				
Remarks:				1				
Sample plot lacks indicators for hydrophytic vegeta	tion.							

Depth	Matri	ix	Re	dox Feature	es						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture		Remar	ks	
		_						Gravel	road shoulder	r - no soi	I
					·						
	-										
	-										
Type: C= Co	oncentration, D= De	pletion, RM=Re	duced Matrix, CS=Cov	ered or Coa	ted Sand G	rains.	²Loc	ation: Pl	L=Pore Lining	, M=Matr	rix.
Hydric Soil Ir	ndicators: (Application	able to all LRR	s, unless otherwise n	oted.)			Indicators for Pro	blematic	Hydric Soils	3:	
Histos	ol (A1)		Sandy Redox (S5)			2 cm Muck	(A10)			
Histic I	Epipedon (A2)		Stripped Matrix	(S6)			Red Parent	Material	(TF2)		
Black I	Histic (A3)		Loamy Mucky N	Mineral (F1)	(except ML	.RLA 1)	Very Shallo	w Dark S	Surface (TF12))	
—— Hydro	gen Sulfide (A4)		Loamy Gleyed	Matrix (F2)			Other (Exp	ain in Re	marks)		
Deplet	ted Below Dark Surf	face (A11)	Depleted Matrix	(F3)							
Thick I	Dark Surface (A12)		Redox Dark Su	rface (F6)			³ Indicators of hyd	drophytic	vegetation an	d	
Sandy	Sandy Mucky Mineral (S1) Depleted Dark Surface (F7))		wetland hydrol	ogy must	be present,				
Sandy	Gleyed Matrix (S4)		Redox Depress	ions (F8)			unless disturbe	ed or prob	olematic.		
Restrictive	Layer (if present):										
Type:											
Depth	(inches):		_				Hydric Soil Pres	sent?	Yes	No	Χ
Wetland Hy	drology Indicators										
Wetland Hy Primary Indi	drology Indicators						Secondary Indic				
Wetland Hy Primary Indi Surfac	ydrology Indicators licators (minimum of ce Water (A1)		Water-Stained		_		Water Stair	ned Leave	or more require		-
Wetland Hy Primary Indi Surfac High V	ydrology Indicators icators (minimum of the Water (A1) Water Tables (A2)		Water-Stained MRLA 1, 2, 4	IA, and 4B)	_		Water Stair	ned Leave	es (B9) (MRLA		-
Primary Indi Surfac High V Satura	ydrology Indicators icators (minimum of the Water (A1) Water Tables (A2) ation (A3)		Water-Stained MRLA 1, 2, 4 Salt Crust (B11	IA, and 4B)			Water Stair 4A, and Drainage P	ned Leave 4B) atterns (E	es (B9) (MRL /		-
Primary Indi Surface High V Satura Water	ydrology Indicators icators (minimum of the Water (A1) Vater Tables (A2) ation (A3) Marks (B1)		Water-Stained MRLA 1, 2, 4 Salt Crust (B11 Aquatic Inverte	IA, and 4B)) orates (B13)		Water Stair 4A, and Drainage P Dry-Seasor	ned Leave 4B) atterns (E n Water T	es (B9) (MRL / B10) Table (C2)	A 1, 2,	-
Primary Indi Surface High V Satura Water Sedim	ydrology Indicators icators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) tent Deposits (B2)		Water-Stained MRLA 1, 2, 4 Salt Crust (B11 Aquatic Inverte Hydrogen Sulfid	IA, and 4B)) brates (B13 de Odor (C1)	ooto (C2)	Water Stair 4A, and Drainage P Dry-Seasor Saturation	ned Leave 4B) atterns (E n Water T Visible or	es (B9) (MRL A B10) Table (C2) In Aeriel Image	A 1, 2,	-
Wetland Hy Primary Indi Surface High V Satura Water Sedim Drift D	ydrology Indicators icators (minimum of se Water (A1) Vater Tables (A2) ation (A3) Marks (B1) tent Deposits (B2) deposits (B3)		Water-Stained MRLA 1, 2, 4 Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo	IA, and 4B)) orates (B13 de Odor (C1 spheres alo)) ng Living R	oots (C3)	Water Stair 4A, and Drainage P Dry-Seasor Saturation Geomorphi	ned Leave 4B) atterns (En Water To Visible on the Position	es (B9) (MRL / 310) Table (C2) In Aeriel Image In (D2)	A 1, 2,	-
Primary Indi Surfac High V Satura Water Sedim Drift D Algal N	ydrology Indicators icators (minimum of the Water (A1) Water Tables (A2) ation (A3) Marks (B1) thent Deposits (B2) deposits (B3) Mat or Crust (B4)		Water-Stained MRLA 1, 2, 4 Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re	IA, and 4B) brates (B13 de Odor (C1 spheres alo)) ng Living R (C4)		Water Stair 4A, and Drainage P Dry-Seasor Saturation Geomorphi Shallow Aq	ned Leave 4B) atterns (E Water T Visible on c Position uitard (D3	es (B9) (MRLA 310) Table (C2) n Aeriel Image n (D2) 3)	A 1, 2,	-
Primary Indi Surface High V Satura Water Sedim Drift D Algal N	ydrology Indicators icators (minimum of the Water (A1) Vater Tables (A2) ation (A3) Marks (B1) tent Deposits (B2) deposits (B3) Mat or Crust (B4) deposits (B5)		Water-Stained MRLA 1, 2, 4 Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re	AA, and 4B)) brates (B13 de Odor (C1 spheres alo duced Iron duction in T)) ng Living R (C4) illed Soils (G	C6)	Water Stair 4A, and Drainage P Dry-Seasor Saturation Geomorphi Shallow Aq FAC-Neutra	ned Leave 4B) atterns (E atterns (E water T visible or c Positior uitard (D: al Test (D	es (B9) (MRL/ B10) Fable (C2) In Aeriel Image In (D2) B3)	A 1, 2, ry (C9)	-
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Project/Site: Port of Grays harbor Terminal 4 E	xpansion	City/County:	Hoquiam, Grays Ha	rbor Sampling Da	ate: <u>8/19/202</u>	2	
Applicant/Owner: The Port of Grays Harbor			State: WA	Sampling Po	int: SP 9-1		
Investigators: STORY, DARTIGUENAVE			Section, Township, F	Range: T17N R9W S	37		
Landform (hillslope, terrace, etc.): Floodplain		Local Reli	ef (concave, convex,	none): Concave	SI	ope(%): 3	
Subregion (LRR): A – Northwest Forest, Forag	e, Lat: 46.96781	I5 Long:	-123.859856	Datum:	WGS84		
Soil Map Unit Name: Udorthents	_	_	NWI Classific	ation: PEM			
Are climatic / hydrologic conditions on the site typic	al for this time of y	ear? Yes	X No	(If No, explain in Re	emarks)		
Are Vegetation: Soil or Hydrology	significantly dis	sturbed?	Are "Normal Circum	stances" present?	Yes	X N	No
Are Vegetation: Soil or Hydrology	naturally proble	ematic?	(If needed, explain a	any answers in Rem	arks.)		
SUMMARY OF FINDINGS - Attach a sit	e map showir	ng sampling	point locations	, transects, imp	ortant fea	tures, etc.	ı
Hydrophytic Vegetation Present? YesX							
Hydric Soil Present? YesX	No	Is the	Sampled Area				
Wetland Hydrology Present? Yes>	No	withir	n a Wetland?	Yes	<u>X</u>	No	
Remarks:		-1					
Sample plot on slope slightly above ditch. Vegetation and is located within a wetland.	on in channel appe	ars less salt tole	erant than other simila	ar channels. Sample	plot meets 3	of 3 wetland	criteria
VEGETATION – Use scientific names of	of plants.			_			
	Absolute	Dominant	Indicator	Dominance Test			
<u>Tree Statum</u> (Plot size: 5m)	% Cover	Species?	Status	Number of Domina			
1.	0			That Are OBL, FAC		2	(A)
2.				Total Number of Do		_	(5)
3.				Species Across All		2	(B)
4				Percent of Domina	•	400	(4 (5)
Overlie (Oberto Overland) (Distrains Over)	0	= Total Cover		That Are OBL, FAC		100	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)				Prevalence Index		14. 1 1	
1.	0			Total % Cover of:		ultiply by:	
2.				OBL species	x1		_
3.				FACW species	x2		_
4				FAC species	60x3		_
5		Tatal Causa		FACU species	x4		_
Horb Stratum (Dlot aizo: 1m)	0	= Total Cover		UPL species Column Totals:	x5	\	— _(B)
1. Agrostis capillaris	60	Yes	FAC	Column Totals.	(A	.)	— ^(B)
Agrostis capillaris Eleocharis acicularis	40	Yes	- OBL	Prevalence Ind	lov - B/A-	2.0	20
Typha latifolia	20	No	- OBL	Hydrophytic Vege			
4.				1	st for Hydropl		ion
5.				<u> </u>	ce Test is >50		1011
6.			- ———		ce Index is ≤3		
7.					gical Adaptat		Δ
8.					Remarks or or		
9.					Non-Vascular	•	511001)
10.					Hydrophytic \		=xplain)
11.				¹Indicators of hydric		-	
	120	= Total Cover		must be present, u		-	
Woody Vine Stratum (Plot size: 3m)				mast se present, an		74 01 p. 02.0	
1.	0			Hydrophytic			
2.				Vegetation	Yes >	K No	
	0	= Total Cover		Present?			_
% Bare Ground in Herb Stratum 0							
Remarks:				I			
5% unknown Rumex. Sample plot meets dominanc	e test and prevale	nce index for hy	drophytic vegetation				
	sila pioralo						

Depth	Ma	atrix		Red	ox Feature	'S						
(inches)	Color (moist))	%	Color (moist)	%	Type ¹	Loc²	Texture		Rei	marks	
0-8	10YR 3/2		90	10YR 4/4	10	С	M	Silt Loam				
8-18	5GY 3/1		95	10YR 3/4	5	С	M	Sandy Loam	Gravelly	′		
				uced Matrix, CS=Cover		ted Sand G			cation: PL			Matrix
		licable to	all LRRs	, unless otherwise no	•			Indicators for Pro		Hydric S	oils³:	
	sol (A1)			Sandy Redox (St	•			2 cm Muck				
_	Epipedon (A2)			Stripped Matrix (,	, , , , , , , , , , , , , , , , , , , ,	DI 4 4)	Red Paren	,	` '	- 40)	
	Histic (A3)			Loamy Mucky Mi		(except ML	RLA 1)	Very Shalle			·12)	
	gen Sulfide (A4)		4.4\	Loamy Gleyed M				Other (Exp	lain in Ren	narks)		
'	ted Below Dark S	`	11)	Depleted Matrix (` '			31 adiantana af ha	، ما ما ما ما ما			
	Dark Surface (A1	,		X Redox Dark Surfa				³ Indicators of hy wetland hydro		-		
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Redox Depressions (F8)				1		unless disturb			π,			
	• `				7113 (1 0)			uniess distarb	ed of probl	emano.		
	Layer (if preser	it):										
Type:	(inches):			•				Hydric Soil Pre	10	V	V N	.la
Depui								nyunc son Fre	261111	Yes _	X N	
mple plot n	neets hydric soil i	ndicators	for F6 - re	edox dark surface.				·				No <u>-</u>
mple plot n	neets hydric soil i		for F6 - re	edox dark surface.				·				
MPIE Plot n /DROLC Vetland Hy	neets hydric soil i	ors:		edox dark surface.				Secondary Indic	ators (2 or	· more rec		
MPIE Plot n /DROLO Vetland Hy Primary Ind	neets hydric soil i	ors:			eaves (B9)	(except		Secondary Indic			quired)	
TDROLC Vetland Hy rimary Ind X Surface	neets hydric soil i OGY ydrology Indicat licators (minimum	ors: of one re		neck all that apply)	` '	(except			ned Leave		quired)	
TDROLO Vetland Hy Primary Ind X Surface High V	DGY ydrology Indicat licators (minimum the Water (A1)	ors: of one re		neck all that apply)Water-Stained Le	` '	(except		Water Stai	ned Leave	s (B9) (M	quired)	
Primary Ind X Surfac High V X Satura	neets hydric soil i OGY ydrology Indicat licators (minimum ce Water (A1) Nater Tables (A2)	ors: of one re		neck all that apply) Water-Stained Le	A, and 4B)	` •		Water Stai	ned Leave 4B) Patterns (B	s (B9) (M 10)	quired)	
Primary Ind X Surface High V X Satura Water Sedim	pogy ydrology Indicat licators (minimum the Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2)	ors: of one re		water-Stained Le Water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide	A, and 4B) rates (B13) e Odor (C1))		Water Stai 4A, and Drainage F Dry-Seaso Saturation	ned Leave 4B) Patterns (B n Water Ta	s (B9) (M 10) able (C2) Aeriel Im	quired) RLA 1, 2	2,
Primary Ind X Surfac High V X Satura Water Sedim Drift D	pogy ydrology Indicat licators (minimum the Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) deposits (B3)	ors: of one re		water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp	A, and 4B) rates (B13) e Odor (C1) pheres alor) ng Living R	oots (C3)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph	ned Leave 4B) Patterns (B n Water Ta Visible on ic Position	s (B9) (M 10) able (C2) Aeriel Im (D2)	quired) RLA 1, 2	2,
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Vetland Hy Vetland Hy Vimary Ind X Surfac High V X Satura Water Sedim Drift D Algal I	preets hydric soil in the proof of the proof	ors: of one re		water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu	A, and 4B) rates (B13) e Odor (C1) oheres alor uced Iron (uction in Til) ng Living R (C4) Iled Soils (G	C6)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr	ned Leave 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 al Test (D5	s (B9) (M 10) able (C2) Aeriel Im (D2))	quired) RLA 1, 2	2,
YDROLO Vetland Hy Primary Ind X Surface High V X Satura Water Sedim Drift D Algal I Iron D Surface	preets hydric soil in the property of the prop	ors: of one re)	quired; ch	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress	A, and 4B) rates (B13) Prates () ng Living R (C4) lled Soils (((D1) (LRR	C6)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leave 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRR	quired) RLA 1, 2	2,
YDROLO Vetland Hy Primary Ind X Surfac High V X Satura Water Sedim Drift D Algal I Iron D Surfac	pogy ydrology Indicat licators (minimum ce Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) deposits (B3) Mat or Crust (B4) eposits (B5) ce Soil Cracks (B6 ation Visible on A	ors: of one re of one re of one re of one re	quired; ch	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) Prates () ng Living R (C4) lled Soils (((D1) (LRR	C6)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr	ned Leave 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRR	quired) RLA 1, 2	2,
YDROLO Vetland Hy Primary Ind X Surfac High V X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparsi	preets hydric soil in the property of the prop	ors: of one re of one re of one re of one re	quired; ch	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) Prates () ng Living R (C4) lled Soils (((D1) (LRR	C6)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leave 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRR	quired) RLA 1, 2	2,
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Vetland Hy Primary Ind X Surfac High V X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparsi	pogy ydrology Indicat licators (minimum the Water (A1) Water Tables (A2) ation (A3) Marks (B1) ment Deposits (B2) deposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on A ley Vegetated Co	ors: of one re	quired; chery (B	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) Prates () ng Living R (C4) Iled Soils (((D1) (LRR	C6)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leave 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRR	quired) RLA 1, 2	2,
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YDROLO Vetland Hy Primary Ind X Surfac High V X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparsi Field Obse Surface Wa Water Table Saturation I	preets hydric soil in the present? PGY ydrology Indicate dicators (minimum are Water (A1)) Water Tables (A2) ation (A3) Marks (B1) Marks (B1) Marks (B3) Mat or Crust (B4) Mat	ors: of one re	ery (B rface (B8)	water-Stained Le MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) Prates () ng Living R (C4) Iled Soils (((D1) (LRR	C6) A)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An	ned Leave 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds (re Hummon	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRR	quired) RLA 1, 2 agery (C	2,
YDROLO Wetland Hy Primary Ind X Surface High V X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa Water Table Saturation I	preets hydric soil in the present? property of the present of the present? property of the present o	ors: of one re	ery (B rface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) Prates () ng Living Ri (C4) Illed Soils (C4) (D1) (LRR	C6) A)	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised And Frost-Heav	ned Leave 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds (re Hummon	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRR cks (D7)	quired) RLA 1, 2 agery (C	2,
YDROLO Wetland Hy Primary Ind X Surfac High V X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparsi Field Obse Surface Wa Water Table Saturation I	neets hydric soil in the property of the prope	ors: of one re of one	ery (B rface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in	A, and 4B) rates (B13) e Odor (C1) pheres alor uced Iron (uction in Ti sed Plants Remarks)	8.0 6.0	C6) A) Wetland	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised And Frost-Heav	ned Leave 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds (re Hummon	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRR cks (D7)	quired) RLA 1, 2 agery (C	2,
YDROLO Vetland Hy Primary Ind X Surface High V X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa Vater Table Saturation Fincludes ca	neets hydric soil in the property of the prope	ors: of one re of one	ery (B rface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	A, and 4B) rates (B13) e Odor (C1) pheres alor uced Iron (uction in Ti sed Plants Remarks)	8.0 6.0	C6) A) Wetland	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised And Frost-Heav	ned Leave 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds (re Hummon	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRR cks (D7)	quired) RLA 1, 2 agery (C	2,
YDROLO Wetland Hy Primary Ind X Surfac High V X Satura Water Sedim Drift D Algal I Iron D Surfac Inunda Sparsi Field Obse Surface Water Table Saturation I includes ca	neets hydric soil in the property of the prope	ors: of one re of one	ery (B rface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	A, and 4B) rates (B13) e Odor (C1) pheres alor uced Iron (uction in Ti sed Plants Remarks)	8.0 6.0	C6) A) Wetland	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised And Frost-Heav	ned Leave 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 ral Test (D5 t Mounds (re Hummon	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRR cks (D7)	quired) RLA 1, 2 agery (C	2,
YDROLO Wetland Hy Primary Ind X Surface High V X Satura Water Sedim Drift D Algal I Iron D Surface Inunda Sparsi Field Obse Surface Wa Water Table Saturation Fincludes ca	preets hydric soil in the present? Persent? Persent? Pordogy Indicate (Stream of the present) Persent? Persent? Persent? Persent? Persent? Persent (Stream of the present) Persent? Persent? Persent? Persent (Stream of the present)	ors: of one re of on	ery (B rface (B8)	MRLA 1, 2, 4A Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Stunted or Stress Other (Explain in X Depth (inches): Depth (inches):	A, and 4B) rates (B13) e Odor (C1) oheres alor uced Iron (uction in Ti sed Plants Remarks)	ng Living R (C4) Illed Soils (C (D1) (LRR)	Wetland	Water Stai 4A, and Drainage F Dry-Seaso Saturation Geomorph Shallow Ad FAC-Neutr Raised An Frost-Heav Hydrology Pres	ned Leave 4B) Patterns (B n Water Ta Visible on ic Position quitard (D3 al Test (D5 t Mounds (ve Hummon	s (B9) (M 10) able (C2) Aeriel Im (D2)) 5) D6) (LRR cks (D7)	quired) RLA 1, 2 agery (C	2 ,



Photo Name: Photo_220819132330



Photo Name: Photo_220819131456



Project/Site: Port of Grays harbor Terminal 4 Ex	cpansion	City/County:	Hoquiam, Grays Ha	rbor Sampling Da	ate: 8/19/2	2022		
Applicant/Owner: The Port of Grays Harbor		_	State: WA	Sampling Po				
Investigators: STORY, DARTIGUENAVE			Section, Township, F	 Range: T17N R9W S	37			
Landform (hillslope, terrace, etc.): Floodplain		Local Reli	ef (concave, convex,			Slope	(%): 45	
Subregion (LRR): A - Northwestern Forest,	Lat: 46.9712	– 87 Long:	-123.857796	Datum:	WGS84	•		
Soil Map Unit Name: Udorthents	_		NWI Classific	ation: UPL				
Are climatic / hydrologic conditions on the site typica	I for this time of y	rear? Yes	s X No	(If No, explain in Re	emarks)			
Are Vegetation: Soil X or Hydrology	significantly dis	sturbed?	Are "Normal Circum	- '	Yes	Х	. N	0
Are Vegetation: Soil or Hydrology	naturally probl	ematic?	(If needed, explain a	any answers in Rem	arks.)			
SUMMARY OF FINDINGS - Attach a site	— e map showi≀	ng sampling	point locations,	transects, imp	ortant fe	eature	es, etc.	
Hydrophytic Vegetation Present? Yes	No X			- _				
Hydric Soil Present? Yes	No X	Is the	Sampled Area					
Wetland Hydrology Present? Yes	No X	within	n a Wetland?	Yes			No X	
Remarks:						·		
Sample plot on steep fill slope above channel/ditch. 3 wetland criteria and is not located within a wetland	l.	vel and cobble fi	II. Sample plot approx	kimately 6 feet above	9-1. S	Sample	plot meet	s 0 of
VEGETATION – Use scientific names o	f plants.							
	Absolute	Dominant	Indicator	Dominance Test	Workshee	et:		
<u>Tree Statum</u> (Plot size: 5m)	% Cover	Species?	Status	Number of Domina	nt Species	;		
1.	0			That Are OBL, FAC	کW, or FAC): _	1	_ (A)
2.				Total Number of Do	ominant			
3.				Species Across All		_	2	— (B)
4.				Percent of Domina	•			
	0	= Total Cover		That Are OBL, FAC	W, or FAC): 	50	(A/B)
Sapling/Shrub Stratum (Plot size: 3m)				Prevalence Index	workshee	et:		
Rubus armeniacus	2	Yes	FAC FAC	Total % Cover of:		Multip	<u>ly by:</u>	
2.				OBL species		_x1= _		_
3.				FACW species	15	_x2= _	30	_
4				FAC species	7	_ x3= _	21	_
5.				FACU species	80	_ x4= _	320	_
	2	= Total Cover		UPL species		- ^{x5=} –	0	– ,_,
Herb Stratum (Plot size: 1m)			=.0	Column Totals:	102	- ^(A)	371	— ^(B)
Dactylis glomerata	65	Yes	- FACU		. 5/4			
2. Plantago lanceolata	15	No No	FACU	Prevalence Ind			3.6	4
3. Equisetum telmateia		No	- FACW	Hydrophytic Vege				
4. Lotus corniculatus	5	No	FAC	1 - Rapid Te	•		vegetatio	on
5. Phalaris arundinacea	5	No	_ FACW	2 - Dominano 3 - Prevaleno				
6.							1 (Drovido	
7.				4 - Morpholo			•	
8. 9.				5 - Wetland	Remarks or		•	neet)
10.				Problematic				(volain)
11.				¹Indicators of hydric		_		
	100	= Total Cover		must be present, u			-	-
Woody Vine Stratum (Plot size: 3m)		= Total Cover		must be present, u	- IICSS CISTA	TDEG OI	problema	auc.
1.	0			Hydrophytic				
2.				Vegetation	Yes	N	√o X	
	0	= Total Cover		Present?	162	— '`		_
% Bare Ground in Herb Stratum 0		- 10tal 00vel		, resource				
Remarks:								
Sample plot lacks indicators for hydrophytic vegetati	on.							

Depth	Mati	_	eded to document the Red	ox Feature							
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture		Remarks		
0-4	7.5YR 4/2	100	-				Loamy Sand	Gravelly.			
			_	·							
Type: C= C	oncentration, D= De	pletion, RM=Re	educed Matrix, CS=Cove	red or Coa	ted Sand G	rains.	²Loc	ation: PL=P	ore Lining, M	=Matrix	ζ.
• • • • • • • • • • • • • • • • • • • •		•	s, unless otherwise no				Indicators for Pro				
-	sol (A1)		Sandy Redox (S	-			2 cm Muck	(A10)			
	Epipedon (A2)		Stripped Matrix (Material (TF	- 2)		
	Histic (A3)		Loamy Mucky M	ineral (F1)	(except ML	RLA 1)	Very Shallo	w Dark Surf	ace (TF12)		
— Hydro	gen Sulfide (A4)		Loamy Gleyed M	latrix (F2)			Other (Expl	ain in Rema	rks)		
Deple	eted Below Dark Sur	face (A11)	Depleted Matrix	(F3)							
Thick	Dark Surface (A12)		Redox Dark Surf	ace (F6)			³ Indicators of hyd	drophytic veg	getation and		
Sandy	Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)					wetland hydrol	ogy must be	present,			
Sandy	Sandy Gleyed Matrix (S4) Redox Depressions (F8)					unless disturbe	d or problen	natic.			
Restrictive	E Layer (if present)	:									
Type:											
Depth	(inches):		_				Hydric Soil Pres	ent? Y	es	No	Х
	ydrology Indicator							. (0			
	dicators (minimum o	f one required;		(5.0)	, .		Secondary Indica				
	ce Water (A1)		Water-Stained Lo		-				B9) (MRLA 1	, 2,	
	Water Tables (A2)		MRLA 1, 2, 4	A, and 4B)			4A, and	,	`		
	ation (A3) r Marks (B1)		Salt Crust (B11) Aquatic Inverteb	rotoo (P12)	\			atterns (B10 Water Tabl	•		
	nent Deposits (B2)		 ·	` '	'		<u> </u>		` '	(C0)	
	Deposits (B3)		Hydrogen Sulfide Oxidized Rhizos			oote (C3)		Position (D	eriel Imagery	(С9)	
	Mat or Crust (B4)		Presence of Red			0018 (C3)	Shallow Aq		<i>(</i> 2)		
	Deposits (B5)		Recent Iron Red			26)	FAC-Neutra	` '			
	ce Soil Cracks (B6)		Stunted or Stress					Mounds (D6	6) (LRR A)		
	ation Visible on Aer	iel Imagery (B	Other (Explain in			/		e Hummock			
	sley Vegetated Cond			,					- ()		
Field Obse		`	,								
	ater Present? Ye	s No	X Depth (inches):								
Water Tabl			X Depth (inches):								
Saturation			X Depth (inches):			Wetland	d Hydrology Prese	ent? Y	es	No	Х
(includes c	apillary fringe)		<u> </u>				-,			-	
Describe Red	corded Date (stream	n gauge, monitor	ring well, aerial photos, p	revious ins	spections), i	f availabl	e:				
Remarks:											
	r secondary wetland	d hydrology indic	cators observed. Dry to 4	inches. 6	feet above	OHWM.					
•	-		•								



Photo Name: Photo_220819133458



Photo Name: Photo_220819133449



Appendix C. Wetland Rating Forms

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland	d 1		Date of	site visit: <u>8/19/</u> 2022
Rated by T. Story			d by Ecology?		o Date of training 03/1
HGM Class used fo	r rating Estuari	ine .	Wetland has m	ultiple HGN	1 classes? <u>□</u> Y <u>✓</u> N
Source o	f base aerial pho	oto/map N/A			can be combined).
				nsor sp	ecial characteristics
1. Category of v					
	Category I – Tot	al score = 23 - 2	27		Score for each
✓	Category II – Tot	tal score = 20 -	- 22		function based
	Category III – To	otal score = 16	- 19		on three ratings
	Category IV – To				(order of ratings
FUNCTION	Improving	Hydrologic	Habitat]	important)
	Water Quality				9 = H,H,H
		Circle the ap	propriate ratings]	8 = H,H,M
Site Potential	H M L	H M L	H M L	į	7 = H,H,L
andscape Potential	H M L	H M L	H M L		7 = H,M,M
Value	H M L	H M L	H M L	TOTAL	6 = H,M,L
Score Based on Ratings	0	0	0	0	6 = M,M,M 5 = H,L,L 5 = M,M,L
					4 = M,L,L
					3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?		
	NO – go to 2 YES – the wetland class is Tidal Fringe – go to 1.1	
1	1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?	
	NO – Saltwater Tidal Fringe (Estuarine) If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is an Estuarine wetland and is not scored. This method cannot be used to score functions for estuarine wetlands.	
2.	The entire wetland unit is flat and precipitation is the only source ($>90\%$) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.	
	NO – go to 3 YES – The wetland class is Flats If your wetland can be classified as a Flats wetland, use the form for Depressional wetlands.	
3.	Does the entire wetland unit meet all of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size; _At least 30% of the open water area is deeper than 6.6 ft (2 m).	
	NO – go to 4 YES – The wetland class is Lake Fringe (Lacustrine Fringe)	
4.	Does the entire wetland unit meet all of the following criteria? The wetland is on a slope (<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, or in a swale without distinct banks, The water leaves the wetland without being impounded .	
	NO – go to 5 YES – The wetland class is Slope	
	NOTE : Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).	
5.	Does the entire wetland unit meet all of the following criteria? The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river, The overbank flooding occurs at least once every 2 years.	

We	Wetland name or number					
	■ NO – go to 6 NOTE : The Riverine unit can contain depress not flooding	YES – The wetland class is Riverine sions that are filled with water when the river is				
6.	1 9 1	epression in which water ponds, or is saturated to the means that any outlet, if present, is higher than the interior				
	□N0 – go to 7	YES – The wetland class is Depressional				
7. Is the entire wetland unit located in a very flat area with no obvious depression and no overba 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 outlet.						
	☐ NO – go to 8	YES – The wetland class is Depressional				

14/14

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

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

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

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

Wetland is Estuarine. Rated as Category II based on special characteristics.

WDFW Priority Habitats

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

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

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.

Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).

Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).

Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category	
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.		
SC 1.0. Estuarine wetlands		
Does the wetland meet the following criteria for Estuarine wetlands?		
The dominant water regime is tidal,		
Vegetated, and		
With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 No= Not an estuarine wetland		
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area		
Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?		
Yes = Category I ✓ No - Go to SC 1.2	Cat. I	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?		
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less		
than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)	Cat. I	
At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-		
mowed grassland.	Cat. II ★	
—The wetland has at least two of the following features: tidal channels, depressions with open water, or	Cat. II	
contiguous freshwater wetlands.		
SC 2.0. Wetlands of High Conservation Value (WHCV)		
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High		
Conservation Value?	Cat. I	
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?		
Yes = Category I No = Not a WHCV	,	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?		
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf		
Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV		
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on		
their website?		
SC 3.0. Bogs		
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key		
below. If you answer YES you will still need to rate the wetland based on its functions.		
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or		
more of the first 32 in of the soil profile?		
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep		
over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or		
pond? Yes – Go to SC 3.3 No = Is not a bog		
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%		
cover of plant species listed in Table 4?		
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by		
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.	Cat. I	
SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,		
western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the		
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		
Yes = Is a Category I bog No = Is not a bog		
Tes = 15 d category 1 bog Tivo = 15 not a bog		

SC 4.0. Forested Wetlands	
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA	
Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate	
the wetland based on its functions.	
Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered	
canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of	
age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.	
Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the	
species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).	Cat. I
Yes = Category I No = Not a forested wetland for this section	Cat. 1
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from	
marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)	
during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
Yes – Go to SC 5.1 No = 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	Cat. II
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II
At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
☐ The wetland is larger than $\frac{1}{10}$ ac (4350 ft²)	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
Long Beach Peninsula: Lands west of SR 103	
Grayland-Westport: Lands west of SR 105	Cat I
Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
☐ Yes — Go to SC 6.1 ☐ No = not an interdunal wetland for rating	
	Cat. II
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? \square Yes = Category I \square No – Go to SC 6.2	_ Gattin
for the three aspects of function)?	
Yes = Category II No – Go to SC 6.3	Cat. III
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
Yes = Category III No = Category IV	
	Cat. IV
Category of wetland based on Special Characteristics	
If you answered No for all types, enter "Not Applicable" on Summary Form	II

Wetland name or number WL1

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RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland	d 2		Date of	site visit: 7/8/22
Rated by Tobin Stor			ed by Ecology?	√Yes N	o Date of training 03/1
HGM Class used fo	r rating Depres	ssional	Wetland has m	ultiple HGN	1 classes? <u>□</u> Y <u>✓</u> N
Source o	f base aerial pho	oto/map <u>ESRI</u>			can be combined)ecial characteristics
1. Category of v		<u> </u>		ns <u>Iv</u> or sp	ecial characteristics <u> </u>
—	Category I – Tot				
	Category II – To				Score for each function based
	Category III – To				on three
	Category IV – To				ratings (order of ratings is not
FUNCTION	Improving	Hydrologic	Habitat		important)
	Water Quality				9 = H,H,H
		Circle the ap	propriate ratings		8 = H,H,M
Site Potential	H M M ✓ L	H MVL	H		7 = H,H,L
Landscape Potential	H M ✓ L	H✓ M☐ L	H		7 = H,M,M
Value	H √ M□L□	H ✓ M□L□	H M L	TOTAL	6 = H,M,L
Score Based on Ratings	7	8	3	18	6 = M,M,M 5 = H,L,L 5 = M,M,L
					4 = M,L,L
			DICTICC -f		3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	2-1
Hydroperiods	D 1.4, H 1.2	2-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	2-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	2-3
Map of the contributing basin	D 4.3, D 5.3	2-4
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2-5
. 70	D 2 4 D 2 2	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	A1
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	A2

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the entire unit usually controlled by tides except during floods?
	NO – go to 2
1	1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?
	NO – Saltwater Tidal Fringe (Estuarine) If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is an Estuarine wetland and is not scored. This method cannot be used to score functions for estuarine wetlands.
2.	The entire wetland unit is flat and precipitation is the only source ($>90\%$) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
	✓ NO – go to 3
3.	Does the entire wetland unit meet all of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size; _At least 30% of the open water area is deeper than 6.6 ft (2 m).
	✓ NO – go to 4
4.	Does the entire wetland unit 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, or in a swale without distinct banks, The water leaves the wetland without being impounded .
	▼ NO – go to 5
	NOTE : Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).
5.	Does the entire wetland unit meet all of the following criteria? The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river, The overbank flooding occurs at least once every 2 years.

We	Vetland name or number	
	✓ NO – go to 6 NOTE : The Riverine unit can contain depression not flooding	YES – The wetland class is Riverine as that are filled with water when the river is
6.		ession in which water ponds, or is saturated to the ans that any outlet, if present, is higher than the interior
	□NO – go to 7	YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat a flooding? The unit does not pond surface water maintained by high groundwater in the area. The outlet.	•
	□ NO – go to 8	YES – The wetland class is Depressional

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

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

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

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

Wetland located in broad, shallow swale. Significant evidence of impounded water throughout wetland.

DEPRESSIONAL AND FLATS WETLANDS			
Water Quality Functions - Indicators that the site functions to improve water quality			
D 1.0. Does the site have the potential to improve water quality?			
D 1.1. Characteristics of surface water outflows from the wetland:			
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).			
points = 3	0		
✓ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	2		
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1			
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1			
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 🗸 No = 0	0		
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):			
Wetland has persistent, ungrazed, plants > 95% of area points = 5			
Wetland has persistent, ungrazed, plants > $\frac{1}{2}$ of area points = 3	1		
Wetland has persistent, ungrazed plants $> \frac{1}{10}$ of area points = 1			
Wetland has persistent, ungrazed plants $<^1/_{10}$ of area points = 0			
D 1.4. Characteristics of seasonal ponding or inundation:			
This is the area that is ponded for at least 2 months. See description in manual.			
Area seasonally ponded is > ½ total area of wetland points = 4	4		
Area seasonally ponded is > ½ total area of wetland points = 2			
☐ Area seasonally ponded is < ¼ total area of wetland points = 0	_		
Total for D 1 Add the points in the boxes above	7		
Rating of Site Potential If score is: $\boxed{ 12-16 = H }$ $\boxed{ 6-11 = M }$ $\boxed{ 0-5 = L }$ Record the rating on the first page	ge		
D 2.0. Does the landscape have the potential to support the water quality function of the site?			
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1		
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? $\sqrt{\text{Yes}} = 1$ No = 0	1		
D 2.3. Are there septic systems within 250 ft of the wetland? $\qquad \qquad	0		
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	0		
SourceYes = 1 ✓ No = 0	U		
Total for D 2 Add the points in the boxes above	2		
Rating of Landscape Potential If score is: $\square 3$ or $4 = H$ $\boxed{\checkmark} 1$ or $2 = M$ $\boxed{\bigcirc} 0 = L$ Record the rating on the first	st page		
D 3.0. Is the water quality improvement provided by the site valuable to society?			
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	0		
303(d) list? Yes = 1 ✓ No = 0	0		
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	0		
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	2		
Total for D 3 Add the points in the boxes above	2		
Rating of Value If score is: 2-4 = H 1 = M 0 = L Record the rating on the first page			
D1.3 - Much of wetland is not vegetated, consists of bare ground D3.1, D3.2 - no waters within 1 mile (or within sub-basin) on the 303(d) list. D3.3 - Wetland is located within watershed for Grays Harbor Dioxin TMDI			

(https://apps.ecology.wa.gov/publications/documents/9210202.pdf) D6.1 - Wetland is located within flood zone AE, panel 53027C0904D

DEPRESSIONAL AND FLATS WETLANDS			
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation			
D 4.0. Does the site have the potential to reduce flooding and erosion?			
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outletpoints = Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	2 2		
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	3		
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. ☐ The area of the basin is less than 10 times the area of the unit points = 5 ☐ The area of the basin is 10 to 100 times the area of the unit points = 3 ☐ The area of the basin is more than 100 times the area of the unit points = 0 ☐ Entire wetland is in the Flats class points = 5	3		
Total for D 4 Add the points in the boxes above	8		
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the	e first page		
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	1		
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Ves = 1 No =	0 1		
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No =	1		
Total for D 5 Add the points in the boxes above	3		
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on the	e first page		
D 6.0. Are the hydrologic functions provided by the site valuable to society?			
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): ✓ • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 □ • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 □ Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the □ water stored by the wetland cannot reach areas that flood. Explain why points = 0 □ There are no problems with flooding downstream of the wetland. points = 0	2		
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 V No =	0		
Total for D 6 Add the points in the boxes above	2		
Rating of Value If score is: 2-4 = H 1 = M 0 = L Record the rating on the	e first page		

These questions apply to wetlands of all HGM classes.		
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the site have the potential to provide habitat?		
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed Emergent 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	1	
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated Seasonally flooded or inundated Occasionally flooded or inundated Saturated only Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland Freshwater tidal wetland 2 points	1	
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft ² . Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species 5 - 19 species 7 - 19 species 9 - 19 species 1 - 2 - 3 species 9 - 19 species 1 - 3 species 9 - 19 species	1	
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are HIGH = 3points	1	

H 1.5. Special habitat features:	2		
Check the habitat features that are present in the wetland. <i>The number of checks is the number of points</i> .			
✓ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).			
Standing snags (dbh > 4 in) within the wetland			
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m)			
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)			
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree			
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered			
where wood is exposed)			
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are			
permanently or seasonally inundated (structures for egg-laying by amphibians)			
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of			
strata)			
Total for H 1 Add the points in the boxes above	6		
Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Record the rating on	the first page		
H 2.0. Does the landscape have the potential to support the habitat functions of the site?			
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).			
Calculate: % undisturbed habitat $\frac{0.00}{1.00}$ + [(% moderate and low intensity land uses)/2] $\frac{0.25}{1.00}$ = $\frac{0.25}{1.00}$ %	0		
If total accessible habitat is:			
20-33% of 1 km Polygon $20-33% of 1 km Polygon$ $points = 2$			
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	0		
Calculate: % undisturbed habitat $\frac{0.00}{1.25}$ + [(% moderate and low intensity land uses)/2] $\frac{1.25}{1.25}$ = $\frac{1.25}{1.25}$ %			
Undisturbed habitat > 50% of Polygon points = 3			
Undisturbed habitat 10-50% and in 1-3 patches points = 2			
Undisturbed habitat 10-50% and > 3 patches Points = 1			
✓ Undisturbed habitat < 10% of 1 km Polygon points = 0			
H 2.3. Land use intensity in 1 km Polygon: If	-2		
\checkmark > 50% of 1 km Polygon is high intensity land use points = (-2)			
$\bigsqcup \le 50\%$ of 1 km Polygon is high intensity points = 0			
Total for H 2 Add the points in the boxes above	-2		
Rating of Landscape Potential If score is: 4-6 = H 1-3 = M			

WDFW Priority Habitats

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

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

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.

Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).

Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).

Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Cat. I Sc 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt Yes – Go to SC 1.1 No= Not an estuarine wetland SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Sportino, see page 25) At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- moved grassland. The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Cat. II SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WAD Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes = Category I No = Category I No = Not a WHCV SC 2.3. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the the wetland in thave organic soils either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? SC	Wetland Type	Category
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Vegetated, and With a salinity greater than 0.5 ppt Yes—Go to SC 1.1 No= Not an estuarine wetland		
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SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,		Cat. I
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western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?		

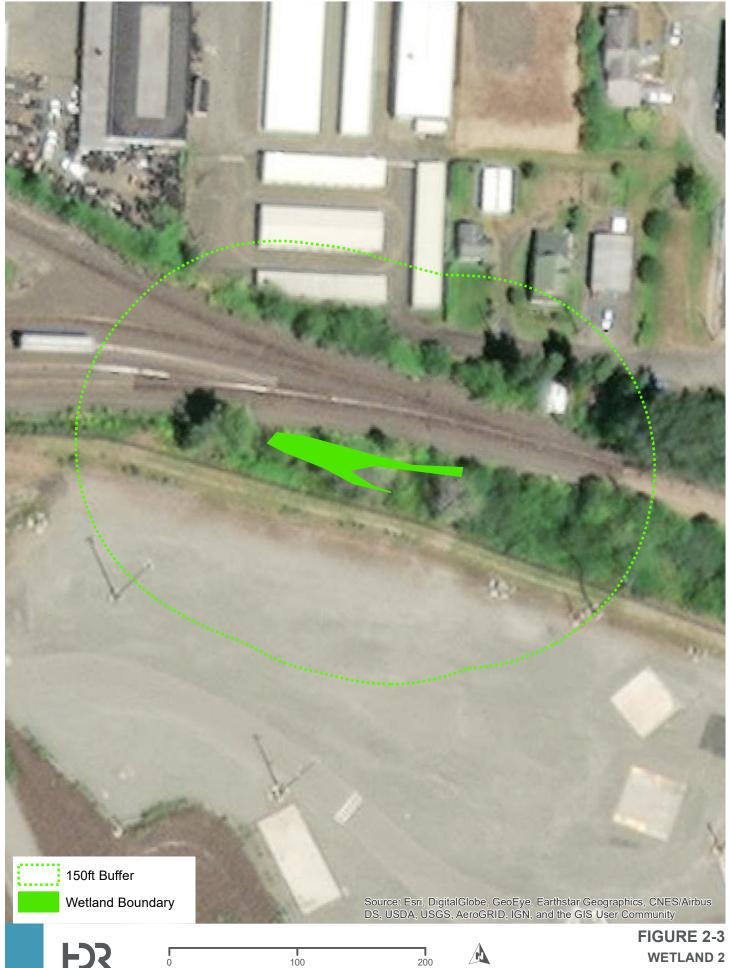
SC 4.0. Forested Wetlands	
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate</i>	
the wetland based on its functions.	
Old-growth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

Wetland name or number _____

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FDR

100 Feet



WETLAND 2

150FT BUFFER





RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland	d 4		Date of	site visit: <u>7/8/2</u> 2
Rated by Tobin Stor	У	Traine	ed by Ecology?	✓ Yes 🔲 No	Date of training 03/1
HGM Class used fo	r rating Depres	ssional	Wetland has m	ultiple HGM	classes? Y V N
NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map ESRI VERALL WETLAND CATEGORY III (based on functions or special characteristics)					
	vetland based Category I – Tota Category II – Tota Category III – To Category IV – To	al score = 23 - 2 tal score = 20 - tal score = 16	27 - 22 - 19		Score for each function based on three ratings (order of ratings is not
FUNCTION	Improving Water Quality	Hydrologic	Habitat		important) 9 = H,H,H
		Circle the ap	propriate ratings		8 = H,H,M
Site Potential	H M ✓ L	H	H		7 = H,H,L
Landscape Potential	H M ✓ L	H ✓ M□L	H M L√		7 = H,M,M
Value	H √ M□L□	H M L	H M L	TOTAL	6 = H,M,L
Score Based on Ratings	7	7	3	17	6 = M,M,M 5 = H,L,L 5 = M,M,L
					4 = M,L,L 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	4-1
Hydroperiods	D 1.4, H 1.2	4-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	4-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	4-3
Map of the contributing basin	D 4.3, D 5.3	4-4
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	4-5
polygons for accessible habitat and undisturbed habitat		. 0
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	A1
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	A2

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

1.	Are the water levels in the entire unit usually controlled by tides except during floods?
	✓ NO – go to 2
1	1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?
	NO – Saltwater Tidal Fringe (Estuarine) If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is an Estuarine wetland and is not scored. This method cannot be used to score functions for estuarine wetlands.
2.	The entire wetland unit is flat and precipitation is the only source ($>90\%$) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
	✓ NO – go to 3
3.	Does the entire wetland unit meet all of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size; At least 30% of the open water area is deeper than 6.6 ft (2 m).
	✓ NO – go to 4 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? The wetland is on a slope (<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, or in a swale without distinct banks, The water leaves the wetland without being impounded .
	✓ NO – go to 5 YES – The wetland class is Slope
	NOTE : Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).
5.	Does the entire wetland unit meet all of the following criteria? The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river, The overbank flooding occurs at least once every 2 years.

We	Vetland name or number 4	
	✓ NO – go to 6 NOTE : The Riverine unit can contain depressions not flooding	YES – The wetland class is Riverine that are filled with water when the river is
6.	 Is the entire wetland unit in a topographic depres surface, at some time during the year? This mean of the wetland. 	sion in which water ponds, or is saturated to the as that any outlet, if present, is higher than the interior
	□ NO – go to 7	YES – The wetland class is Depressional
7.	 Is the entire wetland unit located in a very flat are flooding? The unit does not pond surface water n maintained by high groundwater in the area. The outlet. 	-
	□ NO – go to 8	YES – The wetland class is Depressional

1

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

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

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

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

Wetland located in narrow ditch. Impounds water throughout wetland. Rated as depressional.

DEPRESSIONAL AND FLATS WETLANDS		
Water Quality Functions - Indicators that the site functions to improve water quality		
D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).		
points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.	2	
points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1		
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	0	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 Vo = 0	0	
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5		
Wetland has persistent, ungrazed, plants > 3% of area points = 3	5	
Wetland has persistent, ungrazed plants > $\frac{1}{10}$ of area points = 1	3	
Wetland has persistent, ungrazed plants $< \frac{1}{10}$ of area points = 0		
D 1.4. Characteristics of seasonal ponding or inundation:		
This is the area that is ponded for at least 2 months. See description in manual.		
✓ Area seasonally ponded is > ½ total area of wetland points = 4	4	
Area seasonally ponded is > ¼ total area of wetland points = 2		
Area seasonally ponded is < ¼ total area of wetland points = 0		
Total for D 1 Add the points in the boxes above	11	
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the first pa	ge	
D.2.0. Deep the landscape have the netential to support the water quality function of the site?		
D 2.0. Does the landscape have the potential to support the water quality function of the site?		
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1	
D 2.3. Are there septic systems within 250 ft of the wetland? $\sqrt{\text{Yes}} = 1$ $\sqrt{\text{No}} = 0$	0	
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	0	
SourceYes = 1 ✓ No = 0		
Total for D 2 Add the points in the boxes above	2	
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the fire	st page	
D 3.0. Is the water quality improvement provided by the site valuable to society?		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0	
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 V No = 0	0	
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	2	
Total for D 3 Add the points in the boxes above	2	
Rating of Value If score is: $\boxed{2}$ -4 = H $\boxed{1}$ = M $\boxed{0}$ = L Record the rating on the first page		
D3.1, D3.2 - no waters within 1 mile (or within sub-basin) on the 303(d) list. D3.3 - Wetland is located within watershed for Grays Harbor Dioxin TMDL		

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

DEPRESSIONAL AND FLATS WETLANDS			
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation			
D 4.0. Does the site have the potential to reduce flooding and erosion?			
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outletpoints Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	= 2 L		
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetland with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in)	<i>ds</i> 0		
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. ☐ The area of the basin is less than 10 times the area of the unit ☐ The area of the basin is 10 to 100 times the area of the unit ☐ The area of the basin is more than 100 times the area of the unit ☐ Entire wetland is in the Flats class ☐ Points = 5 ☐ Description of the area of upstream basin contribution of the area of the unit	3		
Total for D 4 Add the points in the boxes above	5		
Rating of Site Potential If score is: 12-16 = H 6-11 = M √0-5 = L Record the rating on	the first page		
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No	= 0 1		
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No	= 0 1		
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No	at = 0 1		
Total for D 5 Add the points in the boxes above	3		
Rating of Landscape Potential If score is: 73 = H 1 or 2 = M 0 = L Record the rating on	the first page		
D 6.0. Are the hydrologic functions provided by the site valuable to society?	·		
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): ■ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 ■ Surface flooding problems are in a sub-basin farther down-gradient. points = 1 ■ Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0 ■ There are no problems with flooding downstream of the wetland. points = 0	2		
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No	1 ()		
Total for D 6 Add the points in the boxes above	2		
Rating of Value If score is: 2-4 = H 1 = M 0 = L Record the rating on	the first page		

These questions apply to wetlands of all HGM classes.			
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat			
H 1.0. Does the site have the potential to provide habitat?			
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed Emergent 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	1		
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated Seasonally flooded or inundated Occasionally flooded or inundated Saturated only Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland Freshwater tidal wetland 2 points	1		
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft ² . Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species 5 - 19 species 7 - 19 species 9 - 19 species 1 - 19 species 9 - 19 species 1 - 19 species 9 - 19 species 1 - 19 species	1		
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are HIGH = 3points	1		

Wetland name or number 4

H 1.5. Special habitat features:		0
Check the habitat features that are present in the wetland. <i>The number of</i>	checks is the number of points.	2
Large, downed, woody debris within the wetland (> 4 in diameter and		
Standing snags (dbh > 4 in) within the wetland	<i>5,</i>	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging	ng plants extends at least 3.3 ft (1 m)	
over a stream (or ditch) in, or contiguous with the wetland, for at least		
Stable steep banks of fine material that might be used by beaver or m		
slope) OR signs of recent beaver activity are present (cut shrubs or tre	es that have not yet weathered	
where wood is exposed)		
At least ¼ ac of thin-stemmed persistent plants or woody branches are	e present in areas that are	
permanently or seasonally inundated (structures for egg-laying by an	nphibians)	
Invasive plants cover less than 25% of the wetland area in every stratu	ım of plants (see H 1.1 for list of	
strata)		
Total for H 1	Add the points in the boxes above	6
Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L	Record the rating on t	the first page
H 2.0. Does the landscape have the potential to support the habitat functi	ons of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		^
Calculate: % undisturbed habitat $\frac{0.00}{1}$ + [(% moderate and low inte	nsity land uses)/2] $\frac{0.30}{} = \frac{0.30}{}$ %	0
If total accessible habitat is:		
$\square > \frac{1}{3}$ (33.3%) of 1 km Polygon	points = 3	
20-33% of 1 km Polygon	points = 2	
10-19% of 1 km Polygon	points = 1	
✓ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	·	0
Calculate: % undisturbed habitat $\frac{0.00}{1}$ + [(% moderate and low inte	nsity land uses)/2] <u>1.60</u> = 1.60 %	0
Undisturbed habitat > 50% of Polygon	points = 3	
Undisturbed habitat 10-50% and in 1-3 patches	points = 2	
Undisturbed habitat 10-50% and > 3 patches	points = 1	
✓ Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	·	0
✓ > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
Sow of 1 km Polygon is high intensity	points = 0	
Total for H 2	Add the points in the boxes above	-2
Rating of Landscape Potential If score is: 4-6 = H 1-3 = M \(\sqrt{1} \) < 1 = L	Record the rating on the	
Training of Editabelia Contential in Score ISI. 14 0 = 11 112 0 = 111 11. 12 12 12	necora the rating on the	
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or poli	cies? Choose only the highest score	0
that applies to the wetland being rated.		O
Site meets ANY of the following criteria:	points = 2	
It has 3 or more priority habitats within 100 m (see next page)		
It provides habitat for Threatened or Endangered species (any plant or	animal on the state or federal lists)	
It is mapped as a location for an individual WDFW priority species		
It is a Wetland of High Conservation Value as determined by the Depar		
It has been categorized as an important habitat site in a local or region	al comprehensive plan, in a	
Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
	·	
Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $2 = H$ $1 = M$ $0 = L$	Record the rating on	tne first page

WDFW Priority Habitats

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

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

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.

Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).

Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).

Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

Wetland name or number 4

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
<u>Does</u> the wetland meet the following criteria for Estuarine wetlands?	
The dominant water regime is tidal,	
Vegetated, and	
With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 No= Not an estuarine wetland	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area	
Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
Yes = Category I No - Go to SC 1.2	9881
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less	Cat. I
than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
—Actients % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, of dif-grazed of dif-	
The wetland has at least two of the following features: tidal channels, depressions with open water, or	Cat. II
contiguous freshwater wetlands.	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3	Cat. I
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHC	,
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes — Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website? The second of	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key</i>	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or	
more of the first 32 in of the soil profile? \square Yes – Go to SC 3.3 \square No – Go to SC 3.2	
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep	
over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? — Yes – Go to SC 3.3 — No = Is not a bog	
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	
cover of plant species listed in Table 4?	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by	
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the	
plant species in Table 4 are present, the wetland is a bog.	Cat. I
SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,	
western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the	
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = Is a Category I bog No = Is not a bog	
i res – is a category i bog i into a bog	

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

Wetland name or number 4

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FDR

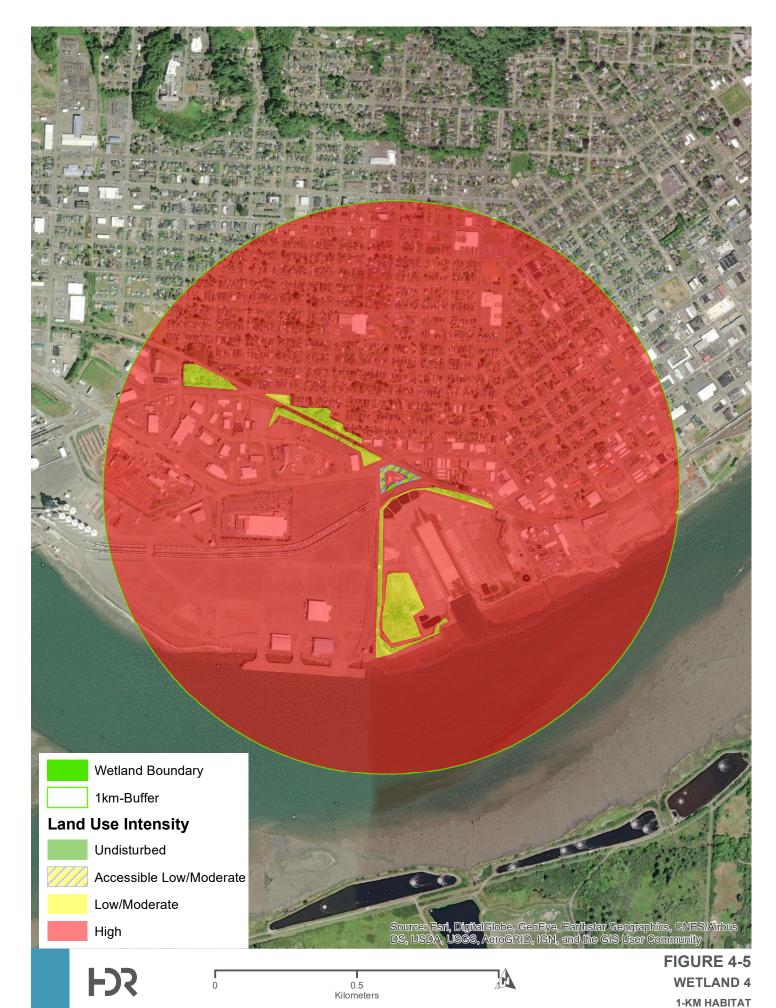
100 Feet



WETLAND 4

150FT BUFFER





RATING SUMMARY – Western Washington

Name of wetland (d	or ID #): Wetland	d 5		Date of	site visit: 8/5/22
Rated by Tobin Stor			d by Ecology?	✓ Yes 🔲 N	o Date of training 03/1
HGM Class used fo	r rating Depres	ssional	Wetland has m	ultiple HGN	1 classes? Y V N
Source o	f base aerial pho	oto/map <u>ESRI</u>			can be combined)
1. Category of v		<u> </u>		iis <u>[▼</u>] 01 spt	eciai characteristics_[_
	Category I – Tot	al score = 23 - 2	27		Score for each
	Category II – To	tal score = 20 -	22		function based
✓	Category III – To	otal score = 16	- 19		on three ratings
	Category IV – To	otal score = 9 - :	15		(order of ratings
FUNCTION	Improving	Hydrologic	Habitat		important)
	Water Quality				9 = H,H,H
		Circle the ap	propriate ratings		8 = H,H,M
Site Potential	H M L ✓	H ☐ M ☐ L ✓	H		7 = H,H,L
Landscape Potential	H M ✓ L	H √ M□L	H□ M□ L√		7 = H,M,M
Value	H √ M□L□	H ⋌ M□L□	H□ M□ L√	TOTAL	6 = H,M,L
Score Based on Ratings	6	7	3	16	6 = M,M,M 5 = H,L,L 5 = M,M,L
					4 = M,L,L
		LCHADACTE			3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	5-1
Hydroperiods	D 1.4, H 1.2	5-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	5-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	5-3
Map of the contributing basin	D 4.3, D 5.3	5-4
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	5-5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	A1
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	A2

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

1.	Are the water levels in the entire unit usually controlled by tides except during floods?
	✓ NO – go to 2
1	1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?
	NO – Saltwater Tidal Fringe (Estuarine) If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is an Estuarine wetland and is not scored. This method cannot be used to score functions for estuarine wetlands.
2.	The entire wetland unit is flat and precipitation is the only source ($>90\%$) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
	✓ NO – go to 3
3.	Does the entire wetland unit meet all of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size; At least 30% of the open water area is deeper than 6.6 ft (2 m).
	✓ NO – go to 4 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ✓ The wetland is on a slope (<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, or in a swale without distinct banks, — The water leaves the wetland without being impounded .
	✓ NO – go to 5
	NOTE : Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).
5.	Does the entire wetland unit meet all of the following criteria? The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river, The overbank flooding occurs at least once every 2 years.

We	etland name or number	
	✓ NO – go to 6 NOTE : The Riverine unit can contain depressinot flooding	YES – The wetland class is Riverine ions that are filled with water when the river is
6.		pression in which water ponds, or is saturated to the neans that any outlet, if present, is higher than the interior
	□N0 – go to 7	YES – The wetland class is Depressional
7.	flooding? The unit does not pond surface wat	t area with no obvious depression and no overbank fer more than a few inches. The unit seems to be The wetland may be ditched, but has no obvious natural
	☐ NO – go to 8	YES – The wetland class is Depressional

WL 5

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

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

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

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

Wetland located in narrow, relatively shallow ditch. Water ponds in multiple places where outlet is higher than center of wetland. Rated as depressional.

DEPRESSIONAL AND FLATS WETLANDS		
Water Quality Functions - Indicators that the site functions to improve water quality		
D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).		
points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1		
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 🗸 No = 0	0	
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > ¹/₁₀ of area Wetland has persistent, ungrazed plants < ¹/₁₀ of area Points = 0	0	
D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ¼ total area of wetland Area seasonally ponded is < ¼ total area of wetland points = 0	4	
Total for D 1 Add the points in the boxes above	5	
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the first page	ge	
D 2.0. Does the landscape have the potential to support the water quality function of the site?		
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? $$ Yes = 1 No = 0	1	
D 2.3. Are there septic systems within 250 ft of the wetland? $\qquad \qquad	0	
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? SourceYes = 1 No = 0	0	
Total for D 2 Add the points in the boxes above	2	
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first page		
D 3.0. Is the water quality improvement provided by the site valuable to society?		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0	
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 V No = 0	0	
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	2	
Total for D 3 Add the points in the boxes above	2	
Rating of Value If score is: $\boxed{\checkmark}$ 2-4 = H $\boxed{}$ 1 = M $\boxed{}$ 0 = L Record the rating on the first page		
D1.3 - Much of wetland is not vegetated, consists of bare ground. Plants that are present are all regularly mowe D3.1, D3.2 - no waters within 1 mile (or within sub-basin) on the 303(d) list. D3.3 - Wetland is located within watershed for Grays Harbor Dioxin TMDL (https://apps.ecology.wa.gov/publications/documents/9210202.pdf)	d.	

D6.1 - Wetland is located within flood zone AE, panel 53027C0904D

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

These questions apply to wetlands of all HGM classes.		
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the site have the potential to provide habitat?		
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed Emergent 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	0	
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated Very Seasonally flooded or inundated Occasionally flooded or inundated Saturated only Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland Freshwater tidal wetland 2 points	0	
H 1.3. Richness of plant species 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 and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species Points = 0	0	
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are HIGH = 3points	0	

H 1.5. Special habitat features:		0
Check the habitat features that are present in the wetland. The number of checks is the number of points.		U
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
Standing snags (dbh > 4 in) within the wetland		
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at	least 3.3 ft (1 m)	
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	` ,	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree	
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet	-	
where wood is exposed)		
\Box At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas th	at are	
permanently or seasonally inundated (structures for egg-laying by amphibians)		
\Box Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1	.1 for list of	
strata)		
Total for H 1 Add the points in the	ne boxes above	0
Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Rec	cord the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		_
Calculate: % undisturbed habitat $\frac{0.00}{1.00}$ + [(% moderate and low intensity land uses)/2] $\frac{0.00}{1.00}$	⁰⁰ = 0.00 %	0
If total accessible habitat is:		
\square > $^{1}/_{3}$ (33.3%) of 1 km Polygon	points = 3	
20-33% of 1 km Polygon	points = 2	
10-19% of 1 km Polygon	points = 1	
< 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	points = 0	
Calculate: % undisturbed habitat $\frac{6.00}{1000}$ + [(% moderate and low intensity land uses)/2] $\frac{2.00}{1000}$	00 = 8.00 %	0
Undisturbed habitat > 50% of Polygon	points = 3	
Undisturbed habitat 10-50% and in 1-3 patches	points = 2	
Undisturbed habitat 10-50% and > 3 patches	points = 1	
✓ Undisturbed habitat < 10% of 1 km Polygon points = 0		
H 2.3. Land use intensity in 1 km Polygon: If		-2
✓ > 50% of 1 km Polygon is high intensity land use	points = (- 2)	
≤ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the points in the		-2
Rating of Landscape Potential If score is: 4-6 = H 1-3 = M 1 1 = L Reco	ord the rating on ti	he first page
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only th	e highest score	0
that applies to the wetland being rated.		U
Site meets ANY of the following criteria:	points = 2	
It has 3 or more priority habitats within 100 m (see next page)		
It provides habitat for Threatened or Endangered species (any plant or animal on the state	or federal lists)	
H It is mapped as a location for an individual WDFW priority species		
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources		
It has been categorized as an important habitat site in a local or regional comprehensive pl	an, in a	
Shoreline Master Plan, or in a watershed plan		
Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $2 = H$ $1 = M$ $0 = L$ Red	cord the rating on	the first page

WDFW Priority Habitats

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

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

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.

Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).

Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).

Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

SC 4.0. Forested Wetlands	
Does the wetland have at least $\underline{1}$ contiguous acre of forest that meets one of these criteria for the WA	
Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate</i>	
the wetland based on its functions.	
Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of	
age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.	
Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the	
species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).	
Yes = Category I No = Not a forested wetland for this section	Cat. I
_	
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from	
marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)	
during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
Yes – Go to SC 5.1 No = 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	а Г
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II
At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
Long Beach Peninsula: Lands west of SR 103 Grayland-Westport: Lands west of SR 105	Cat I
Ocean Shores-Copalis: Lands west of SR 115 and SR 109	Cat
Yes – Go to SC 6.1 No = not an interdunal wetland for rating	
E 163 GO to 36 0.1 E 110 - Hot all interdation wedation for facing	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M	Cat. II
for the three aspects of function)?	
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
Yes = Category II No – Go to SC 6.3	Cat. III
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
Yes = Category III No = Category IV	Cat. IV
Catagony of wotland based on Special Characteristics	
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	
I It you answered No for all types, enter "Not Applicable" on Summary Form	

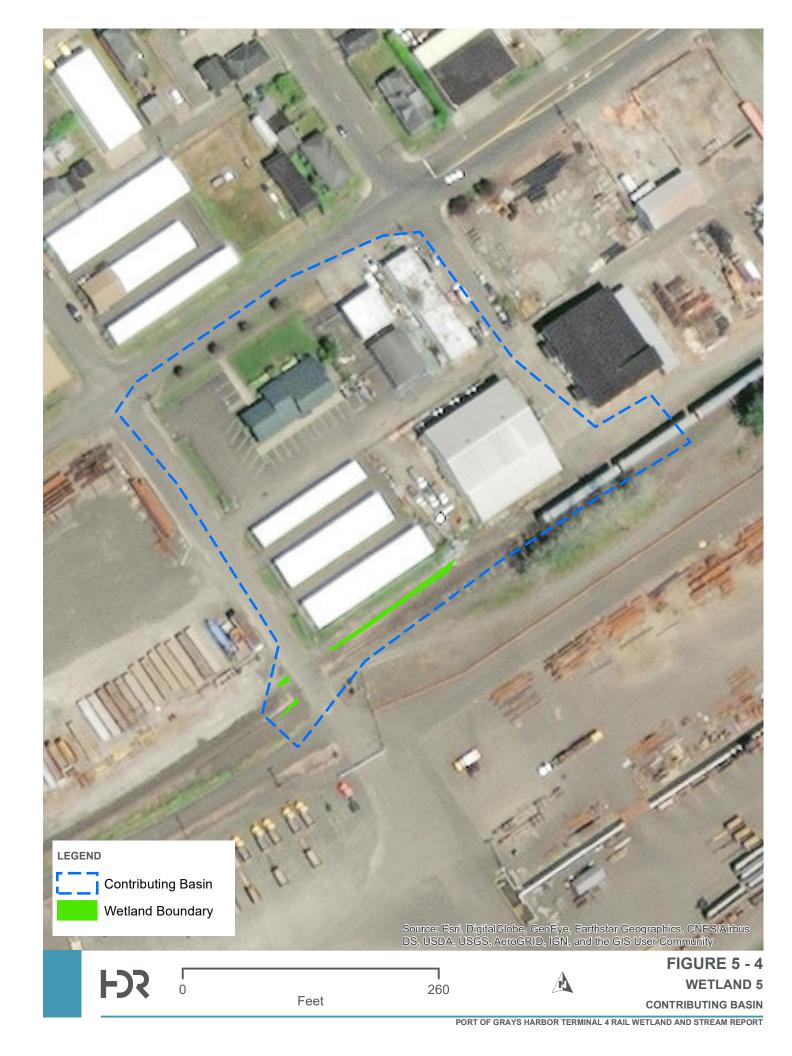
Wetland name or number WL 5

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RATING SUMMARY – Western Washington

Name of wetland (d	or ID #): Wetland	d 6		Date of	site visit: <u>8/15/</u> 22
Rated by Tobin Stor	У	Traine	ed by Ecology?	✓ Yes 🔲 No	Date of training 03/1
HGM Class used fo	r rating Depres	ssional	Wetland has m	ultiple HGM	classes? Y V N
Source o	f base aerial pho	oto/map <u>ESRI</u>			ecial characteristics
(vetland based Category I – Tota Category II – Tota Category III – To Category IV – To	al score = 23 - 2 tal score = 20 - tal score = 16	27 - 22 - 19		Score for each function based on three ratings (order of ratings is not
FUNCTION	Improving Water Quality	Hydrologic	Habitat		important) 9 = H,H,H
		Circle the ap	propriate ratings		8 = H,H,M
Site Potential	H M ✓ L	H ☐ M ☐ L ✓	H		7 = H,H,L
Landscape Potential	H M ✓ L	H √ M□L	H M L√		7 = H,M,M
Value	H √ M□L□	H √ M□L	H M L	TOTAL	6 = H,M,L
Score Based on Ratings	7	7	3	17	6 = M,M,M 5 = H,L,L 5 = M,M,L
					4 = M,L,L 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	6-1
Hydroperiods	D 1.4, H 1.2	6-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	6-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	6-2
Map of the contributing basin	D 4.3, D 5.3	6-4
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	6-5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	A1
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	A2

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

1.	Are the water levels in the entire unit usually controlled by tides except during floods?
	✓ NO – go to 2
1	1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?
	NO – Saltwater Tidal Fringe (Estuarine) If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is an Estuarine wetland and is not scored. This method cannot be used to score functions for estuarine wetlands.
2.	The entire wetland unit is flat and precipitation is the only source ($>90\%$) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
	✓ NO – go to 3
3.	Does the entire wetland unit meet all of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size; _At least 30% of the open water area is deeper than 6.6 ft (2 m).
	✓ NO – go to 4 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ✓ The wetland is on a slope (<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, or in a swale without distinct banks, The water leaves the wetland without being impounded .
	▼ NO – go to 5
	NOTE : Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).
5.	Does the entire wetland unit meet all of the following criteria? The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river, The overbank flooding occurs at least once every 2 years.

We	etland name or number	
	✓ NO – go to 6 NOTE : The Riverine unit can contain depressinot flooding	YES – The wetland class is Riverine ions that are filled with water when the river is
6.		pression in which water ponds, or is saturated to the neans that any outlet, if present, is higher than the interior
	□N0 – go to 7	YES – The wetland class is Depressional
7.	flooding? The unit does not pond surface wat	t area with no obvious depression and no overbank fer more than a few inches. The unit seems to be The wetland may be ditched, but has no obvious natural
	☐ NO – go to 8	YES – The wetland class is Depressional

WL 6

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

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

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

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

Wetland located in ditch, largely flows unidirectionally but impounds water in several locations, and outlet is higher than center of wetland. Rated as depressional.

DEPRESSIONAL AND FLATS WETLANDS			
Water Quality Functions - Indicators that the site functions to improve water quality			
D 1.0. Does the site have the potential to improve water quality?			
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	1		
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). \square Yes = 4 \checkmark No = 0	0		
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Points = 5 Wetland has persistent, ungrazed, plants > ½ of area Points = 3 Wetland has persistent, ungrazed plants > ¹/₁₀ of area Points = 1 Wetland has persistent, ungrazed plants < ¹/₁₀ of area points = 0	3		
D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. ✓ Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ¼ total area of wetland Area seasonally ponded is < ¼ total area of wetland Points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	4		
Total for D 1 Add the points in the boxes above	8		
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the first page D 2.0. Does the landscape have the potential to support the water quality function of the site?	je		
D 2.1. Does the wetland unit receive stormwater discharges? Ves = 1 No = 0	4		
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? $\sqrt{\text{Yes}} = 1$ No = 0	1		
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 Yes = 1 No = 0	0		
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 No = 0	0		
Total for D 2 Add the points in the boxes above			
· ·	2		
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first			
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first			
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first D 3.0. Is the water quality improvement provided by the site valuable to society? D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	st page		
Rating of Landscape Potential If score is:3 or 4 = H√_1 or 2 = M0 = L Record the rating on the first D 3.0. Is the water quality improvement provided by the site valuable to society? D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	ot page		
Rating of Landscape Potential If score is:3 or 4 = H✓1 or 2 = M0 = L Record the rating on the first D 3.0. Is the water quality improvement provided by the site valuable to society? D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1✓ No = 0 D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1✓ No = 0 D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES)	o 0		
Rating of Landscape Potential If score is:3 or 4 = H 1 or 2 = M0 = L Record the rating on the first D 3.0. Is the water quality improvement provided by the site valuable to society? D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0 D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0 D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0	o 0 2		

D3.1, D3.2 - no waters within 1 mile (or within sub-basin) on the 303(d) list.

D3.3 - Wetland is located within watershed for Grays Harbor Dioxin TMDL

(https://apps.ecology.wa.gov/publications/documents/9210202.pdf)

D6.1 - Wetland is located within flood zone AE, panel 53027C0904D

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

These questions apply to wetlands of all HGM classes.		
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the site have the potential to provide habitat?		
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed Emergent 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	0	
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Coccasionally 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 Freshwater tidal wetland 2 points	0	
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species 5 - 19 species 7 - 19 species 9 - 19 species 1 - 19 species 9 - 19 species 1 - 19 species 9 - 19 species	1	
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are HIGH = 3points	0	

HAR C. C. L. L. L. L. C. L.		1
H 1.5. Special habitat features:		0
Check the habitat features that are present in the wetland. The number of checks is the number of point	S.	_
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
Standing snags (dbh > 4 in) within the wetland		
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 f	ft (1 m)	
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	, ,	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degr	·ee	
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weather		
where wood is exposed)		
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are		
permanently or seasonally inundated (structures for egg-laying by amphibians)		
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list	of	
strata)	OJ.	
Total for H 1 Add the points in the boxes a	above	1
		the first page
	ating on	ine jiist page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		0
Calculate: % undisturbed habitat $\frac{0.00}{1000}$ + [(% moderate and low intensity land uses)/2] $\frac{0.00}{1000}$ = $\frac{0.00}{10000}$	%	U
If total accessible habitat is:		
$\square > 1/3$ (33.3%) of 1 km Polygon poin	ts = 3	
	ts = 2	
	ts = 1	
	ts = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		0
Calculate: % undisturbed habitat $\frac{6.00}{}$ + [(% moderate and low intensity land uses)/2] $\frac{2.00}{}$ = $\frac{8.00}{}$	%	
	ts = 3	
	ts = 2	
Undisturbed habitat 10-50% and > 3 patches poin	ts = 1	
✓ Undisturbed habitat < 10% of 1 km Polygon poin	ts = 0	
H 2.3. Land use intensity in 1 km Polygon: If		-2
✓ > 50% of 1 km Polygon is high intensity land use points	= (- 2)	-2
	ts = 0	
Total for H 2 Add the points in the boxes a		-2
Rating of Landscape Potential If score is: 4-6 = H 1-3 = M 1-3 = M Record the ra		
Rating of Landscape Potential in Score is	ting on ti	ie jiist page
H 3.0. Is the habitat provided by the site valuable to society?		-
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest	score	0
that applies to the wetland being rated.		0
Site meets ANY of the following criteria: poin	ts = 2	
It has 3 or more priority habitats within 100 m (see next page)		
It provides habitat for Threatened or Endangered species (any plant or animal on the state or federa	ıl lists)	
It is mapped as a location for an individual WDFW priority species	113131	
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources		
It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan		
	ts = 1	
	ts = 0	41 £:. ·
Rating of Value If score is: $2 = H$ $1 = M$ $0 = L$ Record the r	ating on	the first page

WDFW Priority Habitats

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

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

— **Aspen Stands**: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.

Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).

Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).

Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

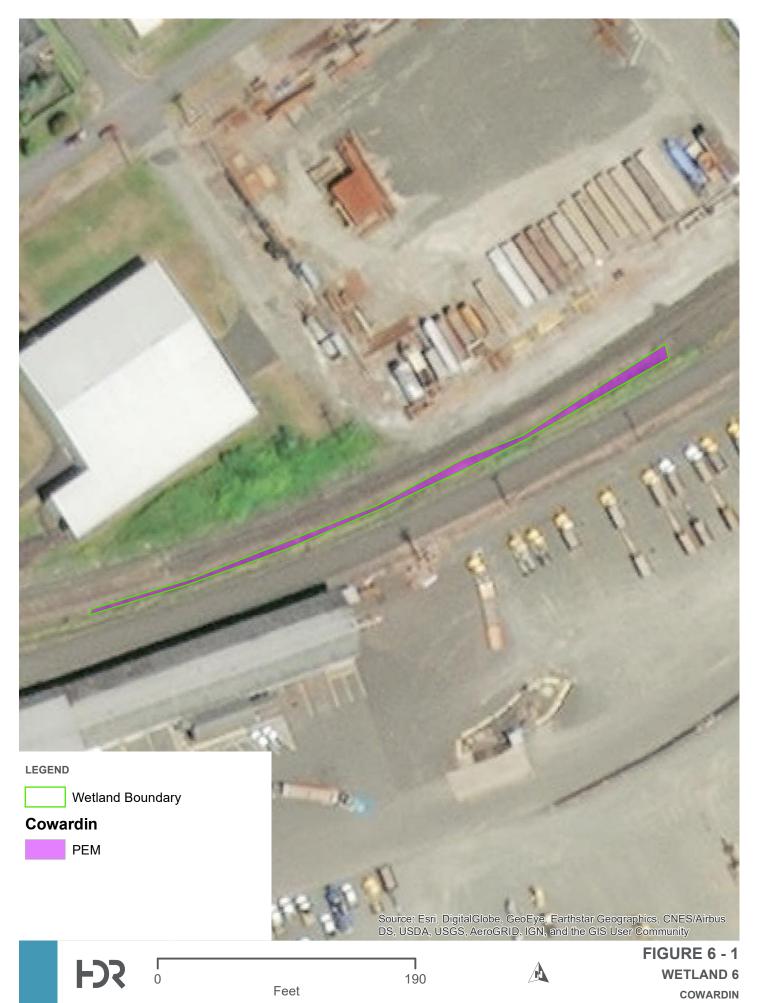
CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met. SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? The wetland unit at least 1 ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25) At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-moved grassland. The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Cat. II SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WAD appartment of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3 SC 2.2. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes – Category I No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes – Category I No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable har
SC 1.0. Estuarine wetland meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt
Does the wetland meet the following criteria for Estuarine wetlands? The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 No= Not an estuarine wetland SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category! No- Go to SC 1.2 SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25) At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-moved grassland. The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Cat. II SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. SC 3.1. Does an area within the wetland unit have organic soil, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a la
The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt Yes – Go to SC 1.1 No= Not an estuarine wetland SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Wes = Category No - Go to SC 1.2 Cat. SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25) At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category No = Category Cat. Cat. SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes = Go to SC 2.2 No - Go to SC 2.3 Cat. SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? No = Not a WHCV Yes = Category No = Not a WHCV No = Not a WHCV Yes - Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV No = Not a WHCV Yes = Category No = Not a WHCV Yes = Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV Yes = Category No = Not a WHCV Yes = Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV Yes = Category No = Not a WHCV Yes = Categ
Vegetated, and With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 No= Not an estuarine wetland
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pond?
000000
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%
cover of plant species listed in Table 4?
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.
SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,
western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?
Yes = Is a Category I bog No = Is not a bog

SC 4.0. Forested Wetlands	
Does the wetland have at least $\underline{1}$ contiguous acre of forest that meets one of these criteria for the WA	
Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate</i>	
the wetland based on its functions.	
Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of	
age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.	
Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the	
species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).	
Yes = Category I No = Not a forested wetland for this section	Cat. I
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SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from	
marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)	
during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
Yes – Go to SC 5.1 No = 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	а Г
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II
At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
Long Beach Peninsula: Lands west of SR 103 Grayland-Westport: Lands west of SR 105	Cat I
Ocean Shores-Copalis: Lands west of SR 115 and SR 109	Cat
Yes – Go to SC 6.1 No = not an interdunal wetland for rating	
E 163 GO to 36 0.1 E 110 - Hot all interdation wedation for facing	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M	Cat. II
for the three aspects of function)?	
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
Yes = Category II No – Go to SC 6.3	Cat. III
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
Yes = Category III No = Category IV	Cat. IV
Catagony of wotland based on Special Characteristics	
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	
I It you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number WL 6

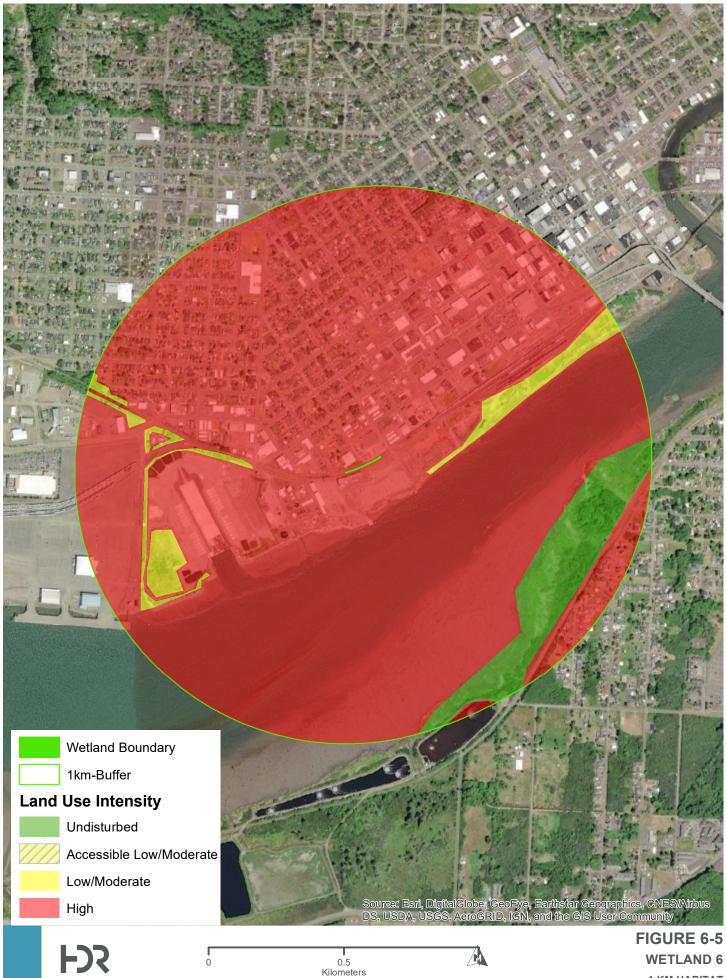
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WETLAND 6 1-KM HABITAT

RATING SUMMARY – Western Washington

Name of wetland (d	or ID #): Wetland	d 7		Date of	site visit: 8/5/22
Rated by Tobin Stor			ed by Ecology?	✓ Yes 🔲 No	o Date of training 03/1
HGM Class used fo	r rating Depres	ssional	Wetland has m	ultiple HGM	l classes? Y V N
Source o	f base aerial pho	oto/map <u>ESRI</u>			can be combined)
1. Category of v		<u> </u>		iis <u>[▼]</u> 01 spe	eciai characteristics <u> </u>
	Category I – Tot				
	Category II – To	tal score = 20 -	- 22		Score for each function based
	Category III – To	otal score = 16	- 19		on three ratings
	Category IV – To				(order of ratings is not
FUNCTION	Improving	Hydrologic	Habitat		important)
	Water Quality				9 = H,H,H
		Circle the ap	propriate ratings		8 = H,H,M
Site Potential	H M M ✓ L	H	H		7 = H,H,L
Landscape Potential	H M V L	H √ M□L□	H		7 = H,M,M
Value	H √ M□L□	H ✓ M□L□	H□ M□ L√	TOTAL	6 = H,M,L
Score Based on Ratings	7	7	3	17	6 = M,M,M 5 = H,L,L 5 = M,M,L
					4 = M,L,L
	CDECIA				3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Maps and figures required to answer questions correctly for Western Washington

<u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	7-1
Hydroperiods	D 1.4, H 1.2	7-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	7-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	7-3
Map of the contributing basin	D 4.3, D 5.3	7-4
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	7-5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	A1
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	A2

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

1.	Are the water levels in the entire unit usually controlled by tides except during floods?
	✓ NO – go to 2
1	1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?
	NO – Saltwater Tidal Fringe (Estuarine) If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is an Estuarine wetland and is not scored. This method cannot be used to score functions for estuarine wetlands.
2.	The entire wetland unit is flat and precipitation is the only source ($>90\%$) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
	✓ NO – go to 3
3.	Does the entire wetland unit meet all of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size; At least 30% of the open water area is deeper than 6.6 ft (2 m).
	✓ NO – go to 4 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ✓ The wetland is on a slope (<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, or in a swale without distinct banks, The water leaves the wetland without being impounded .
	▼ NO – go to 5
	NOTE : Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).
5.	Does the entire wetland unit meet all of the following criteria? The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river, The overbank flooding occurs at least once every 2 years.

We	Wetland name or number	
	✓ NO – go to 6 NOTE : The Riverine unit can contain depressions not flooding	YES – The wetland class is Riverine that are filled with water when the river is
6.	 Is the entire wetland unit in a topographic depress surface, at some time during the year? This mean of the wetland. 	sion in which water ponds, or is saturated to the s that any outlet, if present, is higher than the interior
	□ NO – go to 7	YES – The wetland class is Depressional
7. Is the entire wetland unit located in a very flat area with no obvious depression and no over flooding? The unit does not pond surface water more than a few inches. The unit seems to maintained by high groundwater in the area. The wetland may be ditched, but has no obviouslet.		
	□ NO – go to 8	YES – The wetland class is Depressional

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

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

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

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

Wetland located in ditch, largely flows unidirectionally but impounds water in several locations, and outlet is higher than center of wetland. Rated as depressional.

DEPRESSIONAL AND FLATS WETLANDS				
Water Quality Functions - Indicators that the site functions to improve water quality				
D 1.0. Does the site have the potential to improve water quality?				
D 1.1. Characteristics of surface water outflows from the wetland:				
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).				
points = 3	4			
☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	1			
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1				
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1				
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 🗸 No = 0	0			
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):				
✓ Wetland has persistent, ungrazed, plants > 95% of area points = 5				
☐ Wetland has persistent, ungrazed, plants > ½ of area points = 3	5			
Wetland has persistent, ungrazed plants $> \frac{1}{10}$ of area points = 1				
Wetland has persistent, ungrazed plants $< \frac{1}{10}$ of area points = 0				
D 1.4. Characteristics of seasonal ponding or inundation:				
This is the area that is ponded for at least 2 months. See description in manual.				
Area seasonally ponded is > ½ total area of wetland points = 4	4			
Area seasonally ponded is > ¼ total area of wetland points = 2				
Area seasonally ponded is < 1/4 total area of wetland points = 0				
Total for D 1 Add the points in the boxes above	10			
Rating of Site Potential If score is: $12-16 = H$ $\sqrt{6-11} = M$ $0-5 = L$ Record the rating on the first page				
That is got once to the tracking on the just page	ge			
D 2.0. Does the landscape have the potential to support the water quality function of the site?	ge			
	ge 1			
D 2.0. Does the landscape have the potential to support the water quality function of the site?				
D 2.0. Does the landscape have the potential to support the water quality function of the site? D 2.1. Does the wetland unit receive stormwater discharges? Very 1 No = 0	1			
D 2.0. Does the landscape have the potential to support the water quality function of the site? D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ✓ Yes = 1 No = 0 No = 0	1 1 0			
D 2.0. Does the landscape have the potential to support the water quality function of the site? D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Ves = 1 No = 0 D 2.3. Are there septic systems within 250 ft of the wetland? Ves = 1 Ves = 1 Ves = 1 Ves = 1	1 1			
D 2.0. Does the landscape have the potential to support the water quality function of the site? D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ✓ Yes = 1 No = 0 D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	1 1 0			
D 2.0. Does the landscape have the potential to support the water quality function of the site? D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ✓ Yes = 1 ✓ No = 0 D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source ✓ Yes = 1 ✓ No = 0	1 1 0 0			
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D 2.0. Does the landscape have the potential to support the water quality function of the site? D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 ✓ No = 0 Total for D 2 Add the points in the boxes above Rating of Landscape Potential If score is: 3 or 4 = H ✓ 1 or 2 = M 0 = L Record the rating on the first D 3.0. Is the water quality improvement provided by the site valuable to society?	1 1 0 0 2 st page			
D 2.0. Does the landscape have the potential to support the water quality function of the site? D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 No = 0 Add the points in the boxes above Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first	1 1 0 0			
D 2.0. Does the landscape have the potential to support the water quality function of the site? D 2.1. Does the wetland unit receive stormwater discharges?	1 1 0 0 2 st page			
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D 2.0. Does the landscape have the potential to support the water quality function of the site? D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 No = 0 D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 No = 0 Add the points in the boxes above Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first D 3.0. Is the water quality improvement provided by the site valuable to society? D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0 D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0	1 0 0 2 st page			
D 2.0. Does the landscape have the potential to support the water quality function of the site? D 2.1. Does the wetland unit receive stormwater discharges?	1 0 0 2 st page			
D 2.0. Does the landscape have the potential to support the water quality function of the site? D 2.1. Does the wetland unit receive stormwater discharges? D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0 D 2.3. Are there septic systems within 250 ft of the wetland? D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 No = 0 D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 No = 0 Add the points in the boxes above Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first D 3.0. Is the water quality improvement provided by the site valuable to society? D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0 D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0	1 0 0 2 st page			

(https://apps.ecology.wa.gov/publications/documents/9210202.pdf) D6.1 - Wetland is located within flood zone AE, panel 53027C0904D

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

These questions apply to wetlands of all HGM classes.			
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat			
H 1.0. Does the site have the potential to provide habitat?			
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed Emergent 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	0		
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Coccasionally flooded or inundated Saturated only Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland Freshwater tidal wetland 2 points	0		
H 1.3. Richness of plant species 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 and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species 5 - 19 species 7 - 19 species 8 - 19 species 9 - 19 species	1		
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are HIGH = 3points	0		

H 1.5. Special habitat features:	1
Check the habitat features that are present in the wetland. The number of checks is the number of points.	'
Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m)	
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree	
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered	
where wood is exposed)	
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are	
permanently or seasonally inundated (structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of	
strata)	
Total for H 1 Add the points in the boxes above	2
Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).	T
Calculate: % undisturbed habitat $\frac{0.00}{1.00}$ + [(% moderate and low intensity land uses)/2] $\frac{0.00}{1.00}$ = $\frac{0.00}{1.00}$ %	0
If total accessible habitat is:	
20-33% of 1 km Polygon $20-33% of 1 km Polygon$ $points = 2$	
·	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	0
Calculate: % undisturbed habitat $\frac{4.00}{}$ + [(% moderate and low intensity land uses)/2] $\frac{2.00}{}$ = $\frac{6.00}{}$ %	
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10-50% and in 1-3 patches points = 2	
Undisturbed habitat 10-50% and > 3 patches Points = 1	
✓ Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	-2
> 50% of 1 km Polygon is high intensity land use points = (-2)	
Total for H 2 Add the points in the boxes above	-2
Rating of Landscape Potential If score is: $\boxed{4-6} = H$ $\boxed{1-3} = M$ $\boxed{\checkmark} < 1 = L$ Record the rating on a	he first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score	
that applies to the wetland being rated.	0
Site meets ANY of the following criteria: points = 2	
It has 3 or more priority habitats within 100 m (see next page)	
It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)	
It is mapped as a location for an individual WDFW priority species	
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
It has been categorized as an important habitat site in a local or regional comprehensive plan, in a	
Shoreline Master Plan, or in a watershed plan	
Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1	
✓ Site does not meet any of the criteria above points = 0	
Rating of Value If score is: $2 = H$ $1 = M$ $0 = L$ Record the rating or	the first page

WDFW Priority Habitats

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

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

— **Aspen Stands**: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.

Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).

Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).

Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

SC 4.0. Forested Wetlands	
Does the wetland have at least $\underline{1}$ contiguous acre of forest that meets one of these criteria for the WA	
Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate</i>	
the wetland based on its functions.	
Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of	
age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.	
Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the	
species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).	
Yes = Category I No = Not a forested wetland for this section	Cat. I
_	
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from	
marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)	
during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
Yes – Go to SC 5.1 No = 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	а Г
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II
At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
Long Beach Peninsula: Lands west of SR 103 Grayland-Westport: Lands west of SR 105	Cat I
Ocean Shores-Copalis: Lands west of SR 115 and SR 109	Cat
Yes – Go to SC 6.1 No = not an interdunal wetland for rating	
E 163 00 to 36 0.1 E 110 - Hot all interdation wedation futing	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M	Cat. II
for the three aspects of function)?	
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
Yes = Category II No – Go to SC 6.3	Cat. III
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
Yes = Category III No = Category IV	Cat. IV
Catagony of wotland based on Special Characteristics	
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	
I It you answered No for all types lenter "Not Applicable" on Summary Form	

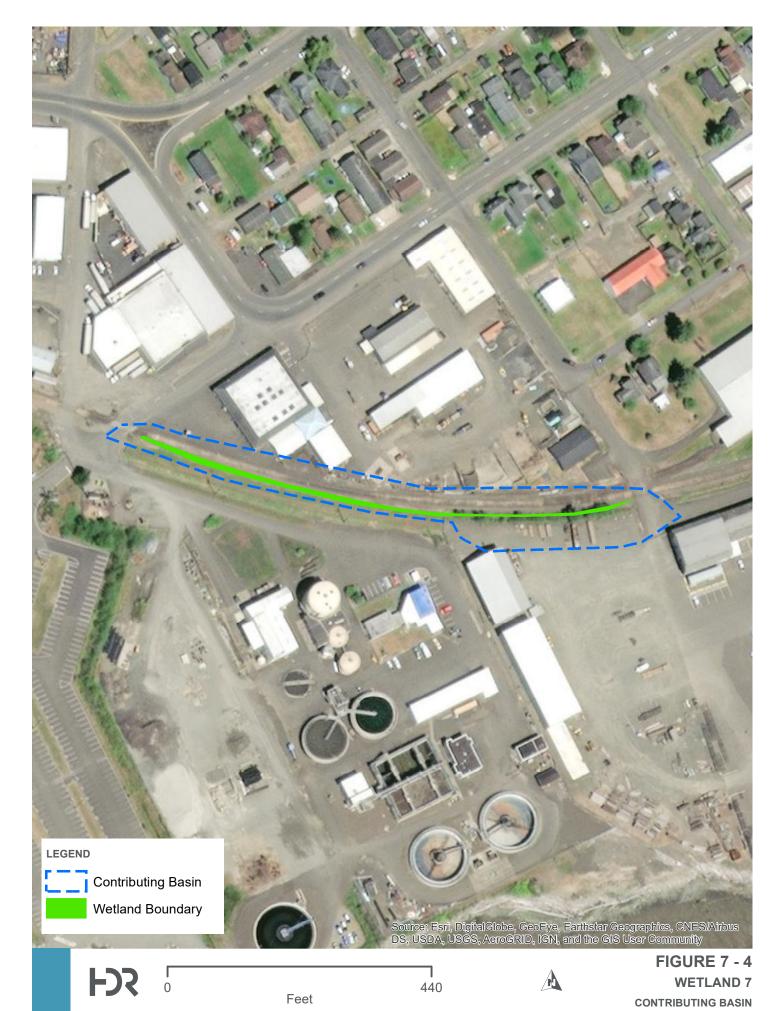
Wetland name or number WL 7

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FDR

0.5 Kilometers FIGURE 7-5 WETLAND 7

1-KM HABITAT

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland	d 8		Date of	site visit: <u>8/19/</u> 2022
Rated by T. Story			d by Ecology?		o Date of training 03/1
HGM Class used fo	r rating Depres	ssional	Wetland has m	ultiple HGM	l classes? ☐ Y ☑ N
Source o	f base aerial pho	oto/map <u>ESRI</u>			can be combined).
1. Category of v		<u> </u>		113 <u> </u> τ 01 3μα	eciai characteristics
	Category I – Tot				
	Category II – To	tal score = 20 -	22		Score for each function based
	Category III – To				on three
	Category IV – To				ratings (order of ratings is not
FUNCTION	Improving	Hydrologic	Habitat		important)
	Water Quality				9 = H,H,H
		Circle the ap	propriate ratings		8 = H,H,M
Site Potential	H M L ✓	H	H		7 = H,H,L
Landscape Potential	H M ✓ L	H ✓ M L	H□ M□ L√		7 = H,M,M
Value	H √ M□L□	H ✓ M□L□	H□ M□ L√	TOTAL	6 = H,M,L
Score Based on Ratings	6	7	3	16	6 = M,M,M 5 = H,L,L 5 = M,M,L
					4 = M,L,L
			DICTICC -f		3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	8-1
Hydroperiods	D 1.4, H 1.2	8-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	8-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	8-3
Map of the contributing basin	D 4.3, D 5.3	8-4
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	8-5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	A1
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	A2

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

1.	Are the water levels in the entire unit usually controlled by tides except during floods?
	✓ NO – go to 2
1	.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?
	NO – Saltwater Tidal Fringe (Estuarine) If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is an Estuarine wetland and is not scored. This method cannot be used to score functions for estuarine wetlands.
2.	The entire wetland unit is flat and precipitation is the only source ($>90\%$) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
	✓ NO – go to 3
3.	Does the entire wetland unit meet all of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size; _At least 30% of the open water area is deeper than 6.6 ft (2 m).
	NO – go to 4 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria?
	✓ NO – go to 5
	NOTE : Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).
5.	Does the entire wetland unit meet all of the following criteria? The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river, The overbank flooding occurs at least once every 2 years.

We	etland name or number	
	NO – go to 6 NOTE : The Riverine unit can contain depression not flooding	YES – The wetland class is Riverine ons that are filled with water when the river is
6.		ression in which water ponds, or is saturated to the eans that any outlet, if present, is higher than the interior
	□NO – go to 7	YES - The wetland class is Depressional
7.	flooding? The unit does not pond surface water	area with no obvious depression and no overbank or more than a few inches. The unit seems to be The wetland may be ditched, but has no obvious natural
	□ N0 – go to 8	YES – The wetland class is Depressional

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

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

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

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

DEPRESSIONAL AND FLATS WETLANDS				
Water Quality Functions - Indicators that the site functions to improve water quality				
D 1.0. Does the site have the potential to improve water quality?				
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3				
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	1			
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1				
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 🗸 No = 0	0			
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > ¹/₁₀ of area Wetland has persistent, ungrazed plants < ¹/₁₀ of area Points = 0	0			
D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ¼ total area of wetland Area seasonally ponded is < ¼ total area of wetland points = 0	4			
Total for D 1 Add the points in the boxes above	5			
Rating of Site Potential If score is: 12-16 = H 6-11 = M 70-5 = L Record the rating on the first page	ge			
D 2.0. Does the landscape have the potential to support the water quality function of the site?				
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1			
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? $\sqrt{\text{Yes}} = 1$ No = 0	1			
D 2.3. Are there septic systems within 250 ft of the wetland? $\qquad \qquad	0			
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source Yes = 1 No = 0	0			
Total for D 2 Add the points in the boxes above	2			
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first	st page			
D 3.0. Is the water quality improvement provided by the site valuable to society?				
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0			
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 V No = 0	0			
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	2			
Total for D 3 Add the points in the boxes above	2			
Rating of Value If score is: $\boxed{\checkmark}$ 2-4 = H $\boxed{}$ 1 = M $\boxed{}$ 0 = L Record the rating on the first page				
D1.3 - all vegetation in wetland regularly mowed D3.1, D3.2 - no waters within 1 mile (or within sub-basin) on the 303(d) list. D3.3 - Wetland is located within watershed for Grays Harbor Dioxin TMDL (https://apps.ecology.wa.gov/publications/documents/9210202.pdf)				

D6.1 - Wetland is located within flood zone AE, panel 53027C0904D

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

These questions apply to wetlands of all HGM classes.			
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat			
H 1.0. Does the site have the potential to provide habitat?			
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of % ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed Emergent 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	0		
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated ✓ Seasonally flooded or inundated ✓ Occasionally flooded or inundated ✓ Saturated only Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland Freshwater tidal wetland ✓ 2 points	0		
H 1.3. Richness of plant species 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 and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle points = 2 points = 1	1		
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. None = 0 points Low = 1 point Moderate = 2 points	0		
All three diagrams in this row are HIGH = 3points			

H 1.5. Special habitat features:	0			
Check the habitat features that are present in the wetland. The number of checks is the number of points.				
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).				
Standing snags (dbh > 4 in) within the wetland				
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m)				
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)				
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree				
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered				
where wood is exposed)				
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are				
permanently or seasonally inundated (structures for egg-laying by amphibians)				
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of				
strata)				
Total for H 1 Add the points in the boxes above	1			
Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Record the rating of Site Potential If score is: 15-18 = H 15	the first page			
H 2.0. Does the landscape have the potential to support the habitat functions of the site?				
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).	Т			
Calculate: % undisturbed habitat $\frac{0.00}{1000}$ + [(% moderate and low intensity land uses)/2] $\frac{0.00}{1000}$ = $\frac{0.00}{10000}$ %	0			
If total accessible habitat is:				
20-33% of 1 km Polygon points = 2				
10-19% of 1 km Polygon points = 1				
✓ < 10% of 1 km Polygon points = 0				
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	0			
Calculate: % undisturbed habitat $\frac{2.00}{}$ + [(% moderate and low intensity land uses)/2] $\frac{1.00}{}$ = $\frac{3.00}{}$ %				
Undisturbed habitat > 50% of Polygon points = 3				
Undisturbed habitat 10-50% and in 1-3 patches points = 2				
Undisturbed habitat 10-50% and > 3 patches points = 1				
✓ Undisturbed habitat < 10% of 1 km Polygon points = 0				
H 2.3. Land use intensity in 1 km Polygon: If	-2			
> 50% of 1 km Polygon is high intensity land use points = (-2)	_			
$\ \ \ \ \ \ \ \ \ \ \ \ \ $				
Total for H 2 Add the points in the boxes above	-2			
Rating of Landscape Potential If score is: 4-6 = H 1-3 = M 4-6 = H 1-3 = M 4-6 = H Record the rating on	the first page			
H 3.0. Is the habitat provided by the site valuable to society?	-			
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score				
that applies to the wetland being rated.	0			
Site meets ANY of the following criteria: points = 2				
It has 3 or more priority habitats within 100 m (see next page)				
It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)				
It is mapped as a location for an individual WDFW priority species				
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources				
It has been categorized as an important habitat site in a local or regional comprehensive plan, in a				
Shoreline Master Plan, or in a watershed plan				
Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1				
✓ Site does not meet any of the criteria above points = 0				
Rating of Value If score is: $2 = H$ $1 = M$ $\sqrt{0} = L$ Record the rating of	n the first page			

WDFW Priority Habitats

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

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

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.

Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).

Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).

Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
Does the wetland meet the following criteria for Estuarine wetlands?	
The dominant water regime is tidal,	
Vegetated, and	
☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to SC 1.1 ✓ No= Not an estuarine wetland	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	
Preserve, state Park of Educational, Environmental, of Scientific Reserve designated under WAC 552-50-151?	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less	
than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)	Cat. I
Hat least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	Cat. II
The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3	Cat. I
Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 2.4 Uno = Not a WHCV	
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? Yes = Category I No = Not a WHCV	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or	
more of the first 32 in of the soil profile?	
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or	
pond? Yes – Go to SC 3.3 No = Is not a bog	
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	
cover of plant species listed in Table 4?	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by	
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.	Cat. I
SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,	
western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the	
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	
Yes = Is a Category I bog No = Is not a bog	

SC 4.0. Forested Wetlands	
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA	
Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate	
the wetland based on its functions.	
Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered	
canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of	
age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.	
Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the	
species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).	Cat. I
Yes = Category I No = Not a forested wetland for this section	
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from	
marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)	 □
during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
Yes – Go to SC 5.1 No = 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	Cat. II
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II
At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²) The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²) Yes = Category I No = Category II	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
Long Beach Peninsula: Lands west of SR 103	C-4.1
Grayland-Westport: Lands west of SR 105	Cat I
Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
Yes – Go to SC 6.1 No = not an interdunal wetland for rating	
SC 6.1. In the westland 1 as an larger and scarce and or 0 for the habitat functions on the form (rates IIII I or III I M	Cat. II
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2	
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
Yes = Category II No – Go to SC 6.3	Cat. III
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
Yes = Category III No = Category IV	
	Cat. IV
Category of wetland based on Special Characteristics	NA
If you answered No for all types, enter "Not Applicable" on Summary Form	1.4/~

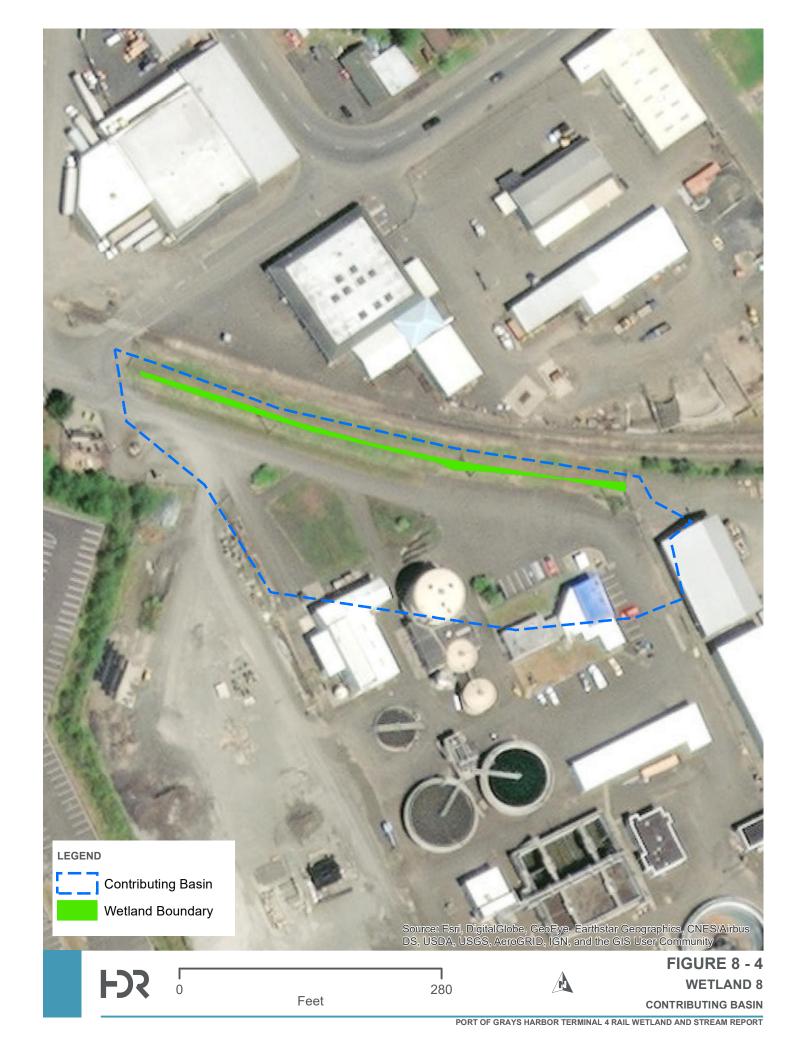
Wetland name or number _____

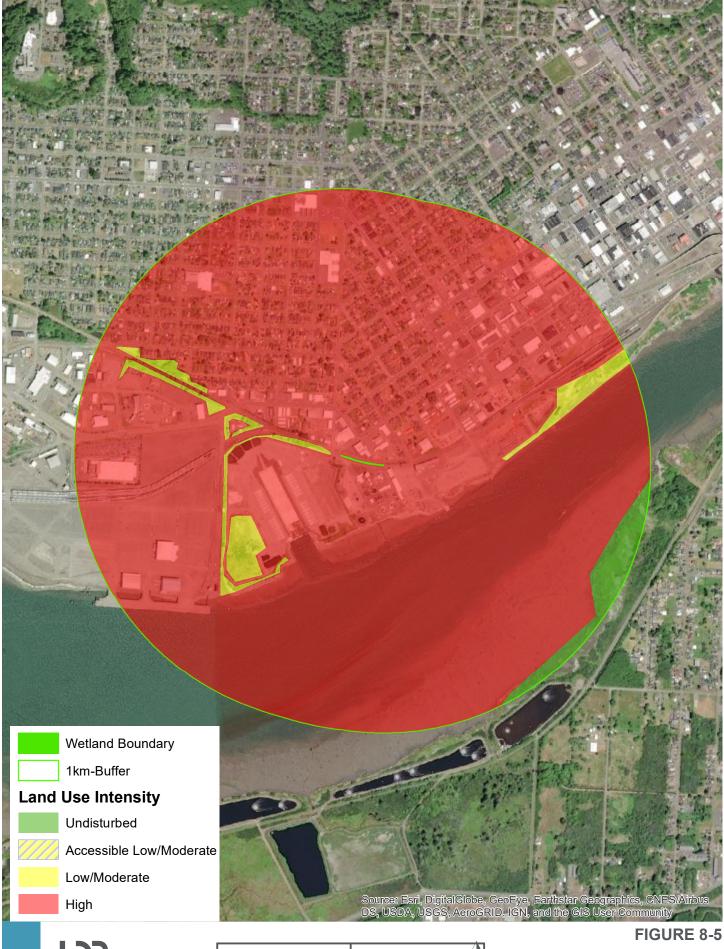
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FDR

0.5 Kilometers

WETLAND 8

1-KM HABITAT

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland	d 9		Date of	site visit: <u>8/19/</u> 2022
Rated by T. Story			d by Ecology?		o Date of training 03/1
HGM Class used fo	r rating Depres	ssional	Wetland has m	ultiple HGN	1 classes? Ty V N
Source o	f base aerial pho	oto/map <u>ESRI</u>			can be combined)ecial characteristics
1. Category of v		<u> </u>		113 <u>11</u> 01 3pt	
—	Category I – Tot				
	Category II – To				Score for each function based
	Category III – To				on three
	Category IV – To				ratings (order of ratings is not
FUNCTION	Improving	Hydrologic	Habitat		important)
	Water Quality				9 = H,H,H
		Circle the ap	propriate ratings		8 = H,H,M
Site Potential	H ✓ M □ L □	H	H		7 = H,H,L
Landscape Potential	H M V L	H √ M□L□	H□ M□ L√		7 = H,M,M
Value	H √ M□L□	H ✓ M L	H□ M□ L√	TOTAL	6 = H,M,L
Score Based on Ratings	8	8	3	19	6 = M,M,M 5 = H,L,L 5 = M,M,L
					4 = M,L,L
			DICTICC -f		3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	9-1
Hydroperiods	D 1.4, H 1.2	9-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	9-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	9-3
Map of the contributing basin	D 4.3, D 5.3	9-4
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	9-5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	A1
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	A2

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

1.	Are the water levels in the entire unit usually controlled by tides except during floods?		
	✓ NO – go to 2		
1	1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?)	
	NO – Saltwater Tidal Fringe (Estuarine) If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. is Saltwater Tidal Fringe it is an Estuarine wetland and is not scored. This method cannot be used a score functions for estuarine wetlands.	-	
2.	The entire wetland unit is flat and precipitation is the only source ($>90\%$) of water to it. Groundwa and surface water runoff are NOT sources of water to the unit.	ater	
	✓ NO – go to 3		
3.	Does the entire wetland unit meet all of the following criteria? The vegetated part of the wetland is on the shores of a body of permanent open water (without a plants on the surface at any time of the year) at least 20 ac (8 ha) in size; At least 30% of the open water area is deeper than 6.6 ft (2 m).	any	
	✓ NO – go to 4 YES – The wetland class is Lake Fringe (Lacustrine Fringe)		
4.	Does the entire wetland unit meet all of the following criteria? ✓ The wetland is on a slope (<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, or in a swale without distinct banks, — The water leaves the wetland without being impounded .		
	✓ NO – go to 5 YES – The wetland class is Slope		
	NOTE : Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 fdeep).		
5.	Does the entire wetland unit meet all of the following criteria? The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from the stream or river, The overbank flooding occurs at least once every 2 years.	at	

We	etland name or number	
	✓ NO – go to 6 NOTE : The Riverine unit can contain depression not flooding	YES – The wetland class is Riverine as that are filled with water when the river is
		ession in which water ponds, or is saturated to the ans that any outlet, if present, is higher than the interior
	\square NO – go to 7	YES – The wetland class is Depressional
7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natuoutlet.		more than a few inches. The unit seems to be
	□ NO – go to 8	YES – The wetland class is Depressional

M/I O

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

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

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

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

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

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

These questions apply to wetlands of all HGM classes.			
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat			
H 1.0. Does the site have the potential to provide habitat?			
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed Emergent 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	0		
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ✓ Permanently flooded or inundated 4 or more types present: points = 3 ✓ Seasonally flooded or inundated 3 types present: points = 2 ☐ 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	1		
H 1.3. Richness of plant species 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 and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species 5 - 19 species 7 - 19 species 9 - 19 species 1 - 19 species 9 - 19 species 1 - 19 species 9 - 19 species 1 - 19 species	1		
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are HIGH = 3points	0		

H 1.5. Special habitat features:			
Check the habitat features that are present in the wetland. The number of checks is the number of points.			
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).			
Standing snags (dbh > 4 in) within the wetland			
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m)			
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)			
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree			
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered			
where wood is exposed)			
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are			
permanently or seasonally inundated (structures for egg-laying by amphibians)			
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of			
strata)			
Total for H 1 Add the points in the boxes above	3		
Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Record the rating on			
	ine jiist page		
H 2.0. Does the landscape have the potential to support the habitat functions of the site?			
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	0		
Calculate: % undisturbed habitat $\frac{0.00}{}$ + [(% moderate and low intensity land uses)/2] $\frac{0.00}{}$ = $\frac{0.00}{}$ %	U		
If total accessible habitat is:			
$\square > 1/3$ (33.3%) of 1 km Polygon points = 3			
20-33% of 1 km Polygon points = 2			
10-19% of 1 km Polygon points = 1			
✓ < 10% of 1 km Polygon points = 0			
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	4		
Calculate: % undisturbed habitat $\frac{8.00}{}$ + [(% moderate and low intensity land uses)/2] $\frac{2.00}{}$ = $\frac{10.00}{}$ %	1		
Undisturbed habitat > 50% of Polygon points = 3			
Undisturbed habitat 10-50% and in 1-3 patches points = 2			
✓ Undisturbed habitat 10-50% and > 3 patches points = 1			
Undisturbed habitat < 10% of 1 km Polygon points = 0			
H 2.3. Land use intensity in 1 km Polygon: If	-2		
✓ > 50% of 1 km Polygon is high intensity land use points = (-2)			
\leq 50% of 1 km Polygon is high intensity points = 0			
Total for H 2 Add the points in the boxes above	-1		
Rating of Landscape Potential If score is: 4-6 = H 1-3 = M 1-3 = M 1 < 1 = L Record the rating on the	ne first page		
H 3.0. Is the habitat provided by the site valuable to society?			
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score</i>			
that applies to the wetland being rated.	0		
Site meets ANY of the following criteria: points = 2			
It has 3 or more priority habitats within 100 m (see next page)			
It mas 3 of more priority habitats within 100 in (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)			
It is mapped as a location for an individual WDFW priority species			
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources			
It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan			
Site has 1 or 2 priority habitats (listed on next page) within 100 m			
Site does not meet any of the criteria above points = 0			
Rating of Value If score is: 2 = H 1 = M 0 = L Record the rating on	the first page		

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

WDFW Priority Habitats

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

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

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.

Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).

Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).

Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

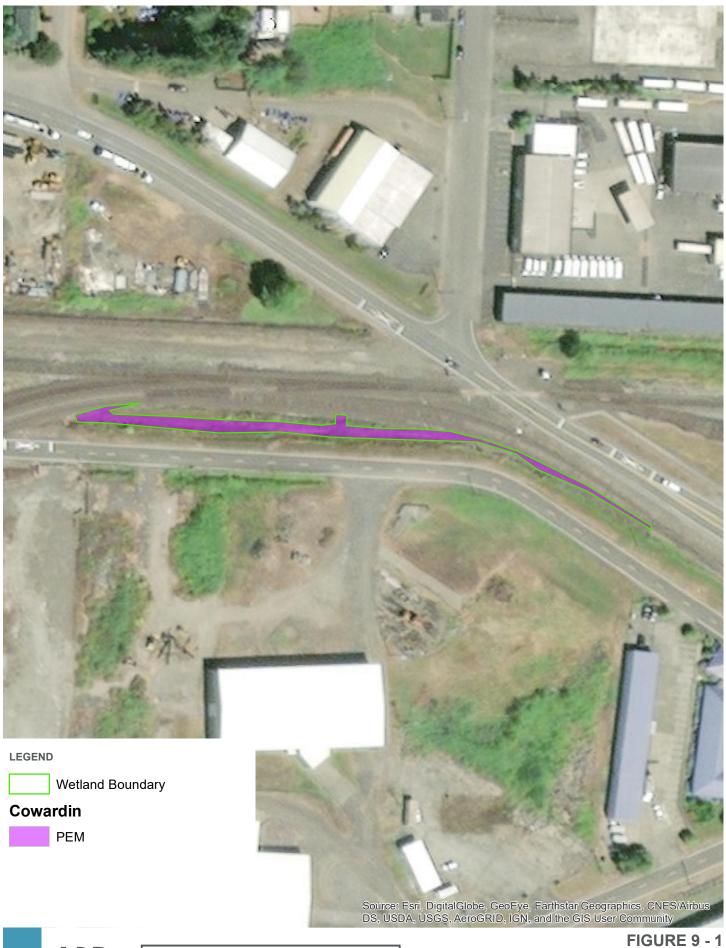
CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

SC 4.0. Forested Wetlands				
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA				
Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate				
the wetland based on its functions.				
Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered				
canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of				
age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.				
Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the				
species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).	Cat. I			
Yes = Category I No = Not a forested wetland for this section				
SC 5.0. Wetlands in Coastal Lagoons				
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?				
The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from				
marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks				
The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)	C-4 .			
during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I			
Yes – Go to SC 5.1 No = 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	Cat. II			
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. 11			
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-				
mowed grassland.				
☐ The wetland is larger than $\frac{1}{10}$ ac (4350 ft ²)				
Yes = Category I No = Category II				
SC 6.0. Interdunal Wetlands				
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If				
you answer yes you will still need to rate the wetland based on its habitat functions.				
In practical terms that means the following geographic areas:				
Long Beach Peninsula: Lands west of SR 103				
Grayland-Westport: Lands west of SR 105	Cat I			
Ocean Shores-Copalis: Lands west of SR 115 and SR 109				
Yes – Go to SC 6.1 ✓ No = not an interdunal wetland for rating				
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M	Cat. II			
for the three aspects of function)?				
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?				
Yes = Category II No – Go to SC 6.3	Cat. III			
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?				
Yes = Category III No = Category IV				
	Cat. IV			
Category of wetland based on Special Characteristics	NA			
If you answered No for all types, enter "Not Applicable" on Summary Form	INA			

Wetland name or number _____

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Feet



320

WETLAND 9

COWARDIN



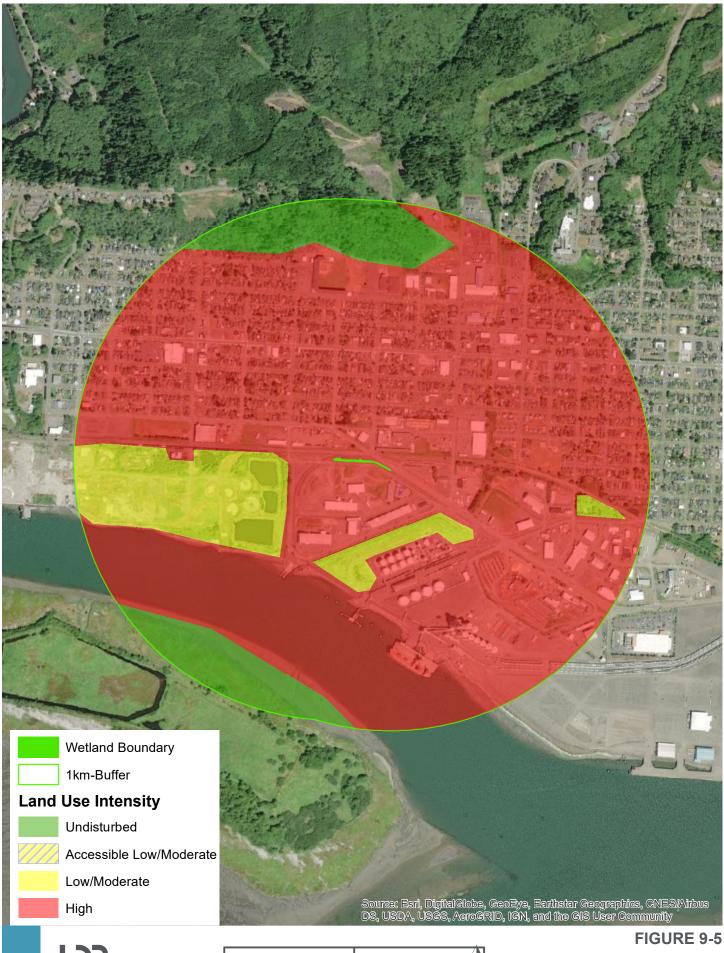
Feet



WETLAND 9 HYDROPERIOD







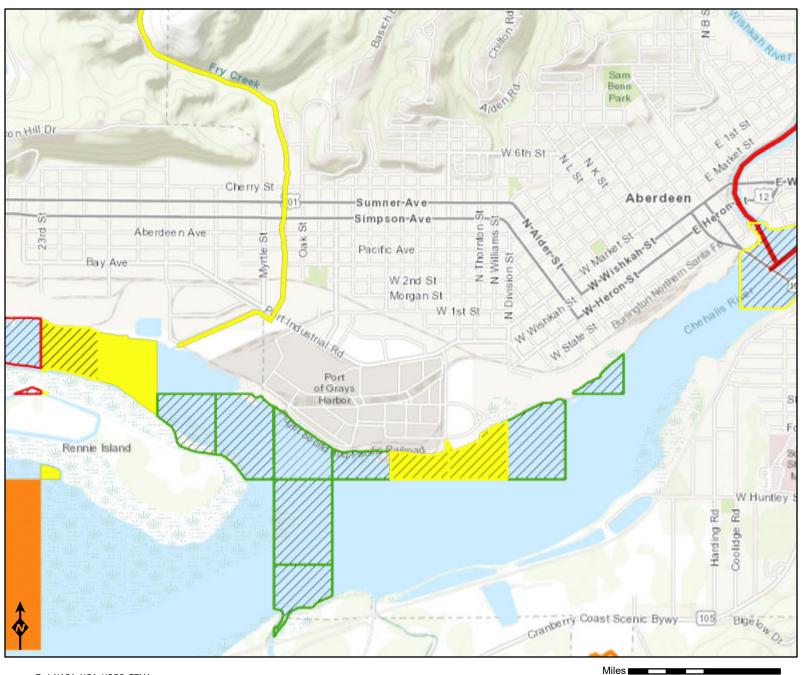
FDR

0.5 Kilometers

WETLAND 9

1-KM HABITAT

A1 - 303d Map



Assessed Water/Sediment

Water

Category 5 - 303d
Category 4C

Category 4B

Category 4A

Category 2 Category 1

Sediment

Category 5 - 303d

Category 4C
Category 4B

Category 4A

Category 2

Category 1

0.23

0.45

0.9



Grays Harbor County

Ecology homepage > Water & Shorelines > Water improvement > Total Maximum Daily Load process > Directory of projects > Grays Harbor County

Water quality improvement projects

Select the waterbody or pollutant name to find more information about the specific project.

Waterbody Name(s)	Pollutant(s)	Status	Project Lead(s)
Chehalis River Basin - <u>Simpson</u> <u>Timberlands</u>	Temperature	Approved by EPA	<u>Lawrence Sullivan</u> 360-407-6389
Chehalis River Basin - <u>Upper Chehalis</u> River Watershed	Dissolved Oxygen	Approved by EPA	Devan Rostorfer 360-690-4665
Chehalis River Basin - <u>Wildcat Creek</u>	Ammonia-N BOD (5-Day) Chlorine Fecal Coliform	Approved by EPA	Devan Rostorfer 360-690-4665
<u>Grays Harbor</u>	Dioxin Fecal Coliform	Approved by EPA	Devan Rostorfer 360-690-4665
Grays Harbor - <u>Humptulips River</u>	Temperature	Approved by EPA	Devan Rostorfer 360-690-4665
North Ocean Beaches - Pacific Ocean Moclips River	Shellfish Closure Response - Fecal Coliform Bacteria Source Investigation Study	Under development	Leanne Whitesell 360-407-6295

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Wetland and Stream Delineation Report Port of Grays Harbor – Terminal 4 Rail Upgrade and Site Improvements

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Appendix D. Site Photos





Photo 1: Overview of Wetland 1, north of culverts. Photo taken facing northwest.



Photo 2: Overview of Wetland 1, south of culverts. Photo taken facing south.





Photo 3: Overview of Wetland 2. Photo taken facing west.



Photo 4: Overview of Wetland 2. Photo taken facing east.





Photo 5: Overview of Wetland 3. Photo taken facing west.



Photo 6: Overview of Wetland 4. Photo taken facing west.



Photo 7: Overview of Wetland 4. Photo taken facing east.



Photo 8: Overview of Wetland 5. Photo taken facing west.





Photo 9: Overview of Wetland 5. Photo taken facing east.

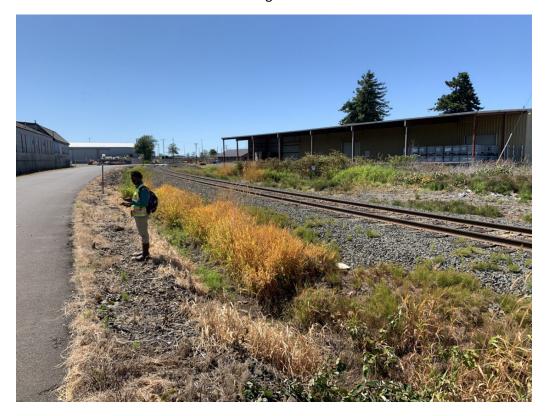


Photo 10: Overview of Wetland 6. Photo taken facing west.



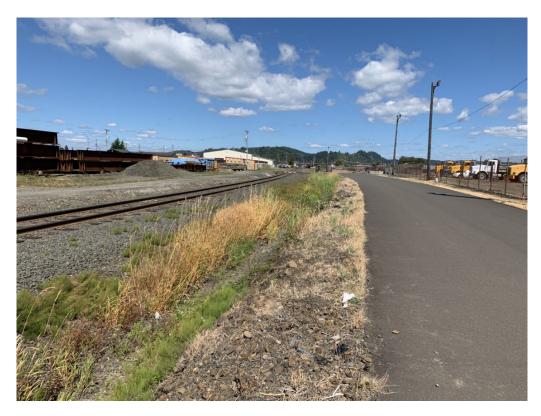


Photo 11: Overview of Wetland 6. Photo taken facing east.



Photo 12: Overview of Wetland 7. Photo taken facing west.





Photo 13: Overview of Wetland 7. Photo taken facing east.



Photo 14: Overview of Wetland 8. Photo taken facing west.



Photo 15: Overview of Wetland 8. Photo taken facing east.



Photo 16: Overview of Wetland 9. Photo taken facing west.





Photo 17: Overview of Wetland 9. Photo taken facing east.



Photo 18: Overview of Fry Creek, north of the culvert. Photo taken facing north.



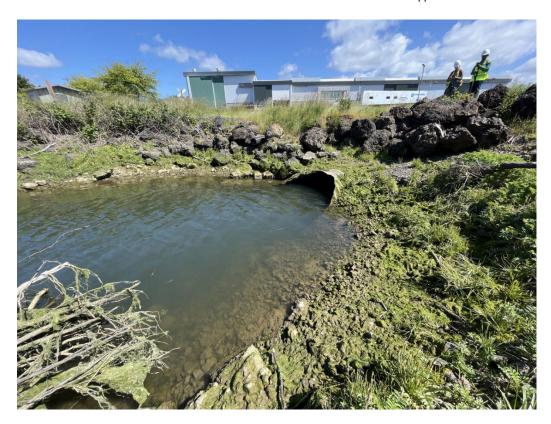


Photo 19: Overview of Fry Creek, south of the culvert. Photo taken facing northwest.

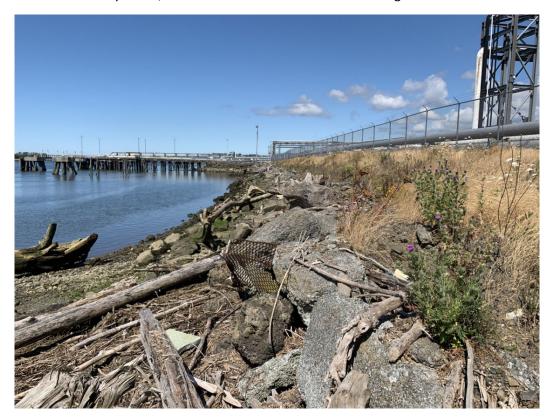


Photo 20: Overview of high tide line extent of the port. Photo taken facing west.



Photo 21: Overview of high tide line extent of the port. Photo taken facing east.



Photo 22: Overview of Ditch 1. Photo taken facing northwest.



Photo 23: Overview of Ditch 2. Photo taken facing west



Photo 24: Overview of Ditch 3. Photo taken facing west



Photo 25: Overview of Ditch 3. Photo taken facing east.

Wetland and Stream Delineation Report Port of Grays Harbor – Terminal 4 Rail Upgrade and Site Improvements

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