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

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Contents

Tables

Figures

Appendices

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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.

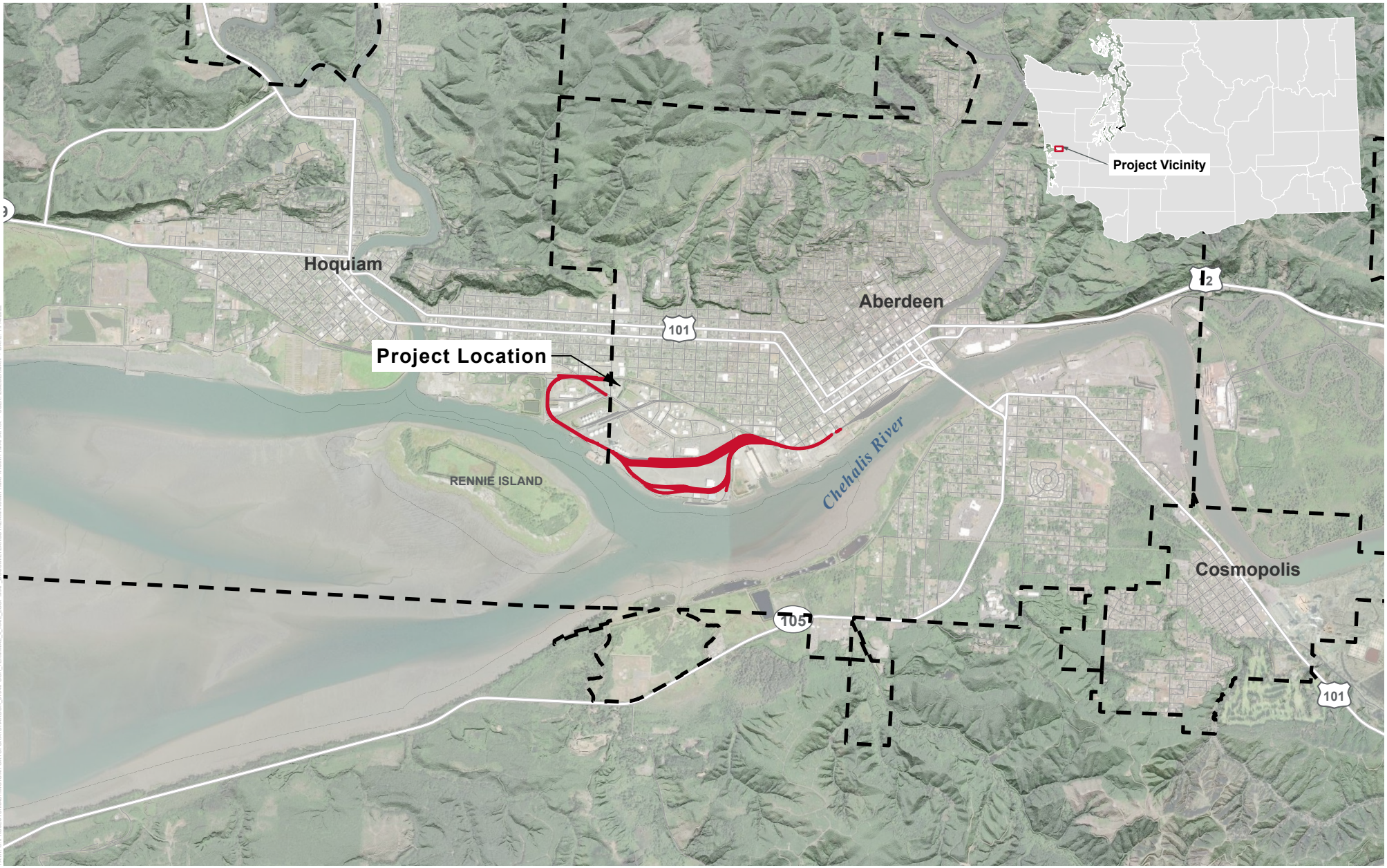
1.1 Project Overview

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.



N

0 0.5 1

Miles

FIGURE 1: PROJECT VICINITY

PORT OF GRAYS HARBOR - T4 RAIL EXPANSION

DATA SOURCE: Basemap - ESRI; County Boundary, Roads, City - WADNR

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 "Special Characteristics" identified in the rating system)	
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 "Special Characteristics" identified in the rating system)	
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 Characteristic (23–27 points for all functions)	Wetlands of High Conservation Value	250
	Bogs	250
	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 Characteristic (20–22 points for all functions)	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
	Estuarine	150
	Not meeting above characteristics	100
Category III Wetland Characteristic (16–19 points for all functions)	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
	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 salt-tolerant 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	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.	100 feet
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 Classification[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	III[e]	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.

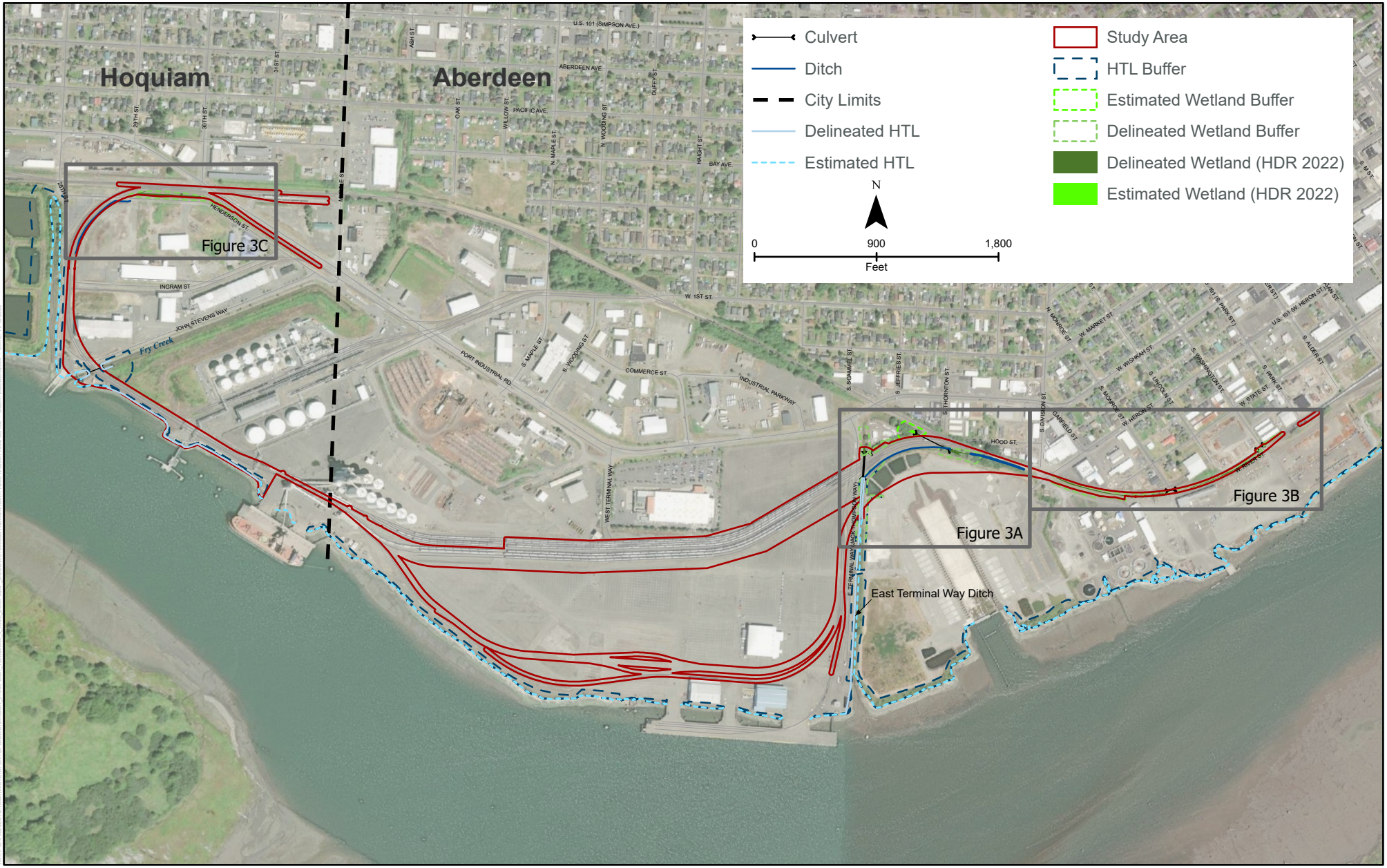


FIGURE 2: EXISTING WETLANDS AND WATERBODIES

PORT OF GRAYS HARBOR – T4 RAIL EXPANSION

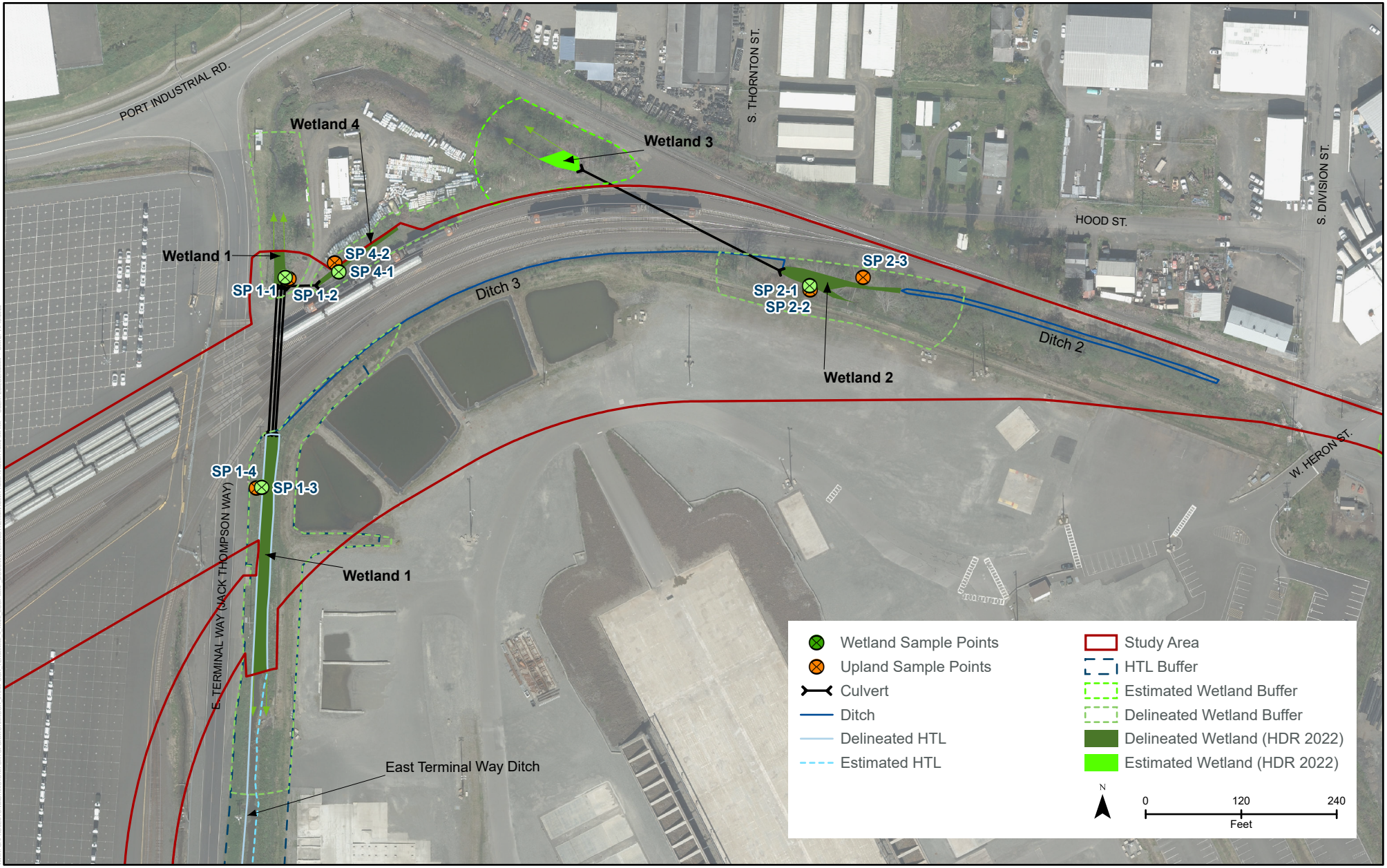


FIGURE 3A: EXISTING WETLAND AND WATERBODIES
PORT OF GRAYS HARBOR – T4 RAIL EXPANSION

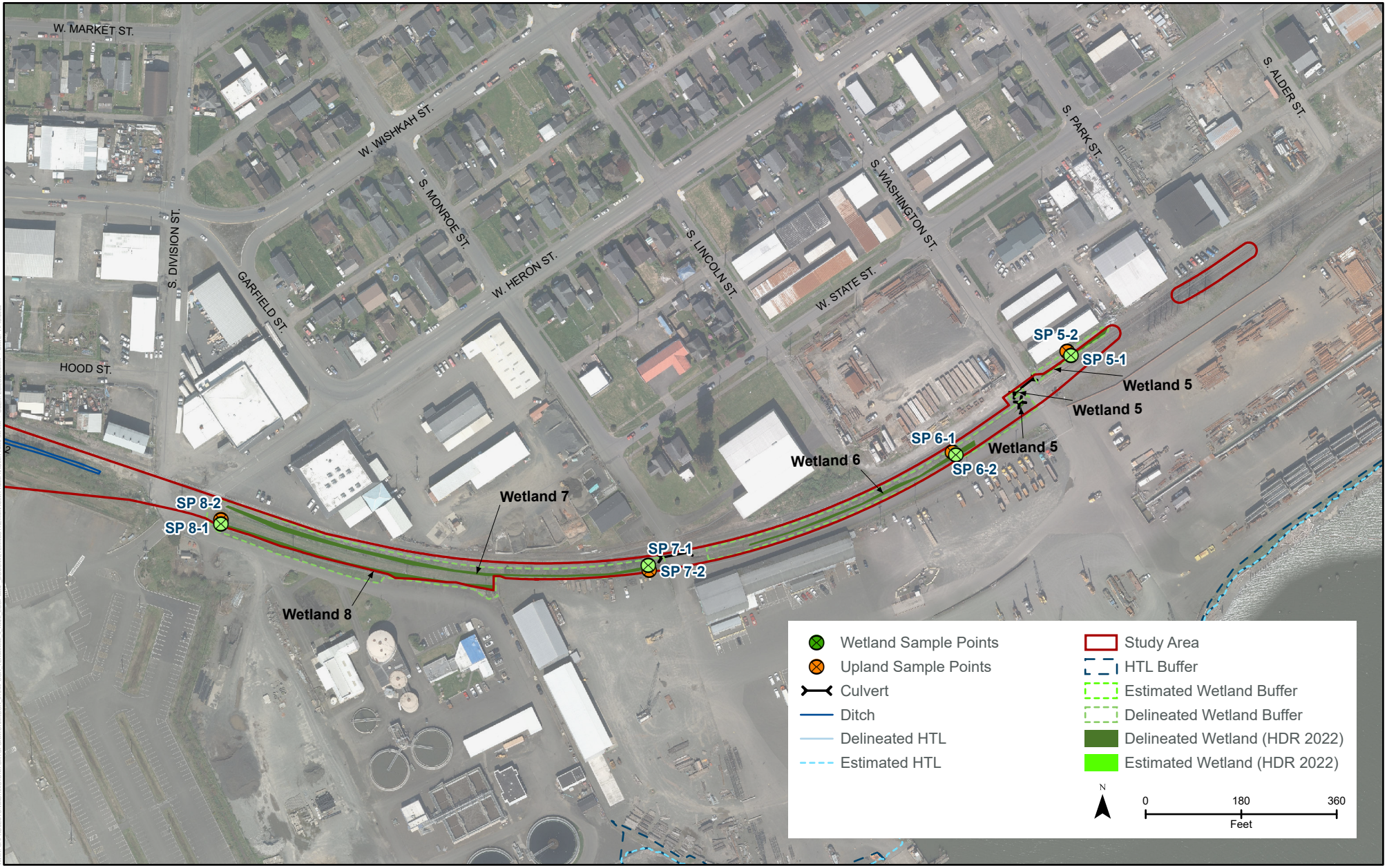


FIGURE 3B: EXISTING WETLANDS AND WATERBODIES
PORT OF GRAYS HARBOR – T4 RAIL EXPANSION

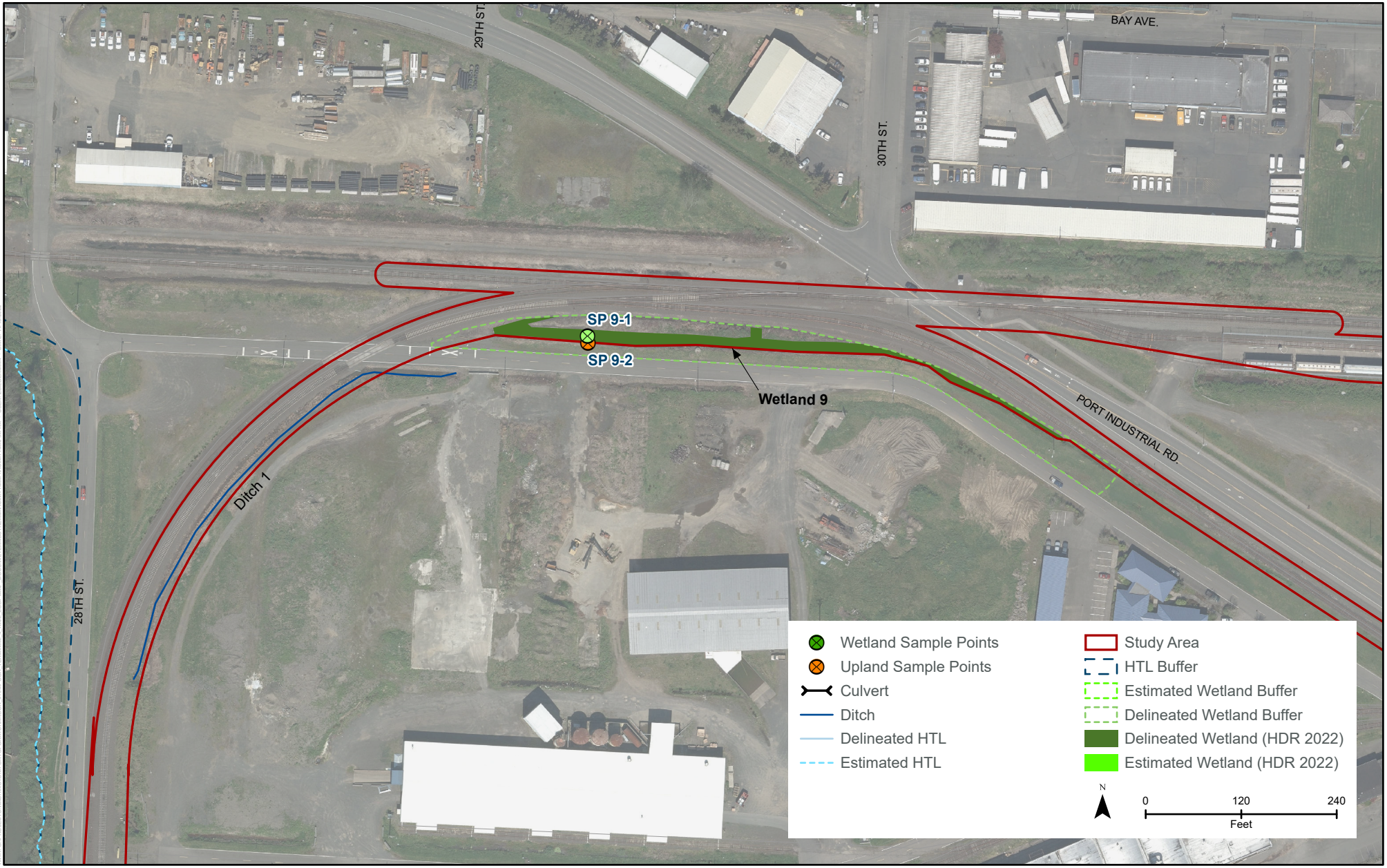


FIGURE 3C: EXISTING WETLANDS AND WATERBODIES
PORT OF GRAYS HARBOR – T4 RAIL EXPANSION

<table>
<tr><th colspan="3">Wetland 1 – INFORMATION SUMMARY (Delineated by HDR)</th></tr>
<tr><td>Location:</td><td colspan="2">Latitude: 46.966721, Longitude: -123.836388</td></tr>
<tr><td colspan="2" rowspan="11">  </td><td>Local Jurisdiction</td><td>City of Aberdeen</td></tr>
<tr><td>WRIA</td><td>22 - Lower Chehalis</td></tr>
<tr><td>Ecology Rating (Hruby 2014)</td><td>Category II</td></tr>
<tr><td>Water Quality</td><td>N/A</td></tr>
<tr><td>Hydrologic</td><td>N/A</td></tr>
<tr><td>Habitat</td><td>N/A</td></tr>
<tr><td>Local Buffer Width</td><td>110 feet</td></tr>
<tr><td>Wetland Size (acres)</td><td>0.13</td></tr>
<tr><td>Cowardin Classification</td><td>EEM</td></tr>
<tr><td>HGM Classification</td><td>Estuarine</td></tr>
<tr><td>Wetland Data Sheet(s)</td><td>SP 1-1, SP 1-3</td></tr>
<tr><td>Upland Data Sheet (s)</td><td>SP 1-2, SP 1-4</td></tr>
<tr><td>Dominant Vegetation</td><td colspan="2">Wetland 1 is a palustrine emergent wetland. The wetland is dominated by Lyngbye's sedge (Carex lyngbyei, OBL), curly/yellow dock (Rumex crispus, FAC), and tussock grass (Deschampsia caespitosa, FACW). Vegetation observed in this wetland meet the criteria for hydrophytic vegetation.</td></tr>
<tr><td>Soils</td><td colspan="2">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).</td></tr>
<tr><td>Hydrology</td><td colspan="2">Wetland 1 is tidally influenced, and portions of the wetland are located below the HTL. The wetland is collocated with East Terminal Way Ditch. SP 1-1 was saturated at 6 inches, with no water table. Wetland 1, north of the culverts, meets primary hydrology indicators for saturation (A3) and sediment deposits (B2). SP 1-3 was saturated at 13 inches, with a water table at 20 inches. South of the culverts, the wetland meets primary indicators for surface water (A1) and saturation (A3).</td></tr>
<tr><td>Rationale for Delineation</td><td colspan="2">Wetlands were distinguished from uplands based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.</td></tr>
<tr><td>Rationale for Local Rating</td><td colspan="2">Wetland 1 is rated Category II based on special characteristics, as it is an estuarine wetland not located within a national wildlife reserve, national park, natural estuary reserve, natural area preserves, state park, or other educational environmental or scientific reserve, and although larger than 1 acre, has been subject to disturbance and lacks features including tidal channels, depressions, and contiguous freshwater wetlands</td></tr>
<tr><th colspan="3">Wetland Functions Summary</th></tr>
<tr><td>Water Quality</td><td colspan="2">Not applicable for estuarine wetlands.</td></tr>
<tr><td>Hydrologic</td><td colspan="2">Not applicable for estuarine wetlands.</td></tr>
<tr><td>Habitat</td><td colspan="2">Not applicable for estuarine wetlands.</td></tr>
</table>

Wetland 2 – INFORMATION SUMMARY (Delineated by HDR)	
Location:	Latitude: 46.966755, Longitude: -123.833694

Local Jurisdiction	City of Aberdeen
WRIA	22 - Lower Chehalis
Ecology Rating (Hruby 2014)	Category III
Water Quality	7
Hydrologic	8
Habitat	3
Local Buffer Width	80
Wetland Size (acres)	0.04 acres
Cowardin Classification	PEM/PAB
HGM Classification	Depressional
Wetland Data Sheet(s)	SP 2-1
Upland Data Sheet (s)	SP 2-2, SP 2-3

Dominant Vegetation	Wetland 2 is a palustrine emergent and palustrine aquatic bed wetland. The emergent stratum is dominated by fringed/American/slender willowherb (*Epilobium ciliatum*, FACW). Vegetation observed in this wetland meet the criteria for hydrophytic 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 surrounding uplands, as well as from Ditch 2 and Ditch 3, and outlets through a culvert to an off-site stormwater pond. SP 2-1 shows no saturation or water table but is moist at 20 inches. Wetland 2 meets primary hydrology indicators for algal mat or crust (B4) and surface soil cracks (B6).
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), high hydrologic (8) and low habitat (3) functions. Wetland 2 scored 18 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 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:	Latitude: 49.967121, Longitude: -123.835060		
		**Local Jurisdiction**	City of Aberdeen
		WRIA	22 - Lower Chehalis
		Ecology Rating (Hruby 2014)	III
		Water Quality	N/A
		Hydrologic	N/A
		Habitat	N/A
		Local Buffer Width	80
		Wetland Size (acres)	0.02
		Cowardin Classification	PEM/PAB
		HGM Classification	Depressional
		Wetland Data Sheet(s)	N/A
		Upland Data Sheet (s)	N/A
Dominant Vegetation	Wetland 3 is a palustrine emergent and aquatic bed wetland. The wetland is dominated by reed canarygrass (*Phalaris arundinacea*, FACW), common/soft rush (*Juncus effusus*,), common cattail (*Typha latifolia*,), Himalayan blackberry (*Rubus armeniacus*,), and lady fern (*Athyrium cyclosorum*,).		
Soils	Soils in Wetland 3 are mapped as Udorthends (NRCS 2022). Soils in Wetland 3 were not sampled because site is outside of study area.		
Hydrology	Seasonally ponded. Water marks were observed throughout the wetland. Wetland 3 drains uplands, and appears to drain offsite toward Wetland 1.		
Rationale for Local Rating	N/A: outside of study area. Based on similar characteristics of this wetland to other nearby wetlands, it is provisionally scored as a Category III wetland.		
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 area		

<table>
<tr><th colspan="3">Wetland 4 – INFORMATION SUMMARY (Delineated by HDR)</th></tr>
<tr><td>Location:</td><td colspan="2">Latitude: 46.966736, Longitude: -123.836151</td></tr>
<tr><td colspan="2" rowspan="11">  </td><td>Local Jurisdiction</td><td>City of Aberdeen</td></tr>
<tr><td>WRIA</td><td>22 - Lower Chehalis</td></tr>
<tr><td>Ecology Rating (Hruby 2014)</td><td>Category III</td></tr>
<tr><td>Water Quality</td><td>7</td></tr>
<tr><td>Hydrologic</td><td>7</td></tr>
<tr><td>Habitat</td><td>3</td></tr>
<tr><td>Local Buffer Width</td><td>80 feet</td></tr>
<tr><td>Wetland Size (acres)</td><td>0.02</td></tr>
<tr><td>Cowardin Classification</td><td>PEM</td></tr>
<tr><td>HGM Classification</td><td>Depressional</td></tr>
<tr><td>Wetland Data Sheet(s)</td><td>SP 4-1</td></tr>
<tr><td>Upland Data Sheet (s)</td><td>SP 4-2</td></tr>
<tr><td>Dominant Vegetation</td><td colspan="2">Wetland 4 is a palustrine emergent wetland. The emergent stratum is dominated by reed canarygrass (Phalaris arundinacea, FACW). Vegetation observed in this wetland meets the criteria for hydrophytic vegetation.</td></tr>
<tr><td>Soils</td><td colspan="2">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, over 4 inches of gray (10GY 3/1) loamy sand, over 5 inches of gray (10Y 3/1) and bluish black (5B 2.5/1) sandy clay. The sample soils meet hydric soil indicators for depleted below dark surface (A11) and depleted matrix (F3).</td></tr>
<tr><td>Hydrology</td><td colspan="2">Wetland 4 is located in a narrow swale between an existing set of railroad tracks and off-site development. Wetland 4 drains surrounding uplands, and outlets through a unidirectional culvert to the north side of Wetland 1.Observed hydrology in SP 4-1 includes saturation at 8 inches, with a water table present at 12 inches. Wetland 4 meets primary hydrology indicators for high water table (A2) and saturation (A3).</td></tr>
<tr><td>Rationale for Delineation</td><td colspan="2">Wetlands were distinguished from uplands based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.</td></tr>
<tr><td>Rationale for Local Rating</td><td colspan="2">Wetland 4 is rated Category III based on functions, due to moderate water quality (7), hydrologic (7) and low habitat (3) functions. Wetland 4 scored 17 points using the Ecology Western Washington Wetland Rating System (2014 Update).</td></tr>
<tr><th colspan="3">Wetland Functions Summary</th></tr>
<tr><td>Water Quality</td><td colspan="2">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 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.</td></tr>
<tr><td>Hydrologic</td><td colspan="2">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.</td></tr>
<tr><td>Habitat</td><td colspan="2">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.</td></tr>
</table>

<table>
<tr><th colspan="3">Wetland 5 – INFORMATION SUMMARY (Delineated by HDR)</th></tr>
<tr><td>Location:</td><td colspan="2">Latitude: 46.967319, Longitude: -123.824432</td></tr>
<tr><td colspan="3"> 
<table>
<tr><td>Local Jurisdiction</td><td>City of Aberdeen</td></tr>
<tr><td>WRIA</td><td>22 - Lower Chehalis</td></tr>
<tr><td>Ecology Rating (Hruby 2014)</td><td>Category III</td></tr>
<tr><td>Water Quality</td><td>6</td></tr>
<tr><td>Hydrologic</td><td>7</td></tr>
<tr><td>Habitat</td><td>3</td></tr>
<tr><td>Local Buffer Width</td><td>80 feet</td></tr>
<tr><td>Wetland Size (acres)</td><td>0.02</td></tr>
<tr><td>Cowardin Classification</td><td>PEM</td></tr>
<tr><td>HGM Classification</td><td>Depressional</td></tr>
<tr><td>Wetland Data Sheet(s)</td><td>SP 5-1</td></tr>
<tr><td>Upland Data Sheet (s)</td><td>SP 5-2</td></tr>
</table></td></tr>
<tr><td>Dominant Vegetation</td><td colspan="2">Wetland 5 is a palustrine emergent wetland. The emergent stratum is dominated by reed canarygrass (Phalaris arundinacea, FACW) and toad rush (Juncus bufonius, FACW). Vegetation observed in this wetland meet the criteria for hydrophytic vegetation.</td></tr>
<tr><td>Soils</td><td colspan="2">Soils in Wetland 5 are mapped as Udorthents (NRCS 2022). Observed soils in the wetland consists of 4 inches of gray (5GY 3/1) sandy clay loam with redox features, over 12 inches of very dark gray (5Y 3/1) and gray (5GY 3/1) loamy sand with redox features, over 8 inches of dark greenish gray (10GY 4/1) clay with redox features. Sampled soils meet hydric soil indicators for sandy redox (S5) and redox dark surface (F6).</td></tr>
<tr><td>Hydrology</td><td colspan="2">Wetland 5 is located in a swale located adjacent to an existing railroad berm. Wetland 5 receives flow from adjacent uplands and outlets through an unconfined and unvegetated swale to Wetland 6. Observed hydrology in SP 5-1 includes saturation at 13 inches, with no water table present. Hydrology appears to be perched on a clay layer at 16 inches. Clear water marks were present on soil and rocks, and surface soil cracks were observed. The wetland meets primary hydrology indicators for water marks (B1), surface soil cracks (B6), and sparsely vegetated concave surface (B8).</td></tr>
<tr><td>Rationale for Delineation</td><td colspan="2">Wetlands were distinguished from uplands based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.</td></tr>
<tr><td>Rationale for Local Rating</td><td colspan="2">Wetland 5 is rated Category III based on functions, due to moderate water quality (6), hydrologic (7) and low habitat (3) functions. Wetland 5 scored 16 points using the Ecology Western Washington Wetland Rating System (2014 Update).</td></tr>
<tr><th colspan="3">Wetland Functions Summary</th></tr>
<tr><td>Water Quality</td><td colspan="2">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.</td></tr>
<tr><td>Hydrologic</td><td colspan="2">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 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.</td></tr>
<tr><td>Habitat</td><td colspan="2">The wetland has one vegetative structure, one hydroperiod, low 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.</td></tr>
</table>

Wetland 6 – INFORMATION SUMMARY (Delineated by HDR)			
Location:	Latitude: 46.966774, Longitude: -123.825203		
		**Local Jurisdiction**	City of Aberdeen
		WRIA	22 - Lower Chehalis
		Ecology Rating (Hruby 2014)	Category III
		Water Quality	7
		Hydrologic	7
		Habitat	3
		Local Buffer Width	80 feet
		Wetland Size (acres)	0.05
		Cowardin Classification	PEM
		HGM Classification	Depressional
		Wetland Data Sheet(s)	SP6-1
		Upland Data Sheet (s)	SP6-2
Dominant Vegetation	Wetland 6 is a palustrine emergent wetland. The wetland is dominated by reed canarygrass (*Phalaris arundinacea*, FACW) and common bent (*Agrostis capillaris*, FAC). Vegetation observed in this wetland meets the criteria for hydrophytic vegetation.		
Soils	Soils in Wetland 6 are mapped as Udorthents (NRCS 2022). Observed soils in the wetland consist of 9 inches of very dark gray (10YR 3/1) silty clay loam with redox features, over 15 inches of dark grayish brown (2.5Y 4/2) silty clay 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 6 is located in a ditch between the existing railroad berm and W River Street. The wetland 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 at 14 inches, with a water table present at 20 inches. The wetland meets primary hydrology indicators for algal mat or crust (B4), surface soil cracks (B6), sparsely vegetated concave surface (B8), and oxidized rhizospheres along living roots (C3). The wetland also meets secondary indicator for dry-season water table (C2).		
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 6 is rated Category III based on functions, due to moderate water quality (7), hydrologic (7) and low habitat (3) functions. Wetland 6 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 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 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.		

<table>
<tr><th colspan="3">Wetland 7 – INFORMATION SUMMARY (Delineated by HDR)</th></tr>
<tr><td>Location:</td><td colspan="2">Latitude: 46.966171, Longitude: -123.827484</td></tr>
<tr><td colspan="2" rowspan="11">  </td><td>Local Jurisdiction</td><td>City of Aberdeen</td></tr>
<tr><td>WRIA</td><td>22 - Lower Chehalis</td></tr>
<tr><td>Ecology Rating (Hruby 2014)</td><td>Category III</td></tr>
<tr><td>Water Quality</td><td>7</td></tr>
<tr><td>Hydrologic</td><td>7</td></tr>
<tr><td>Habitat</td><td>3</td></tr>
<tr><td>Local Buffer Width</td><td>60 feet</td></tr>
<tr><td>Wetland Size (acres)</td><td>0.05</td></tr>
<tr><td>Cowardin Classification</td><td>PEM</td></tr>
<tr><td>HGM Classification</td><td>Depressional</td></tr>
<tr><td>Wetland Data Sheet(s)</td><td>SP7-1</td></tr>
<tr><td>Upland Data Sheet (s)</td><td>SP7-2</td></tr>
<tr><td>Dominant Vegetation</td><td colspan="2">Wetland 6 is a palustrine emergent wetland. The wetland is dominated by reed canarygrass (Phalaris arundinacea, FACW) and toad rush (Juncus bufonius, FACW). Vegetation observed in this wetland meets the criteria for hydrophytic vegetation.</td></tr>
<tr><td>Soils</td><td colspan="2">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).</td></tr>
<tr><td>Hydrology</td><td colspan="2">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).</td></tr>
<tr><td>Rationale for Delineation</td><td colspan="2">Wetlands were distinguished from uplands based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.</td></tr>
<tr><td>Rationale for Local Rating</td><td colspan="2">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).</td></tr>
<tr><th colspan="3">Wetland Functions Summary</th></tr>
<tr><td>Water Quality</td><td colspan="2">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.</td></tr>
<tr><td>Hydrologic</td><td colspan="2">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.</td></tr>
<tr><td>Habitat</td><td colspan="2">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.</td></tr>
</table>

<table>
<tr><th colspan="3">Wetland 8 – INFORMATION SUMMARY (Delineated by HDR)</th></tr>
<tr><td>Location:</td><td colspan="2">Latitude: 46.966244, Longitude: -123.830734</td></tr>
<tr><td colspan="2" rowspan="11">  </td><td>Local Jurisdiction</td><td>City of Aberdeen</td></tr>
<tr><td>WRIA</td><td>22 - Lower Chehalis</td></tr>
<tr><td>Ecology Rating (Hruby 2014)</td><td>Category III</td></tr>
<tr><td>Water Quality</td><td>6</td></tr>
<tr><td>Hydrologic</td><td>7</td></tr>
<tr><td>Habitat</td><td>3</td></tr>
<tr><td>Local Buffer Width</td><td>80 feet</td></tr>
<tr><td>Wetland Size (acres)</td><td>0.06</td></tr>
<tr><td>Cowardin Classification</td><td>PEM</td></tr>
<tr><td>HGM Classification</td><td>Depressional</td></tr>
<tr><td>Wetland Data Sheet(s)</td><td>W8-1</td></tr>
<tr><td>Upland Data Sheet (s)</td><td>W8-2</td></tr>
<tr><td>Dominant Vegetation</td><td colspan="2">Wetland 8 is a palustrine emergent wetland. The wetland is dominated by reed canarygrass (Phalaris arundinacea, FACW) and bird’s foot trefoil (Lotus corniculatus, FAC). Vegetation observed in this wetland meet the criteria for hydrophytic vegetation.</td></tr>
<tr><td>Soils</td><td colspan="2">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).</td></tr>
<tr><td>Hydrology</td><td colspan="2">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).</td></tr>
<tr><td>Rationale for Delineation</td><td colspan="2">Wetlands were distinguished from uplands based on the presence of hydrophytic vegetation, hydric soils, and secondary wetland hydrology indicators.</td></tr>
<tr><td>Rationale for Local Rating</td><td colspan="2">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).</td></tr>
<tr><th colspan="3">Wetland Functions Summary</th></tr>
<tr><td>Water Quality</td><td colspan="2">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.</td></tr>
<tr><td>Hydrologic</td><td colspan="2">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.</td></tr>
<tr><td>Habitat</td><td colspan="2">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.</td></tr>
</table>

<table>
<tr><th colspan="3">Wetland 9 – INFORMATION SUMMARY (Delineated by HDR)</th></tr>
<tr><td>Location:</td><td colspan="2">Latitude: 46.967815, Longitude: -123.859856</td></tr>
<tr><td colspan="3"> 
<table>
<tr><td>Local Jurisdiction</td><td>City of Hoquiam</td></tr>
<tr><td>WRIA</td><td>22 - Lower Chehalis</td></tr>
<tr><td>Ecology Rating (Hruby 2014)</td><td>Category III</td></tr>
<tr><td>Water Quality</td><td>8</td></tr>
<tr><td>Hydrologic</td><td>8</td></tr>
<tr><td>Habitat</td><td>3</td></tr>
<tr><td>Local Buffer Width</td><td>80 feet</td></tr>
<tr><td>Wetland Size (acres)</td><td>0.20</td></tr>
<tr><td>Cowardin Classification</td><td>PEM</td></tr>
<tr><td>HGM Classification</td><td>Depressional</td></tr>
<tr><td>Wetland Data Sheet(s)</td><td>SP9-1</td></tr>
<tr><td>Upland Data Sheet (s)</td><td>SP9-2</td></tr>
</table></td></tr>
<tr><td>Dominant Vegetation</td><td colspan="2">Wetland 9 is a palustrine emergent wetland. The wetland is dominated by common bent (Agrostis capillaris, FAC) and common/needle spikerush (Eleocharis acicularis, OBL). Vegetation observed in this wetland meet the criteria for hydrophytic vegetation.</td></tr>
<tr><td>Soils</td><td colspan="2">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).</td></tr>
<tr><td>Hydrology</td><td colspan="2">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).</td></tr>
<tr><td>Rationale for Delineation</td><td colspan="2">Wetlands were distinguished from uplands based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.</td></tr>
<tr><td>Rationale for Local Rating</td><td colspan="2">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).</td></tr>
<tr><th colspan="3">Wetland Functions Summary</th></tr>
<tr><td>Water Quality</td><td colspan="2">The wetland has high 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.</td></tr>
<tr><td>Hydrologic</td><td colspan="2">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.</td></tr>
<tr><td>Habitat</td><td colspan="2">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.</td></tr>
</table>

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	S[a]	150[b]	52	100
East Terminal Way Ditch	Aberdeen	Grays Harbor	S[c]	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.
[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

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.

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
	Local Stream Rating	S
	Buffer Width[a]	150 feet
	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

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

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.

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
DNR Water Type	Not Mapped
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

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 6/23/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling SP 1-1

Investigators: DANIELSKI , DARTIGUENAVE | Section, Township, Range: T17N R9W S7

Landform (hillslope, terrace, etc.): Floodplain | Local Relief (concave, convex, none): Concave | Slope(%): 0

Subregion (LRR): A – Northwest Forest, Forage, | Lat: 46.966721 | Long: -123.836388 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: PEM1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**
Wetland Hydrology Present?	Yes X	No ____	**within a Wetland?** Yes X No ____

Remarks:

Sample plot below HTL. Sample plot meets 3 of 3 wetland criteria and is within a wetland.

VEGETATION – Use scientific names of plants.

		Absolute	Dominant	Indicator
Tree Statum	(Plot size: 5m)	% Cover	Species?	Status
1.		0		
2.				
3.				
4.				
		0	= Total Cover	
Sapling/Shrub Stratum	(Plot size: 3m)			
1.		0		
2.				
3.				
4.				
5.				
		0	= Total Cover	
Herb Stratum	(Plot size: 15x5)			
1.	Symphiotrychum spp	50	Yes	FAC
2.	Rumex crispus	20	Yes	FAC
3.	Carex lyngbyei	20	Yes	OBL
4.	Deschampsia caespitosa	10	No	FACW
5.				
6.				
7.				
8.				
9.				
10.				
11.				
		100	= Total Cover	
Woody Vine Stratum	(Plot size: 3m)			
1.		0		
2.				
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x1=	20
FACW species	10	x2=	20
FAC species	70	x3=	210
FACU species		x4=	0
UPL species		x5=	0
Column Totals:	100 (A)		250 (B)

Prevalence Index = B/A= 2.50

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Sample plot meets dominance test and prevalence index for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	7.5YR 3/2	55	5YR 4/6	20	C	M	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	C	M		
7-16	2.5 y 4/1	100					Silt Loam	

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Soils under aquic moisture regime. Turned redder throughout soil profile upon exposure to air. Sample plot meets hydric soil indicator F6 - redox dark surface and TF2 - red parent material

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6.0

Wetland Hydrology Present? Yes X No ___

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Tidally influenced, sampled at low tide. Sample plot meets primary hydrology indicators for saturation and sediment deposits.

Additional Reference Data: Photos

Photo Name: Photo_220623144233

Photo Name: Photo_220623144147

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 6/23/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 1-2

Investigators: DANIELSKI, DARTIGUENAVE | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Hillslope | Local Relief (concave, convex, none): Convex | Slope(%): 7

Subregion (LRR): A – Northwest Forest, Forage, | Lat: 46.966637 | Long: -123.836365 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	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 1 of 3 wetland criteria and is not located within a wetland.

VEGETATION – Use scientific names of plants.

		Absolute	Dominant	Indicator
Tree Statum	(Plot size: 5m)	% Cover	Species?	Status
1.		0		
2.				
3.				
4.				
		0	= Total Cover	
Sapling/Shrub Stratum	(Plot size: 3m)			
1.		0		
2.				
3.				
4.				
5.				
		0	= Total Cover	
Herb Stratum	(Plot size: 3x 15)			
1.	Hordeum brachyantherum	50	Yes	FACW
2.	Holcus lanatus	20	Yes	FAC
3.	Symphiotrychum spp	5	No	FAC
4.	Plantago lanceolata	5	No	FACU
5.	Potentilla anserina	5	No	OBL
6.	Deschampsia caespitosa	2	No	FACW
7.				
8.				
9.				
10.				
11.				
		89	= Total Cover	
Woody Vine Stratum	(Plot size: 3m)			
1.		0		
2.				
		0	= Total Cover	

% Bare Ground in Herb Stratum 11

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x1=	5
FACW species	54	x2=	108
FAC species	25	x3=	75
FACU species	5	x4=	20
UPL species		x5=	0
Column Totals:	89 (A)		208 (B)

Prevalence Index = B/A= 2.34

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Bare ground is quarry spall. Sample plot meets dominance test, and prevalence index for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
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	

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

Sample plot lacks hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No primary or secondary hydrology indicators observed.

Additional Reference Data: Photos

Photo Name: Photo_220623161252

Photo Name: Photo_220623160723

Photo Name: Photo_220623153719

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

Project/Site: Port of Grays harbor Terminal 4 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 Local Relief (concave, convex, none): Concave Slope(%): 3

Subregion (LRR): A - Northwestern Forest, Lat: 46.965904 Long: -123.836533 Datum: WGS84

Soil Map Unit Name: Udorthents NWI Classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____		
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____

Remarks:

Sample plot on bench slightly above OHWM of tidal channel. Surface water present in channel. Sample plot meets 3 of 3 wetland criteria and is located within a wetland.

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator
Tree Statum (Plot size: 5m)	% Cover	Species?	Status
1.	0		
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m)			
1.	0		
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 1m)			
1. Deschampsia caespitosa	70	Yes	FACW
2. Carex lyngbyei	30	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 3m)			
1.	0		
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x1=	30
FACW species	70	x2=	140
FAC species		x3=	0
FACU species		x4=	0
UPL species		x5=	0
Column Totals:	100 (A)		170 (B)

Prevalence Index = B/A= 1.70

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Sample plot meets rapid test, dominance test, and prevalence index for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	90	7.5YR 3/4	10	C	M	Silt Loam	
10-15	10YR 4/1	85	7.5YR 4/6	15	C	M	Sandy Loam	Gravelly
15-17	10BG 3/1	100					Loamy Sand	
17-24	10B 2.5/1	100					Sandy Loam	Mucky

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Sample plot meets hydric indicators for A11 - depleted below dark surface, F3 - depleted matrix, and F6 - redox dark surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 20.0

Saturation Present? Yes X No ___ Depth (inches): 13.0

(includes capillary fringe)

Wetland Hydrology Present? **Yes X No** ___

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Tidally influenced, sampled at low tide. Tidal channel with surface water level 2 feet below Sample Point.
Sample plot meets primary hydrology indicators for Saturation (A3).

Additional Reference Data: Photos

Photo Name: Photo_220819112455

Photo Name: Photo_220819113622

Photo Name: Photo_220819111731

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 8/19/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 1-4

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Hillslope | Local Relief (concave, convex, none): Convex | Slope(%): 40

Subregion (LRR): A - Northwestern Forest, | Lat: 46.965981 | Long: -123.836487 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X			
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:

Sample plot on steep fill slope above tidal channel. Soils obvious fill. Plot is 5 feet west and 4 feet above SP 1-3. Sample plot meets 0 of 3 wetland criteria and is not located within a wetland.

VEGETATION – Use scientific names of plants.

		Absolute	Dominant	Indicator
Tree Statum	(Plot size: 5m)	% Cover	Species?	Status
1.		0		
2.				
3.				
4.				
		0	= Total Cover	
Sapling/Shrub Stratum	(Plot size: 3m)			
1.		0		
2.				
3.				
4.				
5.				
		0	= Total Cover	
Herb Stratum	(Plot size: 1m)			
1.	Plantago lanceolata	35	Yes	FACU
2.	Phalaris arundinacea	20	Yes	FACW
3.	Equisetum telmateia	15	No	FACW
4.	Hypochaeris radicata	10	No	FACU
5.				
6.				
7.				
8.				
9.				
10.				
11.				
		80	= Total Cover	
Woody Vine Stratum	(Plot size: 3m)			
1.		0		
2.				
		0	= Total Cover	

% Bare Ground in Herb Stratum 20

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	35	x2=	70
FAC species		x3=	0
FACU species	45	x4=	180
UPL species		x5=	0
Column Totals:	80 (A)		250 (B)

Prevalence Index = B/A= 3.13

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)

____ 5 - Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

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.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 4/3	100					Silt Loam	Gravelly
6-24	10YR 4/4	100					Sandy Loam	Gravelly

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

Soils are gravelly fill material. Sample plot lacks hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No primary or secondary wetland hydrology indicators observed. Sample plot is 4 feet above SP 1-3, which is likely at or above HTL of tidal channel.

Additional Reference Data: Photos

Photo Name: Photo_220819113654

Photo Name: Photo_220819113700

Photo Name: Photo_220819113932

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 7/8/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 2-1

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S7

Landform (hillslope, terrace, etc.): Depression | Local Relief (concave, convex, none): Concave | Slope(%): 3

Subregion (LRR): A - Northwestern Forest, | Lat: 46.966755 | Long: -123.833694 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: PEM/PAB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____		
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____

Remarks:

Sample plot located at edge of obvious seasonal inundation in excavated railroad drainage ditch. Plot located at toe of slope from POGH fill pad. Ditch drains fill pad and railroad berm. Limited vegetation, likely from frequent excavation. Sample plot meets 3 of 3 wetland criteria and is located within a wetland.

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator
Tree Statum (Plot size: 5m)	% Cover	Species?	Status
1. Malus fusca	7	Yes	FACW
2.			
3.			
4.			
	7	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m)			
1.	0		
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 1m)			
1. Epilobium ciliatum	15	Yes	FACW
2. Agrostis stolonifera	5	No	FAC
3. Equisetum telmateia	5	No	FACW
4. Juncus effusus	5	No	FACW
5. Phalaris arundinacea	3	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	33	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0		
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 67

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	35	x2=	70
FAC species	5	x3=	15
FACU species		x4=	0
UPL species		x5=	0
Column Totals:	40 (A)		85 (B)

Prevalence Index = B/A= 2.13

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0¹
- ____ 4 - Morphological Adaptations¹ (Provide data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants¹
- ____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

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

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/1	60	10YR 4/4	10	C	M	Silt Loam	
	10YR 3/2	30						
5-24	10YR 5/1	80	5YR 4/6	10	C	M	Silty Clay Loam	
			5YR 3/4	10	C	PL RC		

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Sample plot meets hydric soil indicators F3 - depleted matrix and F6 - redox dark surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes X No** ___

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No saturation or water table, but soil is moist at 20 inches. Surface soil cracks, water marks, and algal mats indicate long term ponding.
Sample plot meets primary hydrology indicators for algal mat or crust (B4), and surface soil cracks (B6).

Additional Reference Data: Photos

Photo Name: Photo_220708111355

Photo Name: Photo_220708110906

Photo Name: Photo_220708110857

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 7/8/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 2-2

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Flat | Local Relief (concave, convex, none): Convex | Slope(%): 10

Subregion (LRR): A - Northwestern Forest, | Lat: 46.967751 | Long: -123.832756 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No		
Hydric Soil Present?	Yes	No X	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes	No X	**within a Wetland?**	Yes ____ No X

Remarks:

Sample located on fill slope 6 feet south and 3 feet above SP 2-1. Sample plot meets 1 of 3 wetland criteria and is not located within a wetland.

VEGETATION – Use scientific names of plants.

Tree Statum (Plot size: 5m)	Absolute % Cover	Dominant Species?	Indicator Status
1.	0		
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m)			
1. Reynoutria japonica	45	Yes	FACU
2. Ilex aquifolium	4	No	FACU
3.			
4.			
5.			
	49	= Total Cover	
Herb Stratum (Plot size: 1m)			
1. Equisetum telmateia	60	Yes	FACW
2. Epilobium ciliatum	3	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	63	= Total Cover	
Woody Vine Stratum (Plot size: 3m)			
1.	0		
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 37

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	63	x2=	126
FAC species		x3=	0
FACU species	49	x4=	196
UPL species		x5=	0
Column Totals:	112 (A)		322 (B)

Prevalence Index = B/A= 2.88

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)

____ 5 - Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Sample plot does not meet dominance test, prevalence index not applicable due to lack of hydric soil and hydrology.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/4	98	7.5YR 5/4	2	C	M	Silty Clay	
8-16	10YR 5/2	8	7.5YR 5/6	2	C	M	Clay Loam	
	10YR 4/3	90						
16-24	10YR 5/1	95	7.5YR 5/6	5	C	M	Clay Loam	

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

Sample plot lacks hydric soil indicators. Depleted matrix starts too deep and upper 8 inches too bright to meet indicator F3.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

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): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes ___ **No X**

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No primary or secondary wetland hydrology indicators. Dry to 24

Additional Reference Data: Photos

Photo Name: Photo_220708115824

Photo Name: Photo_220708115019

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 7/8/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 2-3

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Flat | Local Relief (concave, convex, none): None | Slope(%): 0

Subregion (LRR): A - Northwestern Forest, | Lat: 46.967670 | Long: -123.832817 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil X or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X			
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:

Sample plot located on RR fill prism, upslope of WL boundary. Sample plot meets 0 of 3 wetland criteria and is not located within a wetland.

VEGETATION – Use scientific names of plants.

		Absolute	Dominant	Indicator
Tree Statum	(Plot size: 5m)	% Cover	Species?	Status
1.		0		
2.				
3.				
4.				
		0	= Total Cover	
Sapling/Shrub Stratum	(Plot size: 3m)			
1.		0		
2.				
3.				
4.				
5.				
		0	= Total Cover	
Herb Stratum	(Plot size: 1m)			
1.	Plantago lanceolata	15	Yes	FACU
2.	Hypochaeris radicata	5	Yes	FACU
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
		20	= Total Cover	
Woody Vine Stratum	(Plot size: 3m)			
1.		0		
2.				
		0	= Total Cover	

% Bare Ground in Herb Stratum 80

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species		x2=	0
FAC species		x3=	0
FACU species	20	x4=	80
UPL species		x5=	0
Column Totals:	20 (A)		80 (B)

Prevalence Index = B/A= 4.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)

____ 5 - Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Veg largely disturbance tolerant species. Sparse, patchy veg. Sample plot lacks indicators for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	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	C	M	Sandy Loam	Fill material, Gravel and cobble

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

Sample plot lacks hydric soil indicators. Refusal at 21 due to compact cobble.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No primary or secondary hydrology observed. Dry to 21 inches

Additional Reference Data: Photos

Photo Name: Photo_220708122546

Photo Name: Photo_220708122540

Photo Name: Photo_220708122536

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 7/8/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 4-1

Investigators: DARTIGUENAVE, STORY | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Depression | Local Relief (concave, convex, none): None | Slope(%): 0

Subregion (LRR): A – Northwest Forest, Forage, | Lat: 46.966736 | Long: -123.836151 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____		
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____

Remarks:

Sample plot meets 3 of 3 wetland criteria and is located within a wetland.

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator
Tree Statum (Plot size: 5m)	% Cover	Species?	Status
1. Alnus rubra	2	Yes	FAC
2.			
3.			
4.			
	2	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m)			
1.	0		
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 1m)			
1. Phalaris arundinacea	90	Yes	FACW
2. Galium aparine	5	No	FACU
3. Equisetum telmateia	2	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 3m)			
1.	0		
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 3

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	92	x2=	184
FAC species	2	x3=	6
FACU species	5	x4=	20
UPL species		x5=	0
Column Totals:	99 (A)		210 (B)

Prevalence Index = B/A= 2.12

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Sample plot meets dominance test and prevalence index for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 2/1	100					Silt Loam	
9-15	2.5Y 4/1	80	7.5YR 4/4	15	C	M	Sandy Loam	
			5YR 3/4	5	C	PL RC		
15-19	10GY 3/1	100					Loamy Sand	
19-24	10Y 3/1	90					Sandy Clay	
	5B 2.5/1	10						

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Sample plot meets hydric soil indicators A11 - depleted below dark surface and F3 - depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Tables (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 12.0

Saturation Present? Yes X No ___ Depth (inches): 8.0

(includes capillary fringe)

Wetland Hydrology Present? **Yes X No** ___

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Water table perched above clay layer. Sample plot meets primary hydrology indicators for high water table and saturation.

Additional Reference Data: Photos

Photo Name: Photo_220708142048

Photo Name: Photo_220708142113

Photo Name: Photo_220708142035

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 7/8/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 4-2

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Flat | Local Relief (concave, convex, none): Convex | Slope(%): 2

Subregion (LRR): A - Northwestern Forest, | Lat: 46.966717 | Long: -123.836136 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____		
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____ No X

Remarks:

Sample plot located on fill slope above swale with SP 4-1. Located 5 feet N and 2 feet above 4-1. Dense roots from ALRU in sample plot. Sample plot meets 1 of 3 wetland criteria and is not within a wetland.

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator
Tree Statum (Plot size: 5m)	% Cover	Species?	Status
1. Alnus rubra	60	Yes	FAC
2.			
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m)			
1. Rubus armeniacus	30	Yes	FAC
2. Reynoutria japonica	20	Yes	FACU
3.			
4.			
5.			
	50	= Total Cover	
Herb Stratum (Plot size: 1m)			
1. Equisetum telmateia	45	Yes	FACW
2. Dactylis glomerata	30	Yes	FACU
3. Cirsium vulgare	10	No	FACU
4. Phalaris arundinacea	7	No	FACW
5. Geranium robertianum	5	No	FACU
6. Epilobium ciliatum	3	No	FACW
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 3m)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	55	x2=	110
FAC species	90	x3=	270
FACU species	65	x4=	260
UPL species		x5=	0
Column Totals:	210 (A)		640 (B)

Prevalence Index = B/A= 3.05

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)

____ 5 - Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Veg is largely disturbance tolerant/weedy. Sample plot meets dominance test for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/4	100					Silt Loam	Gravel and angular cobble (quarry

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

Sample plot lacks hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No primary or secondary wetland hydrology indicators observed. Dry to 12 inches.

Additional Reference Data: Photos

Photo Name: Photo_220708145231

Photo Name: Photo_220708145239

Photo Name: Photo_220708145248

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 8/5/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 5-1

Investigators: STORY | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Flat | Local Relief (concave, convex, none): Concave | Slope(%): 1

Subregion (LRR): A - Northwestern Forest, | Lat: 46.967319 | Long: -123.824432 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil X or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____		
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____

Remarks:

Sample plot in low point of ditch adjacent to RR tracks. Ditch situated between tracks and fill pad. Obvious signs of ponding and hydric soils, sparse veg. Likely frequently dredged/excavated. Sample plot meets 3 of 3 wetland criteria and is located within a wetland.

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator
Tree Statum (Plot size: 5m)	% Cover	Species?	Status
1.	0		
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m)			
1.	0		
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 1m)			
1. Juncus bufonius	7	Yes	FACW
2. Phalaris arundinacea	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	12	= Total Cover	
Woody Vine Stratum (Plot size: 3m)			
1.	0		
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 88

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	12	x2=	24
FAC species		x3=	0
FACU species		x4=	0
UPL species		x5=	0
Column Totals:	12 (A)		24 (B)

Prevalence Index = B/A= 2.00

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

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.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	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	M		
16-24	10GY 4/1	85	10YR 4/4	15	C	M	Clay	

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Sample plot meets hydric soil indicators for F6 - redox dark surface and S5 - sandy redox.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- X Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 13.0

Wetland Hydrology Present? Yes X No ___

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturated from 13 to start of clay layer at 16. Saturation perched on clay layer, no water table. Clear water marks on soil/rocks, surface soil cracks, and sparsely vegetated concave surface. Sample plot meets primary hydrology indicators for water marks (B1), surface soil cracks (B6), and sparsely vegetated concave surface (B8).

Additional Reference Data: Photos

Photo Name: Photo_220805132159

Photo Name: Photo_220805132144

Photo Name: Photo_220805132208

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 8/5/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 5-2

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Flat | Local Relief (concave, convex, none): None | Slope(%): 0

Subregion (LRR): A - Northwestern Forest, | Lat: 46.967754 | Long: -123.825012 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil X or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

Sample plot located on fill pad, 6 feet NW and 1 foot above SP 5-1. Obvious gravel fill. Sample plot meets 0 of 3 wetland criteria and is not within a wetland.

VEGETATION – Use scientific names of plants.

		Absolute % Cover	Dominant Species?	Indicator Status
Tree Statum	(Plot size: 5m)			
1.		0		
2.				
3.				
4.				
		0	= Total Cover	
Sapling/Shrub Stratum	(Plot size: 3m)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	
Herb Stratum	(Plot size: 1m)			
1.	Matricaria discoidea	20	Yes	FACU
2.	Lotus corniculatus	15	Yes	FAC
3.	Phalaris arundinacea	10	No	FACW
4.	Schedonorus arundinaceus	4	No	FAC
5.	Trifolium pratense	3	No	FACU
6.	Trifolium repens	2	No	FAC
7.				
8.				
9.				
10.				
11.				
		54	= Total Cover	
Woody Vine Stratum	(Plot size: 3m)			
1.				
2.				
			= Total Cover	

% Bare Ground in Herb Stratum 46

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	10	x2=	20
FAC species	21	x3=	63
FACU species	23	x4=	92
UPL species		x5=	0
Column Totals:	54 (A)		175 (B)

Prevalence Index = B/A= 3.24

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)

____ 5 - Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Unknown astragalus 5%. Sample plot lacks indicators for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					Silt Loam	Gravelly fill material.

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

Refusal at 4". Dense compact gravel fill. Sample plot lacks hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No primary or secondary wetland hydrology indicators observed. Dry to 4 inches. No evidence of ponding.

Additional Reference Data: Photos

Photo Name: Photo_220805134049

Photo Name: Photo_220805134957

Photo Name: Photo_220805134056

Additional Reference Data: Photos

Photo Name: Photo_220805134043

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 8/5/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 6-1

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Flat | Local Relief (concave, convex, none): Concave | Slope(%): 1

Subregion (LRR): A - Northwestern Forest, | Lat: 46.966774 | Long: -123.825203 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____		
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____

Remarks:

Sample plot at low point of RR ditch on SW side of tracks between RR and access road. Sample plot meets 3 of 3 wetland criteria and is located within a wetland.

VEGETATION – Use scientific names of plants.

		Absolute	Dominant	Indicator
Tree Statum	(Plot size: 5m)	% Cover	Species?	Status
1.		0		
2.				
3.				
4.				
		0	= Total Cover	
Sapling/Shrub Stratum	(Plot size: 3m)			
1.		0		
2.				
3.				
4.				
5.				
		0	= Total Cover	
Herb Stratum	(Plot size: 1m)			
1.	Agrostis capillaris	20	Yes	FAC
2.	Phalaris arundinacea	20	Yes	FACW
3.	Juncus effusus	10	No	FACW
4.	Lotus corniculatus	5	No	FAC
5.	Typha latifolia	2	No	OBL
6.				
7.				
8.				
9.				
10.				
11.				
		57	= Total Cover	
Woody Vine Stratum	(Plot size: 3m)			
1.		0		
2.				
		0	= Total Cover	

% Bare Ground in Herb Stratum 43

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x1=	2
FACW species	30	x2=	60
FAC species	25	x3=	75
FACU species		x4=	0
UPL species		x5=	0
Column Totals:	57 (A)		137 (B)

Prevalence Index = B/A= 2.40

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Sample plot meets the dominance test and prevalence index for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 3/1	60					Silty Clay Loam	
	2.5Y 4/1	30	10YR 4/6	10	C	M		
9-15	2.5Y 4/2	80	7.5YR 4/4	20	C	PL M	Silty Clay	
15-24	2.5Y 4/1	95	10YR 3/6	5	C	PL	Silty Clay	

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Sample plot meets hydric soil indicators for A11 - depleted below dark surface, F3 - depleted matrix, and F6 - redox dark surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- X Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): ___
Water Table Present?	Yes	X	No	___	Depth (inches): 20.0
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 14.0

Wetland Hydrology Present? Yes X No ___

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Algal may and water marks easily observable. Oxidized rhizospheres from 9-24. Sample plot meets primary hydrology indicators for algal mat or crust, surface soil cracks, sparsely vegetated concave surface, oxidized rhizospheres along living roots, and secondary hydrology indicator for dry-season water table.

Additional Reference Data: Photos

Photo Name: Photo_220805141150

Photo Name: Photo_220805141126

Photo Name: Photo_220805141145

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 8/5/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 6-2

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Flat | Local Relief (concave, convex, none): Convex | Slope(%): 5

Subregion (LRR): A - Northwestern Forest, | Lat: 46.967445 | Long: -123.825592 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: X Soil X or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____			
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:

Sample plot on RR ballast. Limited soil, limited veg. Plot is 3 feet NW and 2 feet above SP 6-1.
Sample plot meets 1 of 3 wetland criteria and is not located within a wetland.

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator
Tree Statum (Plot size: 5m)	% Cover	Species?	Status
1.	0		
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m)			
1.	0		
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 1m)			
1. Equisetum arvense	30	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: 3m)			
1.	0		
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 70

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species		x2=	0
FAC species	30	x3=	90
FACU species		x4=	0
UPL species		x5=	0
Column Totals:	30 (A)		90 (B)

Prevalence Index = B/A= 3.00

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Sample plot meets dominance test for hydrophytic vegetation, but is sparsely vegetated.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					Sandy Loam	Quarry spall and gravel fill. Refusal

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Quarry spall and gravel fill

Depth (inches): 4

Hydric Soil Present? Yes ___ No X

Remarks:

Sample plot lacks hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No primary or secondary wetland hydrology indicators observed.

Additional Reference Data: Photos

Photo Name: Photo_220805142804

Photo Name: Photo_220805142754

Photo Name: Photo_220805143018

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 8/5/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 7-1

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Flat | Local Relief (concave, convex, none): Concave | Slope(%): 0

Subregion (LRR): A – Northwest Forest, Forage, | Lat: 46.966171 | Long: -123.827484 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____		
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____

Remarks:

Sample plot meets 3 of 3 wetland criteria and is located within a wetland.

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator
Tree Statum (Plot size: 5m)	% Cover	Species?	Status
1.	0		
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m)			
1.	0		
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 1m)			
1. Phalaris arundinacea	10	Yes	FACW
2. Juncus bufonius	7	Yes	FACW
3. Juncus effusus	5	No	FACW
4. Typha latifolia	3	No	OBL
5. Equisetum arvense	2	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	27	= Total Cover	
Woody Vine Stratum (Plot size: 3m)			
1.	0		
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 73

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x1=	3
FACW species	22	x2=	44
FAC species	2	x3=	6
FACU species		x4=	0
UPL species		x5=	0
Column Totals:	27 (A)		53 (B)

Prevalence Index = B/A= 1.96

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)

____ 5 - Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Sample plot meets rapid test, dominance test, and prevalence index for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	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	C	PL M		
10-17	2.5Y4/1	70	5YR4/6	30	C	PL M	Silty Clay Loam	
17-24	5GY4/1	90	10YR4/6	5	C	M	Silty Clay	
			7.5YR3/4	5	C	PL		

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Sample plot meets hydric soil indicators for F3 - depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes X No** ___

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Moist at 15 inches, but not saturated. Rhizospheres in second and third layer.
Sample plot meets primary hydrology indicator for algal mat or crust (B4), surface soil cracks (B6), and oxidized rhizospheres along living roots (C3).

Additional Reference Data: Photos

Photo Name: Photo_220805150155

Photo Name: Photo_220805150207

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 8/5/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 7-2

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Flat | Local Relief (concave, convex, none): None | Slope(%): 0

Subregion (LRR): A – Northwest Forest, Forage, | Lat: 46.966228 | Long: -123.827454 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____			
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:

Sample plot meets 1 of 3 wetland criteria and is not located within a wetland. Sample plot located on gravel road shoulder approximately 2 feet above SP 7-1. Limited soil development and patchy vegetation.

VEGETATION – Use scientific names of plants.

		Absolute	Dominant	Indicator
Tree Statum	(Plot size: 5m)	% Cover	Species?	Status
1.		0		
2.				
3.				
4.				
		0	= Total Cover	
Sapling/Shrub Stratum	(Plot size: 3m)			
1.		0		
2.				
3.				
4.				
5.				
		0	= Total Cover	
Herb Stratum	(Plot size: 1m)			
1.	Equisetum arvense	15	Yes	FAC
2.	Rubus armeniacus	5	Yes	FAC
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
		20	= Total Cover	
Woody Vine Stratum	(Plot size: 3m)			
1.		0		
2.				
		0	= Total Cover	

% Bare Ground in Herb Stratum 85

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species		x2=	0
FAC species	20	x3=	60
FACU species		x4=	0
UPL species		x5=	0
Column Totals:	20 (A)		60 (B)

Prevalence Index = B/A= 3.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)

____ 5 - Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Sample plot meets dominance test for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR3/3	100					Sandy Loam	Gravel fill

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

Sample plot lacks hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

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): ___

(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sample plot lacks primary and secondary hydrology indicators.

Additional Reference Data: Photos

Photo Name: Photo_220805152013

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 8/19/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 8-1

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Flat | Local Relief (concave, convex, none): Concave | Slope(%): 2

Subregion (LRR): A – Northwest Forest, Forage, | Lat: 46.966244 | Long: -123.830734 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____		
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____

Remarks:

Sample plot meets 3 of 3 wetland criteria and is located within a wetland.

VEGETATION – Use scientific names of plants.

		Absolute	Dominant	Indicator
Tree Statum	(Plot size: 5m)	% Cover	Species?	Status
1.		0		
2.				
3.				
4.				
		0	= Total Cover	
Sapling/Shrub Stratum	(Plot size: 3m)			
1.		0		
2.				
3.				
4.				
5.				
		0	= Total Cover	
Herb Stratum	(Plot size: 1m)			
1.	Lotus corniculatus	40	Yes	FAC
2.	Phalaris arundinacea	25	Yes	FACW
3.	Juncus effusus	20	No	FACW
4.	Rubus armeniacus	10	No	FAC
5.	Equisetum telmateia	7	No	FACW
6.				
7.				
8.				
9.				
10.				
11.				
		102	= Total Cover	
Woody Vine Stratum	(Plot size: 3m)			
1.		0		
2.				
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	52	x2=	104
FAC species	50	x3=	150
FACU species		x4=	0
UPL species		x5=	0
Column Totals:	102 (A)		254 (B)

Prevalence Index = B/A= 2.49

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Sample plot meets dominance test and prevalence index for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	95	10YR 4/4	5	C	M	Silt Loam	
8-14	10YR 4/2	50	10YR 4/4	50	C	M	Sandy Loam	
14-24	10YR 4/1	85	7.5YR 4/4	15	C	PL M	Clay Loam	

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Sample plot meets hydric soil indicator F3 - depleted matrix, F6 - redox dark surface, and A11 - depleted below dark surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aeriel Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes X No** ___

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Dry to 24 inches. Sample plot meets secondary hydrologic indicators for Geomorphic Position (D2) and Fac-Neutral Test (D5).

Additional Reference Data: Photos

Photo Name: Photo_220819102226

Photo Name: Photo_220819102238

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Aberdeen, Grays Harbor | Sampling Date: 8/19/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 8-2

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S8

Landform (hillslope, terrace, etc.): Flat | Local Relief (concave, convex, none): Convex | Slope(%): 2

Subregion (LRR): A – Northwest Forest, Forage, | Lat: 46.966221 | Long: -123.830811 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil X or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X			
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area**		
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X

Remarks:

Sample plot located on gravel access road shoulder approximately 1 foot above and 8 feet NW from SP 8-1. Sample plot meets 0 of 3 wetland criteria and is not located within a wetland. No soil development, and sparse, patchy vegetation.

VEGETATION – Use scientific names of plants.

		Absolute	Dominant	Indicator
Tree Statum	(Plot size: 5m)	% Cover	Species?	Status
1.		0		
2.				
3.				
4.				
		0	= Total Cover	
Sapling/Shrub Stratum	(Plot size: 3m)			
1.		0		
2.				
3.				
4.				
5.				
		0	= Total Cover	
Herb Stratum	(Plot size: 1m)			
1.	Plantago lanceolata	25	Yes	FACU
2.	Poa annua	15	Yes	FAC
3.	Holcus lanatus	10	No	FAC
4.	Equisetum telmateia	7	No	FACW
5.	Lotus corniculatus	5	No	FAC
6.	Hypochaeris radicata	5	No	FACU
7.				
8.				
9.				
10.				
11.				
		67	= Total Cover	
Woody Vine Stratum	(Plot size: 3m)			
1.		0		
2.				
		0	= Total Cover	

% Bare Ground in Herb Stratum 33

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	7	x2=	14
FAC species	30	x3=	90
FACU species	30	x4=	120
UPL species		x5=	0
Column Totals:	67 (A)		224 (B)

Prevalence Index = B/A= 3.34

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)

____ 5 - Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Sample plot lacks indicators for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
								Gravel road shoulder - no soil

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

Sample plot is located on shoulder of gravel access road. No soil development. Substrate is impenetrable, compact gravel fill.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

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): ___

(includes capillary fringe)

Wetland Hydrology Present? Yes ___ **No X**

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No primary or secondary hydrology indicators observed.

Additional Reference Data: Photos

Photo Name: Photo_220819103433

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Hoquiam, Grays Harbor | Sampling Date: 8/19/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 9-1

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S7

Landform (hillslope, terrace, etc.): Floodplain | Local Relief (concave, convex, none): Concave | Slope(%): 3

Subregion (LRR): A – Northwest Forest, Forage, | Lat: 46.967815 | Long: -123.859856 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____		
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____

Remarks:

Sample plot on slope slightly above ditch. Vegetation in channel appears less salt tolerant than other similar channels. Sample plot meets 3 of 3 wetland criteria and is located within a wetland.

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator
Tree Statum (Plot size: 5m)	% Cover	Species?	Status
1.	0		
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m)			
1.	0		
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 1m)			
1. Agrostis capillaris	60	Yes	FAC
2. Eleocharis acicularis	40	Yes	OBL
3. Typha latifolia	20	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	120	= Total Cover	
Woody Vine Stratum (Plot size: 3m)			
1.	0		
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x1=	60
FACW species		x2=	0
FAC species	60	x3=	180
FACU species		x4=	0
UPL species		x5=	0
Column Totals:	120 (A)		240 (B)

Prevalence Index = B/A= 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)

____ 5 - Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

5% unknown Rumex. Sample plot meets dominance test and prevalence index for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	90	10YR 4/4	10	C	M	Silt Loam	
8-18	5GY 3/1	95	10YR 3/4	5	C	M	Sandy Loam	Gravelly

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Sample plot meets hydric soil indicators for F6 - redox dark surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Tables (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 8.0

Saturation Present? Yes X No ___ Depth (inches): 6.0

(includes capillary fringe)

Wetland Hydrology Present? **Yes X No** ___

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sample plot is at or slightly above water marks in channel. Surface water observed in channel ~2 feet below plot. Site visit occurred at ~4 foot low tide. Sample plot meets primary hydrology indicators for surface water (A1) and saturation (A3).

Additional Reference Data: Photos

Photo Name: Photo_220819132330

Photo Name: Photo_220819131456

Photo Name: Photo_220819131519

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

Project/Site: Port of Grays harbor Terminal 4 Expansion | City/County: Hoquiam, Grays Harbor | Sampling Date: 8/19/2022

Applicant/Owner: The Port of Grays Harbor | State: WA | Sampling Point: SP 9-2

Investigators: STORY, DARTIGUENAVE | Section, Township, Range: T17N R9W S7

Landform (hillslope, terrace, etc.): Floodplain | Local Relief (concave, convex, none): Convex | Slope(%): 45

Subregion (LRR): A - Northwestern Forest, | Lat: 46.971287 | Long: -123.857796 | Datum: WGS84

Soil Map Unit Name: Udorthents | NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If No, explain in Remarks)

Are Vegetation: ____ Soil X or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation: ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach a site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area**
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland?** Yes ____ No X

Remarks:

Sample plot on steep fill slope above channel/ditch. Soil is dense gravel and cobble fill. Sample plot approximately 6 feet above SP 9-1. Sample plot meets 0 of 3 wetland criteria and is not located within a wetland.

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator
Tree Statum (Plot size: 5m)	% Cover	Species?	Status
1.	0		
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m)			
1. Rubus armeniacus	2	Yes	FAC
2.			
3.			
4.			
5.			
	2	= Total Cover	
Herb Stratum (Plot size: 1m)			
1. Dactylis glomerata	65	Yes	FACU
2. Plantago lanceolata	15	No	FACU
3. Equisetum telmateia	10	No	FACW
4. Lotus corniculatus	5	No	FAC
5. Phalaris arundinacea	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 3m)			
1.	0		
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	15	x2=	30
FAC species	7	x3=	21
FACU species	80	x4=	320
UPL species		x5=	0
Column Totals:	102 (A)		371 (B)

Prevalence Index = B/A= 3.64

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide data in Remarks or on a separate sheet)

____ 5 - Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Sample plot lacks indicators for hydrophytic vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 4/2	100					Loamy Sand	Gravelly.

[1]Type: C= Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRLA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

Refusal at 4, compact road fill. Sample plot lacks hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Tables (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aeriel Imagery (B
- ___ Sparsley Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MRLA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves (B9) (**MRLA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ 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**)
- ___ Frost-Heave Hummocks (D7)

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): ___

(includes capillary fringe)

Wetland Hydrology Present? Yes ___ **No X**

Describe Recorded Date (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No primary or secondary wetland hydrology indicators observed. Dry to 4 inches. 6 feet above OHWM.

Additional Reference Data: Photos

Photo Name: Photo_220819133458

Photo Name: Photo_220819133449

Photo Name: Photo_220819133439

Appendix C. Wetland Rating Forms

Wetland name or number WL1

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland 1 Date of site visit: 8/19/2022

Rated by T. Story Trained by Ecology? ☑ Yes ☐ No Date of training 03/15

HGM Class used for rating Estuarine Wetland has multiple HGM classes? ☐ Y ☑ N

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

Source of base aerial photo/map N/A

OVERALL WETLAND CATEGORY II (based on functions ☐ or special characteristics ☑)

1. Category of wetland based on FUNCTIONS

☐ **Category I** – Total score = 23 - 27

☑ **Category II** – Total score = 20 - 22

☐ **Category III** – Total score = 16 - 19

☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle the appropriate ratings			
Site Potential	H ☐ M ☐ L ☐	H ☐ M ☐ L ☐	H ☐ M ☐ L ☐	
Landscape Potential	H ☐ M ☐ L ☐	H ☐ M ☐ L ☐	H ☐ M ☐ L ☐	
Value	H ☐ M ☐ L ☐	H ☐ M ☐ L ☐	H ☐ M ☐ L ☐	**TOTAL**
Score Based on Ratings	0	0	0	0

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number WL1_____

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

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

Wetland name or number WL1

HGM Classification of Wetlands in Western Washington

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

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

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

☐ NO – go to 2 ☑ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

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

☑ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

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

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

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

The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

___At least 30% of the open water area is deeper than 6.6 ft (2 m).

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

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

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

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

___The water leaves the wetland **without being impounded**.

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

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

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

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

___The overbank flooding occurs at least once every 2 years.

Wetland name or number WL1

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

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

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

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

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

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

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

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

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

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

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

Wetland name or number WL1

WDFW Priority Habitats

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

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

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

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

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

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

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

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

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

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

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

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

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

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

Wetland name or number WL1

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands 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) ☐ 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 contiguous freshwater wetlands. ☐ Yes = **Category I** ☑ No = **Category II**	**Cat. I** ☐ **Cat. II** ★
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☐ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes **– Contact WNHP/WDNR and go to SC 2.4** ☐ No **= Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes **= Category I** ☐ No **= Not a WHCV**	**Cat. I** ☐
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☐ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☐ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	**Cat. I** ☐

Wetland name or number WL1

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

- ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.
- ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☐ No = **Not a forested wetland for this section**

Cat. I ☐

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*

☐ Yes – Go to **SC 5.1** ☐ No = **Not a wetland in a coastal lagoon**

Cat. I ☐

SC 5.1. Does the wetland meet all of the following three conditions?

- ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).
- ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- ☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐ Yes = **Category I** ☐ No = **Category II**

Cat. 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**

Cat I ☐

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2**

Cat. II ☐

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐ Yes = **Category II** ☐ No – Go to **SC 6.3**

Cat. III ☐

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐ Yes = **Category III** ☐ No = **Category IV**

Cat. IV ☐

Category of wetland based on Special Characteristics
If you answered No for all types, enter "Not Applicable" on Summary Form

II

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Wetland name or number WL2

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland 2 Date of site visit: 7/8/22

Rated by Tobin Story Trained by Ecology? ☑ Yes ☐ No Date of training 03/15

HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☑ N

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

Source of base aerial photo/map ESRI

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

1. Category of wetland based on FUNCTIONS

☐ **Category I** – Total score = 23 - 27

☐ **Category II** – Total score = 20 - 22

☑ **Category III** – Total score = 16 - 19

☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle the appropriate ratings			
Site Potential	H ☐ M ☑ L ☐	H ☐ M ☑ L ☐	H ☐ M ☐ L ☑	
Landscape Potential	H ☐ M ☑ L ☐	H ☑ M ☐ L ☐	H ☐ M ☐ L ☑	
Value	H ☑ M ☐ L ☐	H ☑ M ☐ L ☐	H ☐ M ☐ L ☑	**TOTAL**
Score Based on Ratings	7	8	3	18

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number WL2

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	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
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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

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

Wetland name or number WL2

HGM Classification of Wetlands in Western Washington

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

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

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

☑ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

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

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

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

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

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

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

The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

___At least 30% of the open water area is deeper than 6.6 ft (2 m).

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

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

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

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

___The water leaves the wetland **without being impounded**.

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

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

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

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

___The overbank flooding occurs at least once every 2 years.

Wetland name or number WL2

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

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

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

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

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

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

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

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

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

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

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

Wetland name or number WL2

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

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

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

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☐ Yes = 1 ☑ No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☐ Yes = 1 ☑ No = 0	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	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 TMDL (https://apps.ecology.wa.gov/publications/documents/9210202.pdf)
D6.1 - Wetland is located within flood zone AE, panel 53027C0904D

Wetland name or number WL2

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

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

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 first page*

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

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

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

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

Total for D 5 — Add the points in the boxes above: **3**

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

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

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

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- ☑ • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2
- ☐ • 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 = 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*

Wetland name or number WL2

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.*

- [x] Aquatic bed
- [x] Emergent
- [ ] Scrub-shrub (areas where shrubs have > 30% cover)
- [ ] Forested (areas where trees have > 30% cover)

4 structures or more: [ ] points = 4
3 structures: [ ] points = 2
2 structures: [x] points = 1
1 structure: [ ] points = 0

If the unit has a Forested class, check if:

- [ ] The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

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
- [x] Seasonally flooded or inundated
- [ ] Occasionally flooded or inundated
- [x] Saturated only
- [ ] Permanently flowing stream or river in, or adjacent to, the wetland
- [ ] Seasonally flowing stream in, or adjacent to, the wetland
- [ ] **Lake Fringe wetland** [ ] **2 points**
- [ ] **Freshwater tidal wetland** [ ] **2 points**

4 or more types present: [ ] points = 3
3 types present: [ ] points = 2
2 types present: [x] points = 1
1 type present: [ ] points = 0

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

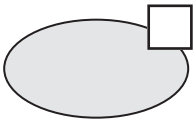
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted: > 19 species [ ] points = 2
5 - 19 species [x] points = 1
< 5 species [ ] points = 0

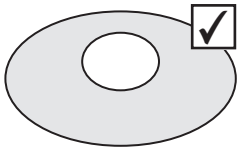
1

H 1.4. Interspersion of habitats

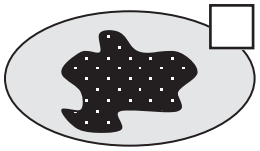
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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

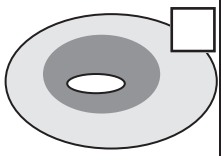


None = 0 points



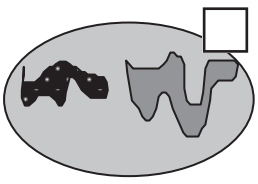
Low = 1 point

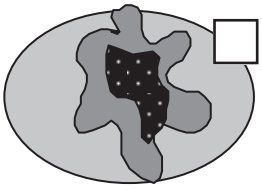


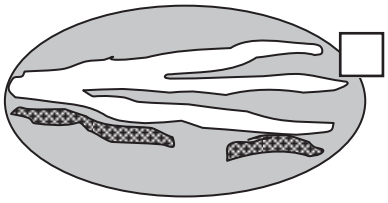


Moderate = 2 points

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







1

Wetland name or number WL2

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*)	2
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 0.00 **+** [(% moderate and low intensity land uses)/2] 0.25 **=** 0.25 % If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☑ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 0.00 **+** [(% moderate and low intensity land uses)/2] 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	0
H 2.3. Land use intensity in 1 km Polygon: If ☑ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-2

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

H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: ☐ points = 2 ☐ 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	0

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

Wetland name or number WL2

WDFW Priority Habitats

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

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

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

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

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

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

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

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

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

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

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

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

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

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

Wetland name or number WL2

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands 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) ☐ 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 contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	**Cat. I** ☐ **Cat. II** ☐
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☐ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes **– Contact WNHP/WDNR and go to SC 2.4** ☐ No **= Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes **= Category I** ☐ No **= Not a WHCV**	**Cat. I** ☐
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☐ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☐ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	**Cat. I** ☐

Wetland name or number WL2

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

- ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.
- ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☐ No = **Not a forested wetland for this section**

Cat. I ☐

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*

☐ Yes – Go to **SC 5.1** ☐ No = **Not a wetland in a coastal lagoon**

Cat. I ☐

SC 5.1. Does the wetland meet all of the following three conditions?

- ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).
- ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- ☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐ Yes = **Category I** ☐ No = **Category II**

Cat. 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**

Cat I ☐

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2**

Cat. II ☐

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐ Yes = **Category II** ☐ No – Go to **SC 6.3**

Cat. III ☐

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐ Yes = **Category III** ☐ No = **Category IV**

Cat. IV ☐

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

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FIGURE 2 - 1
WETLAND 2
COWARDIN

FIGURE 2 - 2
WETLAND 2
HYDROPERIOD

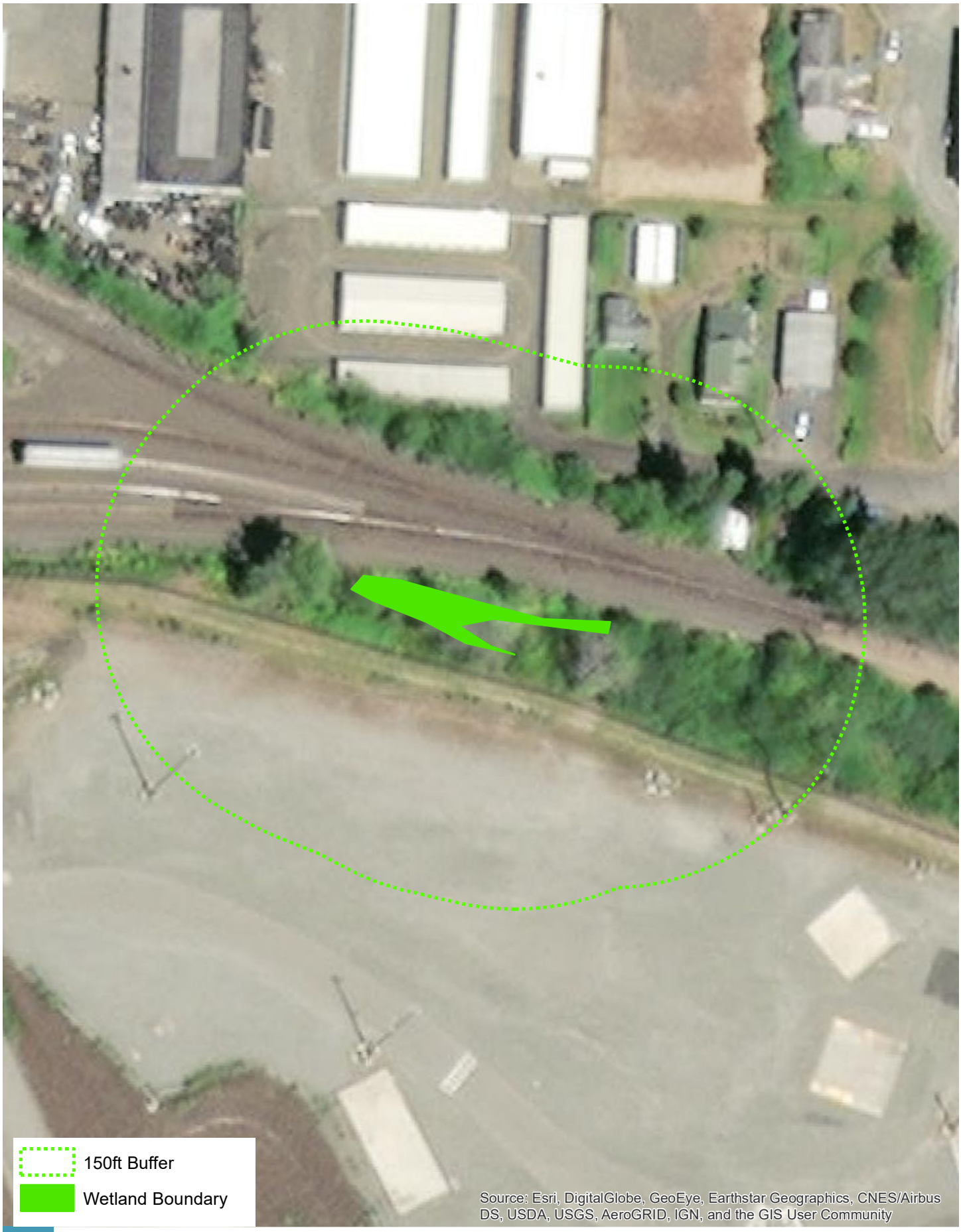


FIGURE 2-3
WETLAND 2
150FT BUFFER

FIGURE 2 - 4
WETLAND 2
CONTRIBUTING BASIN

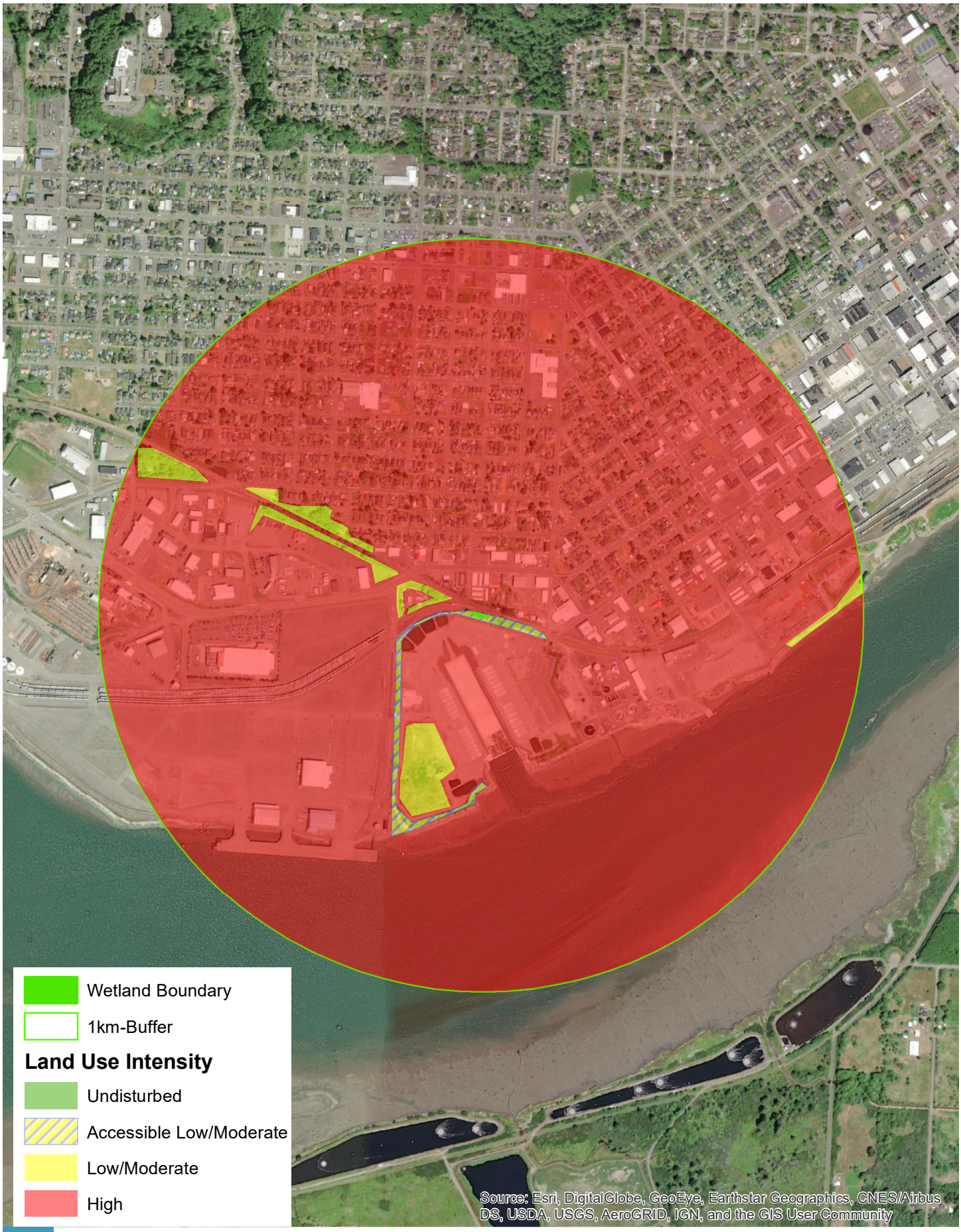


FIGURE 2-5

WETLAND 2

1-KM HABITAT

Wetland name or number 4

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland 4 Date of site visit: 7/8/22

Rated by Tobin Story Trained by Ecology? ☑ Yes ☐ No Date of training 03/15

HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☑ N

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

Source of base aerial photo/map ESRI

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

1. Category of wetland based on FUNCTIONS

☐ **Category I** – Total score = 23 - 27

☐ **Category II** – Total score = 20 - 22

☑ **Category III** – Total score = 16 - 19

☐ **Category IV** – Total score = 9 - 15

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

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number 4

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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	4-5
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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

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

Wetland name or number 4

HGM Classification of Wetlands in Western Washington

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

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

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

☑ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

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

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

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

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

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

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

The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

___At least 30% of the open water area is deeper than 6.6 ft (2 m).

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

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

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

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

___The water leaves the wetland **without being impounded**.

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

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

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

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

___The overbank flooding occurs at least once every 2 years.

Wetland name or number 4

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

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

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

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

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

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

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

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

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

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

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

Wetland name or number 4

DEPRESSIONAL AND FLATS WETLANDS

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

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: ☐ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 ☑ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*. ☐ Yes = 4 ☑ No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☑ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☐ Wetland has persistent, ungrazed, plants > ½ of area points = 3 ☐ Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 ☐ Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* ☑ Area seasonally ponded is > ½ total area of wetland points = 4 ☐ Area seasonally ponded is > ¼ total area of wetland points = 2 ☐ Area seasonally ponded is < ¼ total area of wetland points = 0	4
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 page*

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

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

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☐ Yes = 1 ☑ No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☐ Yes = 1 ☑ No = 0	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	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*

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

Wetland name or number 4

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

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

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

0

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

- ☐ The area of the basin is less than 10 times the area of the unit points = 5
- ☑ 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: **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 at >1 residence/ac, urban, commercial, agriculture, etc.)? ☑ Yes = 1 ☐ No = 0 **1**

Total for D 5 — Add the points in the boxes above: **3**

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

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

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

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- ☑ • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2
- ☐ • 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 = 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*

Wetland name or number 4

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)

4 structures or more: ☐ points = 4
3 structures: ☐ points = 2
2 structures: ☑ points = 1
1 structure: ☐ points = 0

If the unit has a Forested class, check if:

- ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

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** — ☐ **2 points**
- ☐ **Freshwater tidal wetland** — ☐ **2 points**

4 or more types present: ☐ points = 3
3 types present: ☐ points = 2
2 types present: ☑ points = 1
1 type present: ☐ points = 0

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

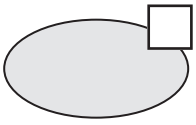
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

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

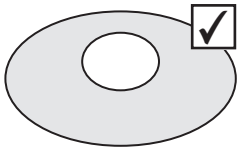
1

H 1.4. Interspersion of habitats

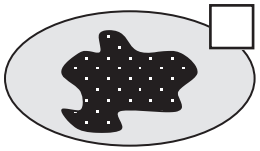
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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

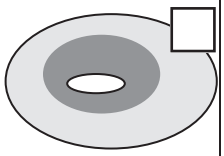


None = 0 points



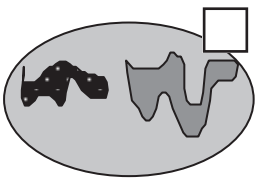
Low = 1 point

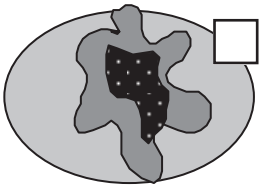


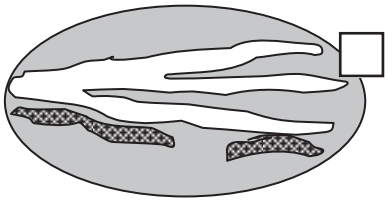


Moderate = 2 points

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







1

Wetland name or number 4

H 1.5. Special habitat features: 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*)	2
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 0.00 **+** [(% moderate and low intensity land uses)/2] 0.30 **=** 0.30 % If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☑ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 0.00 **+** [(% moderate and low intensity land uses)/2] 1.60 **=** 1.60 % ☐ 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	0
H 2.3. Land use intensity in 1 km Polygon: If ☑ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-2

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

H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: ☐ points = 2 ☐ 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	0

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

Wetland name or number 4

WDFW Priority Habitats

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

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

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

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

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

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

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

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

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

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

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

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

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

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

Wetland name or number 4

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands 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) ☐ 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 contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	**Cat. I** ☐ **Cat. II** ☐
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☐ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes **– Contact WNHP/WDNR and go to SC 2.4** ☐ No **= Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes **= Category I** ☐ No **= Not a WHCV**	**Cat. I** ☐
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☐ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☐ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	**Cat. I** ☐

Wetland name or number 4

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

- ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.
- ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☐ No = **Not a forested wetland for this section**

Cat. I ☐

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*

☐ Yes – Go to **SC 5.1** ☐ No = **Not a wetland in a coastal lagoon**

Cat. I ☐

SC 5.1. Does the wetland meet all of the following three conditions?

- ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).
- ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- ☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐ Yes = **Category I** ☐ No = **Category II**

Cat. 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**

Cat I ☐

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2**

Cat. II ☐

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐ Yes = **Category II** ☐ No – Go to **SC 6.3**

Cat. III ☐

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐ Yes = **Category III** ☐ No = **Category IV**

Cat. IV ☐

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

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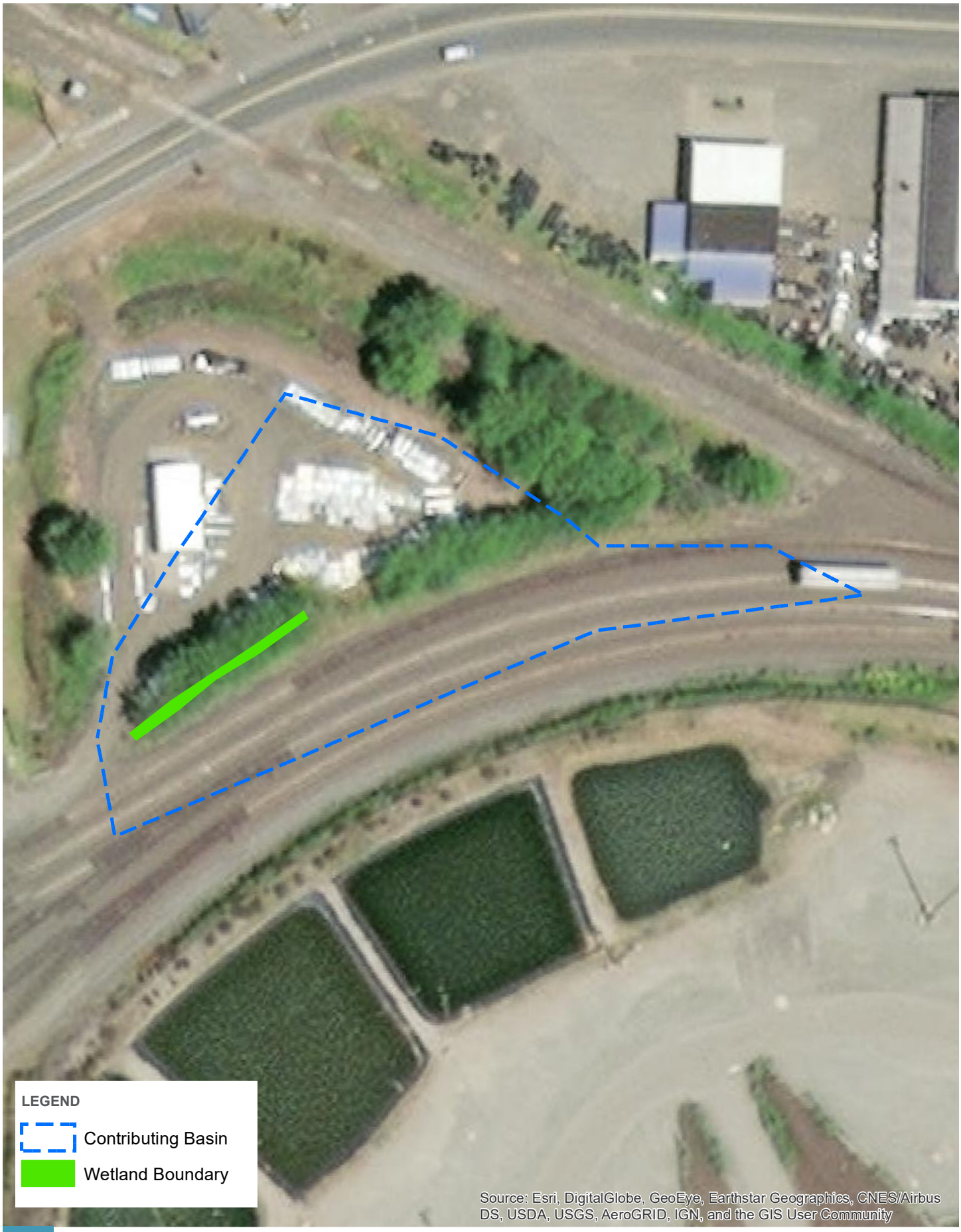
FIGURE 4 - 1
WETLAND 4
COWARDIN

FIGURE 4 - 2
WETLAND 4
HYDROPERIOD

FIGURE 4-3
WETLAND 4
150FT BUFFER



0 200
Feet

FIGURE 4 - 4
WETLAND 4
CONTRIBUTING BASIN

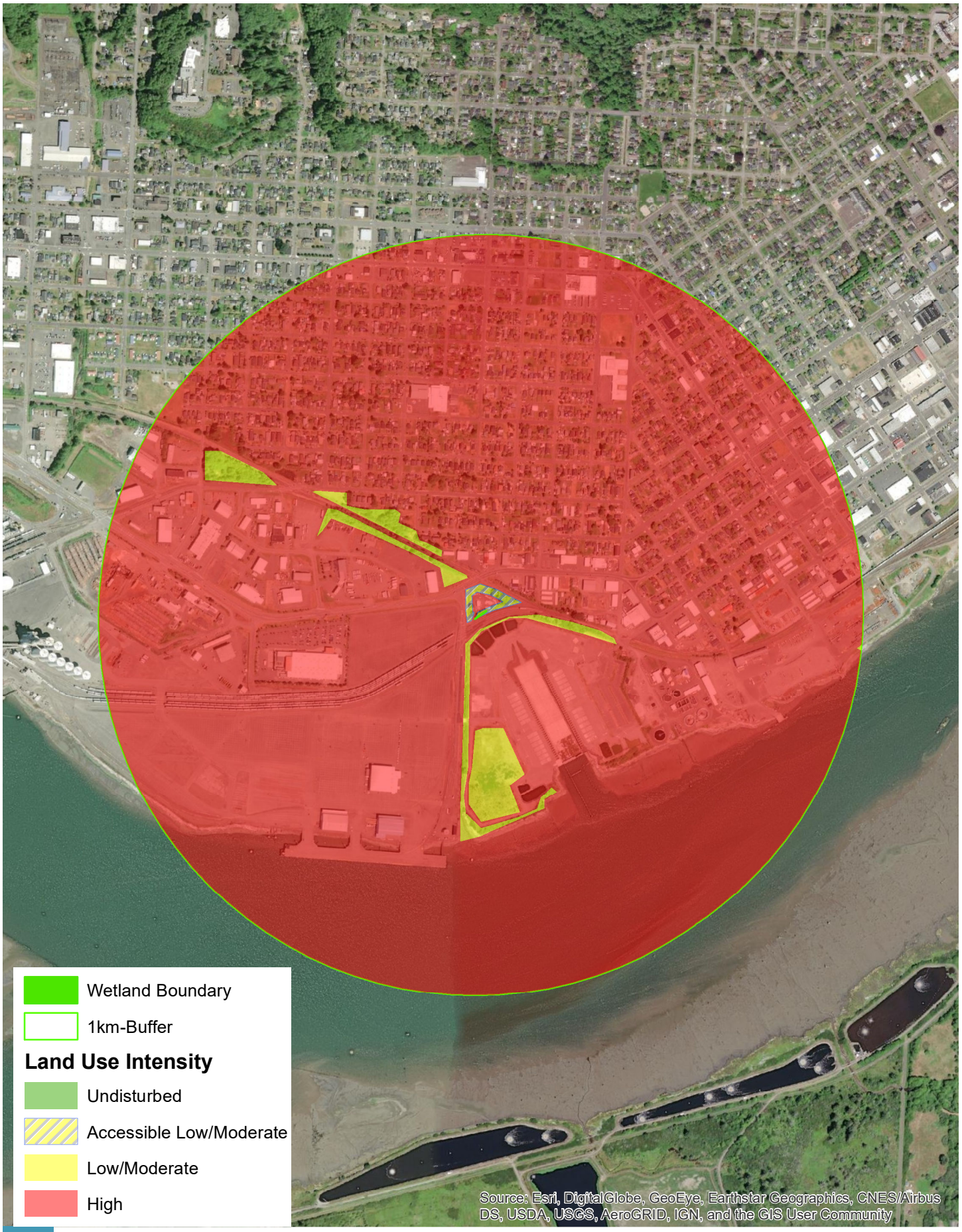


FIGURE 4-5
WETLAND 4
1-KM HABITAT

Wetland name or number WL 5

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland 5 Date of site visit: 8/5/22

Rated by Tobin Story Trained by Ecology? ☑ Yes ☐ No Date of training 03/15

HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☑ N

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

Source of base aerial photo/map ESRI

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

1. Category of wetland based on FUNCTIONS

☐ **Category I** – Total score = 23 - 27

☐ **Category II** – Total score = 20 - 22

☑ **Category III** – Total score = 16 - 19

☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle the appropriate ratings			
Site Potential	H ☐ M ☐ L ☑	H ☐ M ☐ L ☑	H ☐ M ☐ L ☑	
Landscape Potential	H ☐ M ☑ L ☐	H ☑ M ☐ L ☐	H ☐ M ☐ L ☑	
Value	H ☑ M ☐ L ☐	H ☑ M ☐ L ☐	H ☐ M ☐ L ☑	TOTAL
Score Based on Ratings	6	7	3	16

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number WL 5

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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

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

Wetland name or number WL 5

HGM Classification of Wetlands in Western Washington

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

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

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

☑ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

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

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

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

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

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

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

The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

___At least 30% of the open water area is deeper than 6.6 ft (2 m).

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

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

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

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

____The water leaves the wetland **without being impounded**.

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

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

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

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

____The overbank flooding occurs at least once every 2 years.

Wetland name or number WL 5

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

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

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

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

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

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

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

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

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

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

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

Wetland name or number WL 5

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)*. ☐ Yes = 4 ☑ No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☐ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☐ Wetland has persistent, ungrazed, plants > ½ of area points = 3 ☐ Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 ☑ Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0	0
D 1.4. Characteristics of seasonal ponding or inundation: *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 ☐ 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	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 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? ☑ Yes = 1 ☐ No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ☑ Yes = 1 ☐ No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? ☐ Yes = 1 ☑ No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ ☐ Yes = 1 ☑ No = 0	0
Total for D 2 Add the points in the boxes above	2

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

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☐ Yes = 1 ☑ No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☐ Yes = 1 ☑ No = 0	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	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. Plants that are present are all 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

Wetland name or number WL 5

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

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

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 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

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.)? ☑ Yes = 1 ☐ No = 0 **1**

Total for D 5 — Add the points in the boxes above: **3**

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

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

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

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- ☑ • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2
- ☐ • 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 = 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*

Wetland name or number WL 5

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)

4 structures or more: ☐ points = 4
3 structures: ☐ points = 2
2 structures: ☐ points = 1
1 structure: ☑ points = 0

If the unit has a Forested class, check if:

- ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

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** ☐ **2 points**
- ☐ **Freshwater tidal wetland** ☐ **2 points**

4 or more types present: ☐ points = 3
3 types present: ☐ points = 2
2 types present: ☐ points = 1
1 type present: ☑ points = 0

0

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

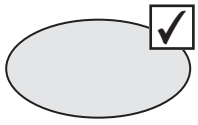
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

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

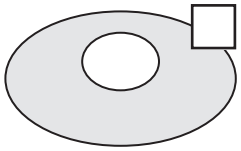
0

H 1.4. Interspersion of habitats

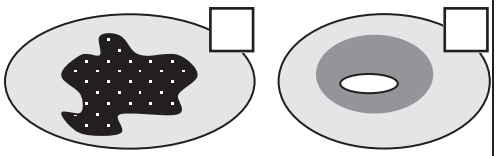
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



None = 0 points

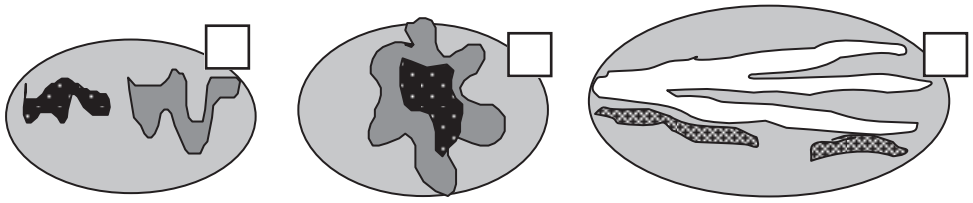


Low = 1 point



Moderate = 2 points

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



0

Wetland name or number WL 5

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*)	0
Total for H 1 Add the points in the boxes above	0

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 0.00 **+** [(% moderate and low intensity land uses)/2] 0.00 **=** 0.00 % If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☐ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 6.00 **+** [(% moderate and low intensity land uses)/2] 2.00 **=** 8.00 % ☐ 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	0
H 2.3. Land use intensity in 1 km Polygon: If ☑ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-2

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

H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: ☐ points = 2 ☐ 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	0

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

Wetland name or number WL 5

WDFW Priority Habitats

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

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

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

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

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

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

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

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

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

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

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

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

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

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

Wetland name or number WL 5

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands 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) ☐ 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 contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	**Cat. I** ☐ **Cat. II** ☐
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☐ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes **– Contact WNHP/WDNR and go to SC 2.4** ☐ No **= Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes **= Category I** ☐ No **= Not a WHCV**	**Cat. I** ☐
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☐ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☐ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	**Cat. I** ☐

Wetland name or number WL 5

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

- ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.
- ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☐ No = **Not a forested wetland for this section**

Cat. I ☐

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*

☐ Yes – Go to **SC 5.1** ☐ No = **Not a wetland in a coastal lagoon**

Cat. I ☐

SC 5.1. Does the wetland meet all of the following three conditions?

- ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).
- ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- ☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐ Yes = **Category I** ☐ No = **Category II**

Cat. 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**

Cat I ☐

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2**

Cat. II ☐

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐ Yes = **Category II** ☐ No – Go to **SC 6.3**

Cat. III ☐

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐ Yes = **Category III** ☐ No = **Category IV**

Cat. IV ☐

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

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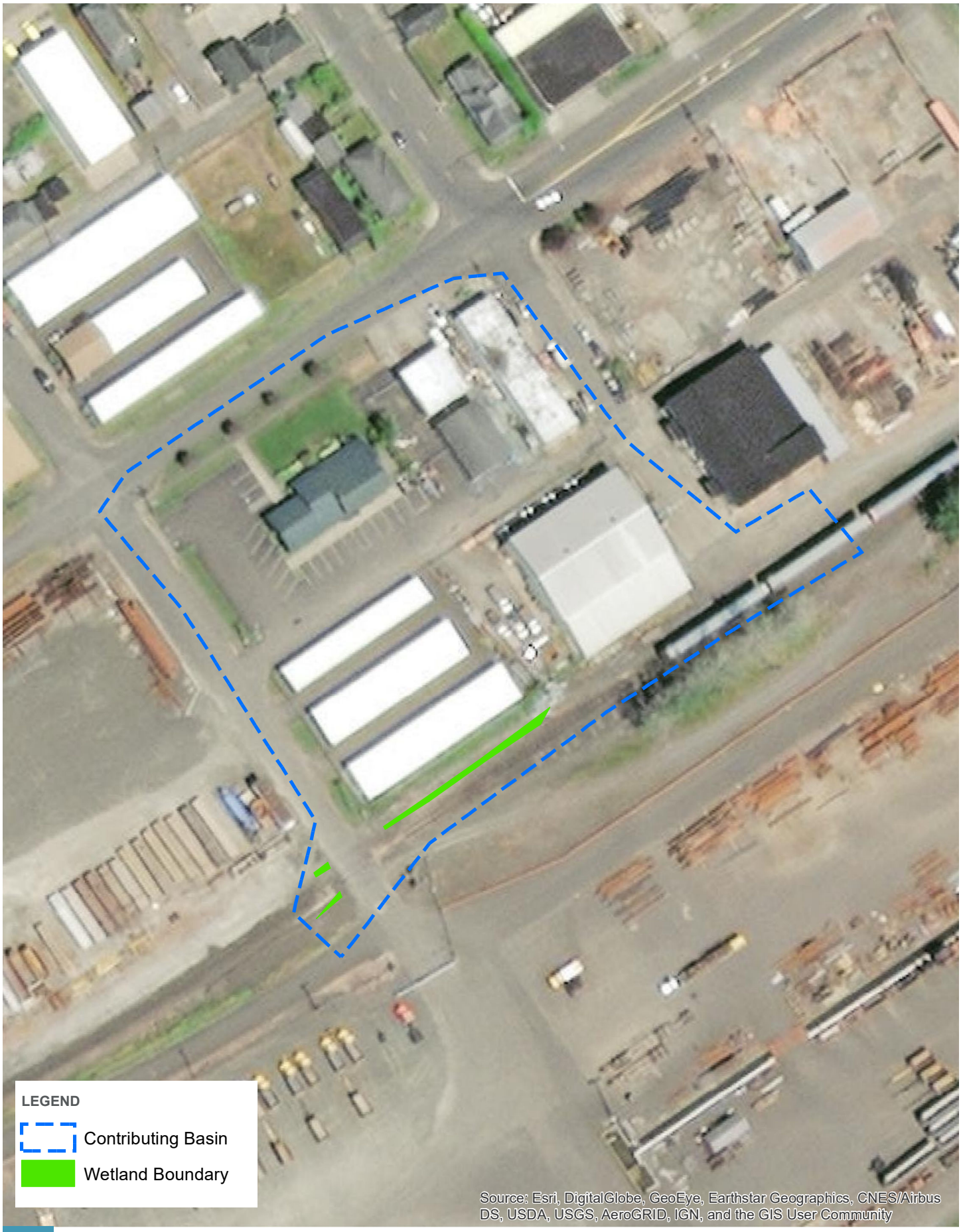
FIGURE 5 - 1
WETLAND 5
COWARDIN

FIGURE 5 - 2
WETLAND 5
HYDROPERIOD

FIGURE 5-3
WETLAND 5
150FT BUFFER



0 260
Feet

FIGURE 5 - 4
WETLAND 5
CONTRIBUTING BASIN

FIGURE 5-5

WETLAND 5

1-KM HABITAT

Wetland name or number WL 6

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland 6 Date of site visit: 8/15/22

Rated by Tobin Story Trained by Ecology? ☑ Yes ☐ No Date of training 03/15

HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☑ N

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

Source of base aerial photo/map ESRI

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

1. Category of wetland based on FUNCTIONS

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

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

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number WL 6

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	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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

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

Wetland name or number WL 6

HGM Classification of Wetlands in Western Washington

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

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

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

☑ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

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

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

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

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

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

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

The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

___At least 30% of the open water area is deeper than 6.6 ft (2 m).

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

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

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

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

___The water leaves the wetland **without being impounded**.

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

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

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

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

___The overbank flooding occurs at least once every 2 years.

Wetland name or number WL 6

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

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

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

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

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

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

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

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

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

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

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

Wetland name or number WL 6

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)*. ☐ Yes = 4 ☑ No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☐ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☑ Wetland has persistent, ungrazed, plants > ½ of area points = 3 ☐ Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 ☐ Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0	3
D 1.4. Characteristics of seasonal ponding or inundation: *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 ☐ 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?	
D 2.1. Does the wetland unit receive stormwater discharges? ☑ Yes = 1 ☐ No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ☑ Yes = 1 ☐ No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? ☐ Yes = 1 ☑ No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ ☐ Yes = 1 ☑ No = 0	0
Total for D 2 Add the points in the boxes above	2

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

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☐ Yes = 1 ☑ No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☐ Yes = 1 ☑ No = 0	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	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 - Approximately 1/2 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 TMDL (https://apps.ecology.wa.gov/publications/documents/9210202.pdf)
D6.1 - Wetland is located within flood zone AE, panel 53027C0904D

Wetland name or number WL 6

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

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

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 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

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.)? ☑ Yes = 1 ☐ No = 0 **1**

Total for D 5 — Add the points in the boxes above: **3**

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

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

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

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- ☑ • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2
- ☐ • 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 = 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*

Wetland name or number WL 6

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)

4 structures or more: ☐ points = 4
3 structures: ☐ points = 2
2 structures: ☐ points = 1
1 structure: ☑ points = 0

If the unit has a Forested class, check if:

- ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

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

4 or more types present: ☐ points = 3
3 types present: ☐ points = 2
2 types present: ☐ points = 1
1 type present: ☑ points = 0

- ☐ Permanently flowing stream or river in, or adjacent to, the wetland
- ☐ Seasonally flowing stream in, or adjacent to, the wetland
- ☐ **Lake Fringe wetland** ☐ **2 points**
- ☐ **Freshwater tidal wetland** ☐ **2 points**

0

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

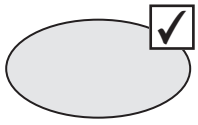
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

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

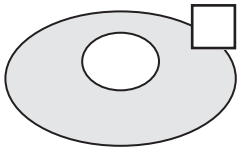
1

H 1.4. Interspersion of habitats

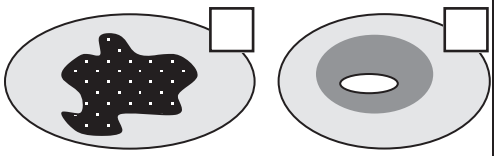
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



None = 0 points

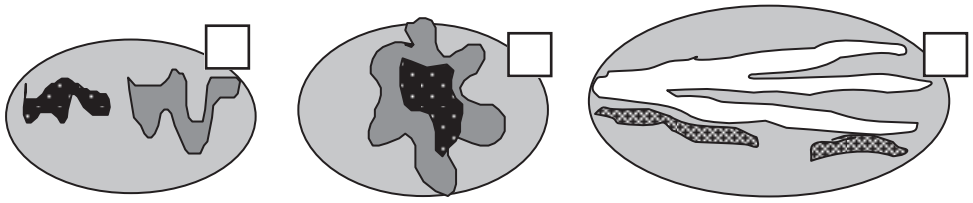


Low = 1 point



Moderate = 2 points

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



0

Wetland name or number WL 6

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*)	0
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 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 0.00 **+** [(% moderate and low intensity land uses)/2] 0.00 **=** 0.00 % If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☑ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 6.00 **+** [(% moderate and low intensity land uses)/2] 2.00 **=** 8.00 % ☐ 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	0
H 2.3. Land use intensity in 1 km Polygon: If ☑ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-2

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

H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: ☐ points = 2 ☐ 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	0

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

Wetland name or number WL 6

WDFW Priority Habitats

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

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

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

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

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

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

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

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

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

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

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

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

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

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

Wetland name or number WL 6

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands 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) ☐ 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 contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	**Cat. I** ☐ **Cat. II** ☐
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☐ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes **– Contact WNHP/WDNR and go to SC 2.4** ☐ No **= Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes **= Category I** ☐ No **= Not a WHCV**	**Cat. I** ☐
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☐ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☐ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	**Cat. I** ☐

Wetland name or number WL 6

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.

☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☐ No = **Not a forested wetland for this section**

Cat. I ☐

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks

☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*

☐ Yes – Go to **SC 5.1** ☐ No = **Not a wetland in a coastal lagoon**

Cat. I ☐

SC 5.1. Does the wetland meet all of the following three conditions?

☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).

☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.

☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐ Yes = **Category I** ☐ No = **Category II**

Cat. 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**

Cat I ☐

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2**

Cat. II ☐

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐ Yes = **Category II** ☐ No – Go to **SC 6.3**

Cat. III ☐

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐ Yes = **Category III** ☐ No = **Category IV**

Cat. IV ☐

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

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FIGURE 6 - 1
WETLAND 6
COWARDIN

FIGURE 6 - 2
WETLAND 6
HYDROPERIOD

FIGURE 6-3

WETLAND 6

150FT BUFFER

0 500
Feet

FIGURE 6 - 4
WETLAND 6
CONTRIBUTING BASIN

FIGURE 6-5

WETLAND 6

1-KM HABITAT

Wetland name or number WL 7

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland 7 Date of site visit: 8/5/22

Rated by Tobin Story Trained by Ecology? ☑ Yes ☐ No Date of training 03/15

HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☑ N

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

Source of base aerial photo/map ESRI

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

1. Category of wetland based on FUNCTIONS

☐ **Category I** – Total score = 23 - 27

☐ **Category II** – Total score = 20 - 22

☑ **Category III** – Total score = 16 - 19

☐ **Category IV** – Total score = 9 - 15

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

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number WL 7 _____

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	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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

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

Wetland name or number WL 7

HGM Classification of Wetlands in Western Washington

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

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

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

☑ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

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

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

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

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

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

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

The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

___At least 30% of the open water area is deeper than 6.6 ft (2 m).

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

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

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

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

____The water leaves the wetland **without being impounded**.

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

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

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

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

____The overbank flooding occurs at least once every 2 years.

Wetland name or number WL 7

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

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

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

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

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

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

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

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

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

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

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

Wetland name or number WL 7

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)*. ☐ Yes = 4 ☑ No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☑ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☐ Wetland has persistent, ungrazed, plants > ½ of area points = 3 ☐ Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 ☐ Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* ☑ Area seasonally ponded is > ½ total area of wetland points = 4 ☐ Area seasonally ponded is > ¼ total area of wetland points = 2 ☐ Area seasonally ponded is < ¼ total area of wetland points = 0	4
Total for D 1 Add the points in the boxes above	10

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

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

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

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☐ Yes = 1 ☑ No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☐ Yes = 1 ☑ No = 0	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	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*

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

Wetland name or number WL 7

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: — **0**

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

D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* — **0**

- ☐ 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

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.* — **3**

- ☐ 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

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 first page*

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

D 5.1. Does the wetland receive stormwater discharges?	☑ Yes = 1 ☐ No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	☑ Yes = 1 ☐ No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	☑ Yes = 1 ☐ No = 0	1
Total for D 5	Add the points in the boxes above	3

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

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

D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* — **2**

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

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*

Wetland name or number WL 7

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

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

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

☐ Aquatic bed	4 structures or more:	☐ points = 4
☑ Emergent	3 structures:	☐ points = 2
☐ Scrub-shrub (areas where shrubs have > 30% cover)	2 structures:	☐ points = 1
☐ Forested (areas where trees have > 30% cover)	1 structure:	☑ points = 0

If the unit has a Forested class, check if:

☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

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** ☐ **2 points**

☐ **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.

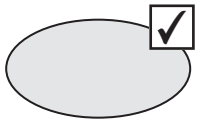
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

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

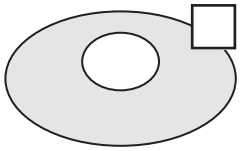
1

H 1.4. Interspersion of habitats

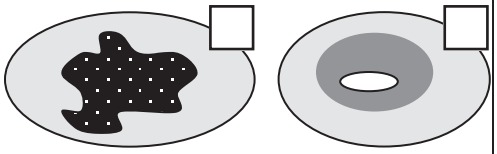
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



None = 0 points

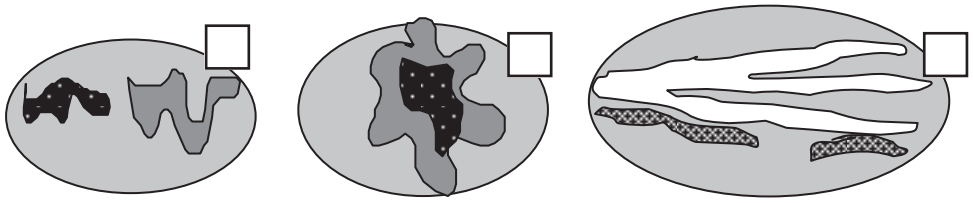


Low = 1 point



Moderate = 2 points

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



0

Wetland name or number WL 7

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*)	1
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 *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat 0.00 **+** [(% moderate and low intensity land uses)/2] 0.00 **=** 0.00 % If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☑ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 4.00 **+** [(% moderate and low intensity land uses)/2] 2.00 **=** 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	0
H 2.3. Land use intensity in 1 km Polygon: If ☑ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-2

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

H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: ☐ points = 2 ☐ 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	0

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

Wetland name or number WL 7

WDFW Priority Habitats

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

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

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

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

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

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

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

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

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

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

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

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

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

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

Wetland name or number WL 7

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands 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) ☐ 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 contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	**Cat. I** ☐ **Cat. II** ☐
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☐ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes **– Contact WNHP/WDNR and go to SC 2.4** ☐ No **= Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes **= Category I** ☐ No **= Not a WHCV**	**Cat. I** ☐
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☐ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☐ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	**Cat. I** ☐

Wetland name or number WL 7

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.

☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☐ No = **Not a forested wetland for this section**

Cat. I ☐

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks

☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*

☐ Yes – Go to **SC 5.1** ☐ No = **Not a wetland in a coastal lagoon**

Cat. I ☐

SC 5.1. Does the wetland meet all of the following three conditions?

☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).

☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.

☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐ Yes = **Category I** ☐ No = **Category II**

Cat. 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**

Cat I ☐

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2**

Cat. II ☐

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐ Yes = **Category II** ☐ No – Go to **SC 6.3**

Cat. III ☐

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐ Yes = **Category III** ☐ No = **Category IV**

Cat. IV ☐

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

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FIGURE 7 - 1
WETLAND 7
COWARDIN

FIGURE 7 - 2
WETLAND 7
HYDROPERIOD

0 100 200
Feet

FIGURE 7-3
WETLAND 7
150FT BUFFER

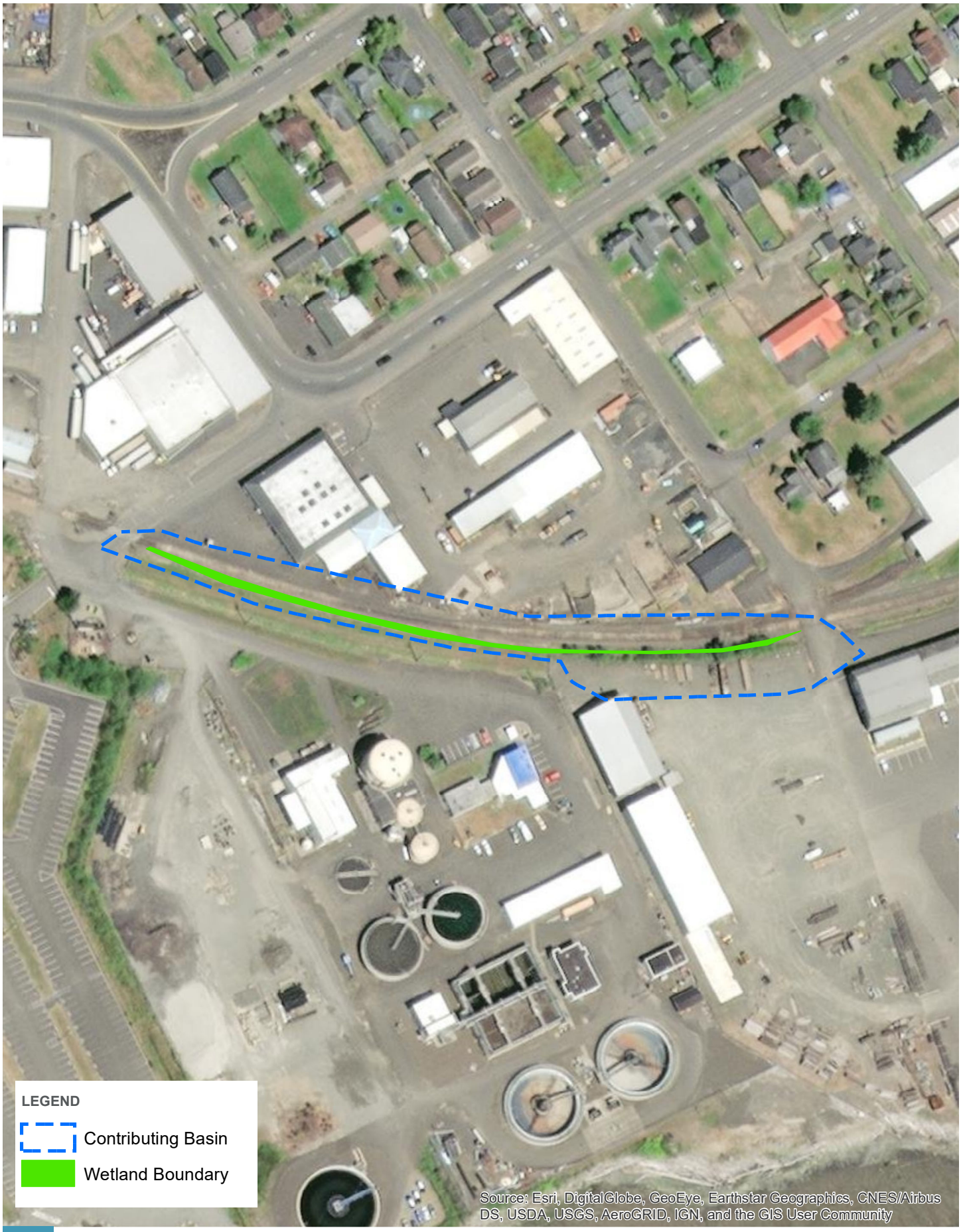


FIGURE 7 - 4

WETLAND 7

CONTRIBUTING BASIN

FIGURE 7-5
WETLAND 7
1-KM HABITAT

Wetland name or number WL8

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland 8 Date of site visit: 8/19/2022

Rated by T. Story Trained by Ecology? ☑ Yes ☐ No Date of training 03/15

HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☑ N

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

Source of base aerial photo/map ESRI

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

1. Category of wetland based on FUNCTIONS

☐ **Category I** – Total score = 23 - 27

☐ **Category II** – Total score = 20 - 22

☑ **Category III** – Total score = 16 - 19

☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle the appropriate ratings			
Site Potential	H ☐ M ☐ L ☑	H ☐ M ☐ L ☑	H ☐ M ☐ L ☑	
Landscape Potential	H ☐ M ☑ L ☐	H ☑ M ☐ L ☐	H ☐ M ☐ L ☑	
Value	H ☑ M ☐ L ☐	H ☑ M ☐ L ☐	H ☐ M ☐ L ☑	TOTAL
Score Based on Ratings	6	7	3	16

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number WL8_____

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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

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

Wetland name or number WL8

HGM Classification of Wetlands in Western Washington

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

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

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

☑ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

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

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

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

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

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

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

The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

___At least 30% of the open water area is deeper than 6.6 ft (2 m).

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

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

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

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

___The water leaves the wetland **without being impounded**.

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

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

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

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

___The overbank flooding occurs at least once every 2 years.

Wetland name or number WL8

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

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

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

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

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

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

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

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

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

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

Wetland name or number WL8

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)*. ☐ Yes = 4 ☑ No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☐ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☐ Wetland has persistent, ungrazed, plants > ½ of area points = 3 ☐ Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 ☑ Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0	0
D 1.4. Characteristics of seasonal ponding or inundation: *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 ☐ 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	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 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? ☑ Yes = 1 ☐ No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ☑ Yes = 1 ☐ No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? ☐ Yes = 1 ☑ No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ ☐ Yes = 1 ☑ No = 0	0
Total for D 2 Add the points in the boxes above	2

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

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☐ Yes = 1 ☑ No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☐ Yes = 1 ☑ No = 0	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	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 - 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

Wetland name or number WL8

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

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

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 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: **3**

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

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

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

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

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

Total for D 5 — Add the points in the boxes above: **3**

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

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

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

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- ☑ • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2
- ☐ • 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 = 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*

Wetland name or number WL8

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)

4 structures or more: ☐ points = 4
3 structures: ☐ points = 2
2 structures: ☐ points = 1
1 structure: ☑ points = 0

If the unit has a Forested class, check if:

- ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

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

4 or more types present: ☐ points = 3
3 types present: ☐ points = 2
2 types present: ☐ points = 1
1 type present: ☑ points = 0

- ☐ Permanently flowing stream or river in, or adjacent to, the wetland
- ☐ Seasonally flowing stream in, or adjacent to, the wetland
- ☐ **Lake Fringe wetland** ☐ **2 points**
- ☐ **Freshwater tidal wetland** ☐ **2 points**

0

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

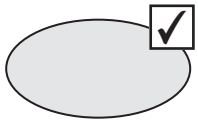
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

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

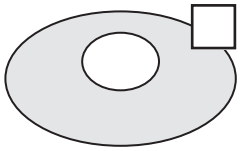
1

H 1.4. Interspersion of habitats

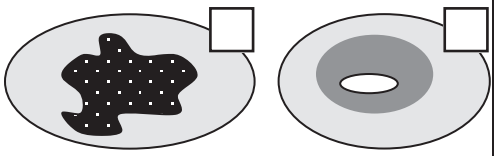
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



None = 0 points

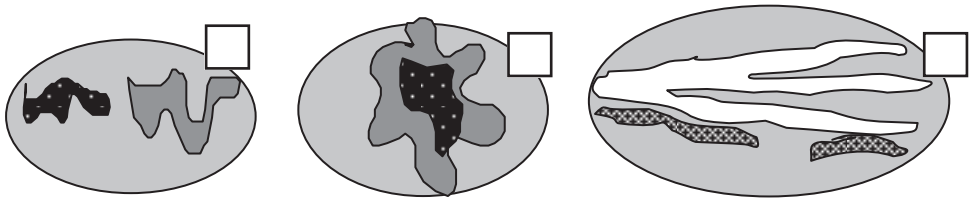


Low = 1 point



Moderate = 2 points

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



0

Wetland name or number WL8

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*)	0
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 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 0.00 **+** [(% moderate and low intensity land uses)/2] 0.00 **=** 0.00 % If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☑ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 2.00 **+** [(% moderate and low intensity land uses)/2] 1.00 **=** 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	0
H 2.3. Land use intensity in 1 km Polygon: If ☑ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-2

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

H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: ☐ points = 2 ☐ 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	0

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

Wetland name or number WL8

WDFW Priority Habitats

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

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

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

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

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

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

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

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

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

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

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

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

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

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

Wetland name or number WL8

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands 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) ☐ 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 contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	**Cat. I** ☐ **Cat. II** ☐
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☑ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☑ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes **– Contact WNHP/WDNR and go to SC 2.4** ☐ No **= Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes **= Category I** ☐ No **= Not a WHCV**	**Cat. I** ☐
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☑ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☑ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	**Cat. I** ☐

Wetland name or number WL8

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.

☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☑ No = **Not a forested wetland for this section**

Cat. I ☐

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks

☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*

☐ Yes – Go to **SC 5.1** ☑ No = **Not a wetland in a coastal lagoon**

Cat. I ☐

SC 5.1. Does the wetland meet all of the following three conditions?

☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).

☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.

☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐ Yes = **Category I** ☐ No = **Category II**

Cat. 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**

Cat I ☐

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2**

Cat. II ☐

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐ Yes = **Category II** ☐ No – Go to **SC 6.3**

Cat. III ☐

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐ Yes = **Category III** ☐ No = **Category IV**

Cat. IV ☐

Category of wetland based on Special Characteristics
If you answered No for all types, enter "Not Applicable" on Summary Form

NA

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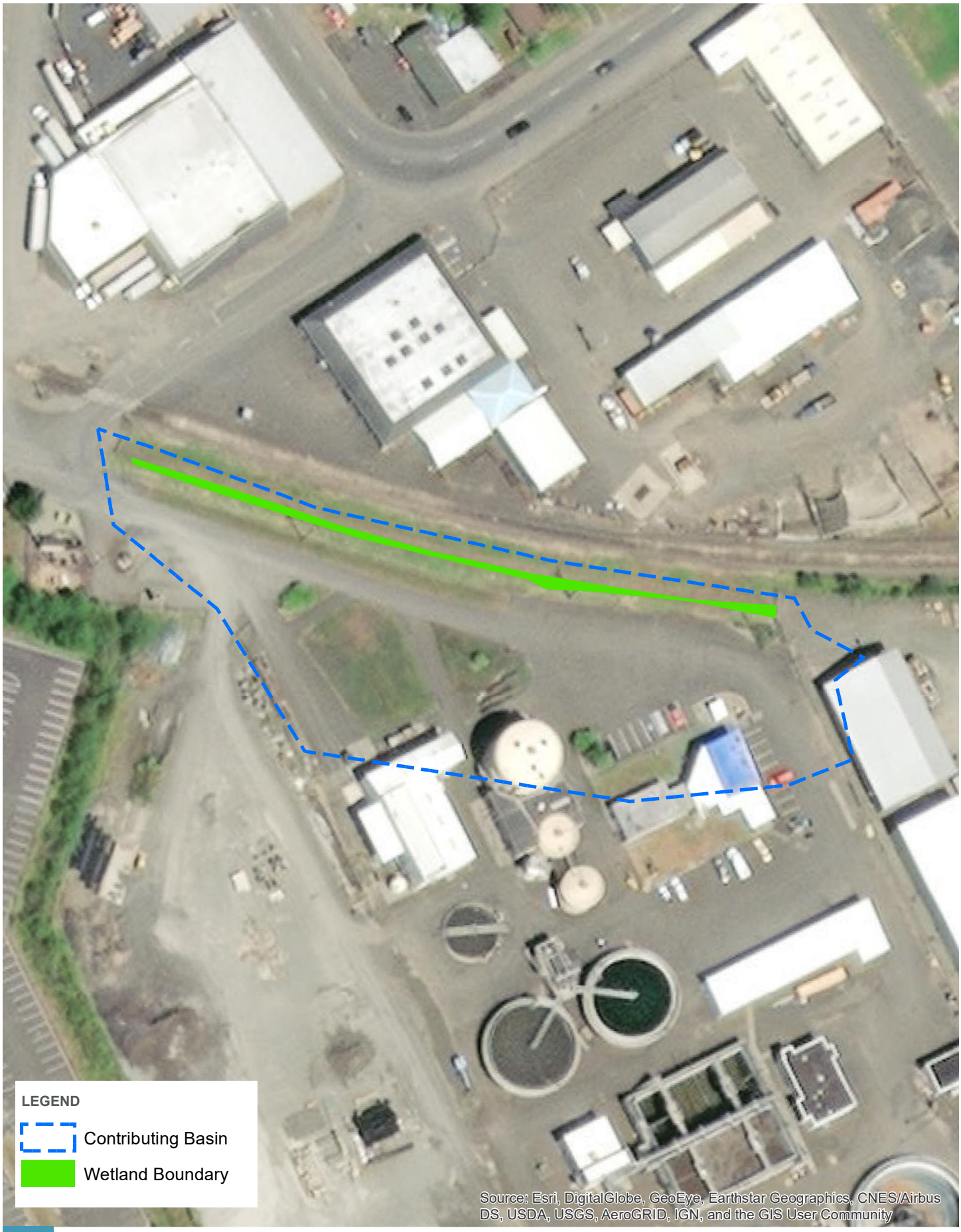
FIGURE 8 - 1
WETLAND 8
COWARDIN

FIGURE 8 - 2
WETLAND 8
HYDROPERIOD

FIGURE 8-3
WETLAND 8
150FT BUFFER



0 280
Feet

FIGURE 8 - 4
WETLAND 8
CONTRIBUTING BASIN

FIGURE 8-5
WETLAND 8
1-KM HABITAT

Wetland name or number WL9

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland 9 Date of site visit: 8/19/2022

Rated by T. Story Trained by Ecology? ☑ Yes ☐ No Date of training 03/15

HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☑ N

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

Source of base aerial photo/map ESRI

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

1. Category of wetland based on FUNCTIONS

☐ **Category I** – Total score = 23 - 27

☐ **Category II** – Total score = 20 - 22

☑ **Category III** – Total score = 16 - 19

☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle the appropriate ratings			
Site Potential	H ☑ M ☐ L ☐	H ☐ M ☑ L ☐	H ☐ M ☐ L ☑	
Landscape Potential	H ☐ M ☑ L ☐	H ☑ M ☐ L ☐	H ☐ M ☐ L ☑	
Value	H ☑ M ☐ L ☐	H ☑ M ☐ L ☐	H ☐ M ☐ L ☑	TOTAL
Score Based on Ratings	8	8	3	19

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

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number WL9

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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

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

Wetland name or number WL9

HGM Classification of Wetlands in Western Washington

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

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

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

☑ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

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

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

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

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

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

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

The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

___At least 30% of the open water area is deeper than 6.6 ft (2 m).

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

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

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

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

___The water leaves the wetland **without being impounded**.

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

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

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

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

___The overbank flooding occurs at least once every 2 years.

Wetland name or number WL9

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

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

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

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

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

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

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

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

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

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

Wetland name or number WL9

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)*. ☑ Yes = 4 ☐ No = 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
- ☐ Wetland has persistent, ungrazed plants > $^{1}/_{10}$ of area points = 1
- ☐ Wetland has persistent, ungrazed plants < $^{1}/_{10}$ of area points = 0

5

D 1.4. Characteristics of seasonal ponding or inundation:

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

- ☐ Area seasonally ponded is > ½ total area of wetland points = 4
- ☑ Area seasonally ponded is > ¼ total area of wetland points = 2
- ☐ Area seasonally ponded is < ¼ total area of wetland points = 0

2

Total for D 1 — Add the points in the boxes above: **12**

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

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

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

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

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

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?
Source_____ ☐ Yes = 1 ☑ No = 0 **0**

Total for D 2 — Add the points in the boxes above: **2**

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

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

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

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

Wetland name or number WL9

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

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

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

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: **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? ☑ Yes = 1 ☐ No = 0 — **1**

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

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

Total for D 5 — Add the points in the boxes above: **3**

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

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

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

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- ☑ • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2
- ☐ • 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 = 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*

Wetland name or number WL9

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)

4 structures or more: ☐ points = 4
3 structures: ☐ points = 2
2 structures: ☐ points = 1
1 structure: ☑ points = 0

If the unit has a Forested class, check if:

- ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

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** ☐ **2 points**
- ☐ **Freshwater tidal wetland** ☐ **2 points**

4 or more types present: ☐ points = 3
3 types present: ☐ points = 2
2 types present: ☑ points = 1
1 type present: ☐ points = 0

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

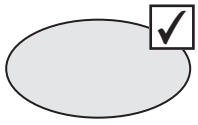
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

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

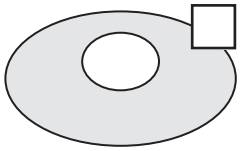
1

H 1.4. Interspersion of habitats

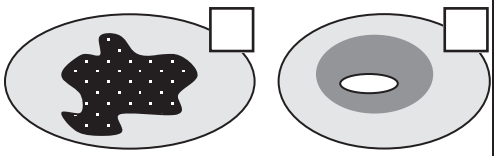
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



None = 0 points

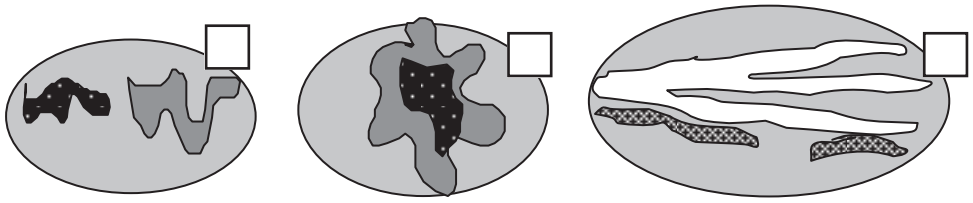


Low = 1 point



Moderate = 2 points

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



0

Wetland name or number WL9

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*)	1
Total for H 1 Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ **15-18 = H** ☐ **7-14 = M** ☑ **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 0.00 **+** [(% moderate and low intensity land uses)/2] 0.00 **=** 0.00 % If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☑ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat 8.00 **+** [(% moderate and low intensity land uses)/2] 2.00 **=** 10.00 % ☐ 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	1
H 2.3. Land use intensity in 1 km Polygon: If ☑ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-1

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

H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: ☐ points = 2 ☐ 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	0

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

Wetland name or number WL9

WDFW Priority Habitats

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

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

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

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

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

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

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

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

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

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

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

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

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

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

Wetland name or number WL9

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands 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) ☐ 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 contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	**Cat. I** ☐ **Cat. II** ☐
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☑ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☑ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes **– Contact WNHP/WDNR and go to SC 2.4** ☐ No **= Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes **= Category I** ☐ No **= Not a WHCV**	**Cat. I** ☐
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☑ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☑ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	**Cat. I** ☐

Wetland name or number WL9

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.

☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☑ No = **Not a forested wetland for this section**

Cat. I ☐

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks

☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*

☐ Yes – Go to **SC 5.1** ☑ No = **Not a wetland in a coastal lagoon**

Cat. I ☐

SC 5.1. Does the wetland meet all of the following three conditions?

☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).

☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.

☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐ Yes = **Category I** ☐ No = **Category II**

Cat. 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**

Cat I ☐

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2**

Cat. II ☐

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐ Yes = **Category II** ☐ No – Go to **SC 6.3**

Cat. III ☐

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐ Yes = **Category III** ☐ No = **Category IV**

Cat. IV ☐

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

NA

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FIGURE 9 - 1
WETLAND 9
COWARDIN

FIGURE 9 - 2
WETLAND 9
HYDROPERIOD

FIGURE 9-3
WETLAND 9
150FT BUFFER

0 500
Feet

FIGURE 9 - 4
WETLAND 9
CONTRIBUTING BASIN

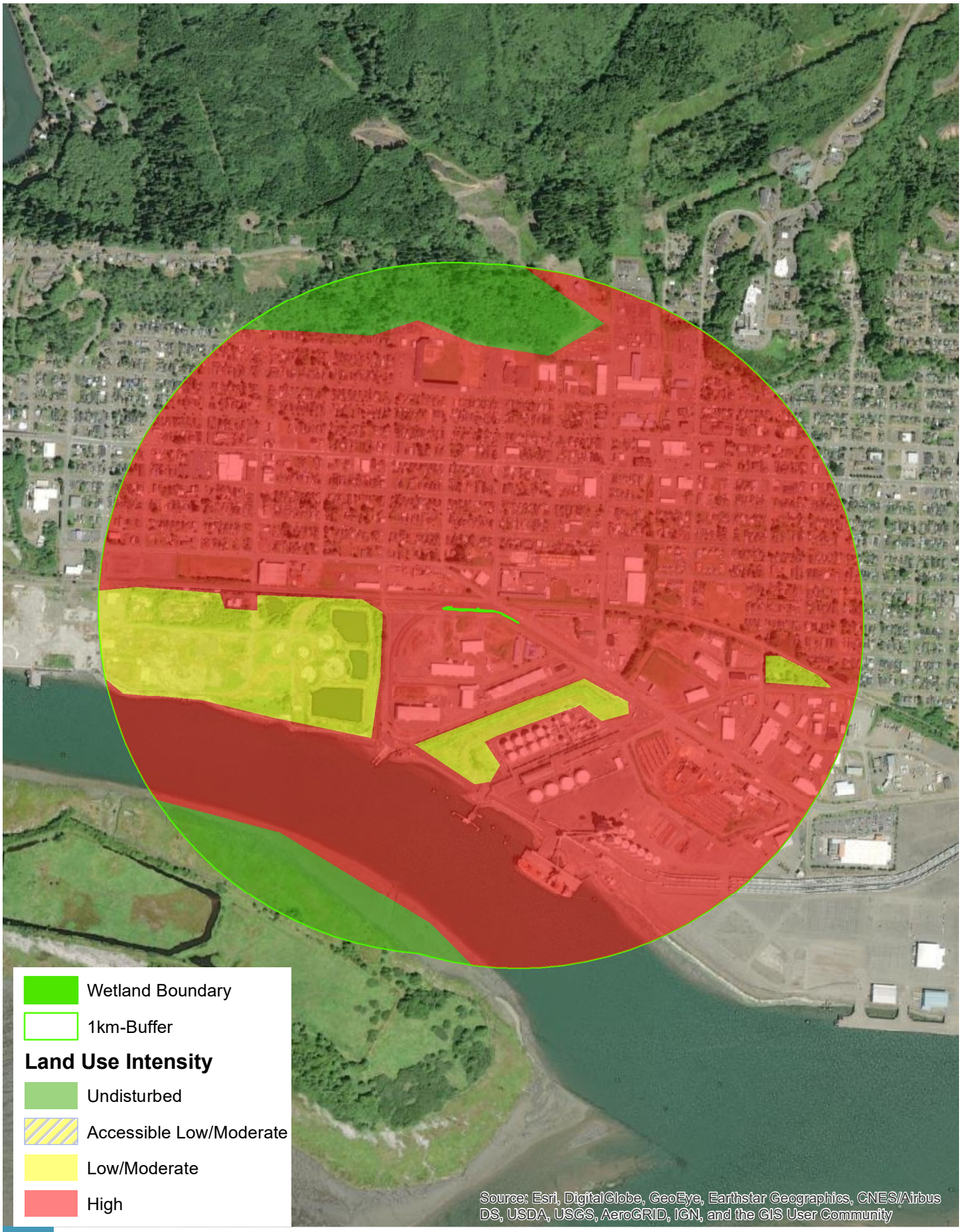
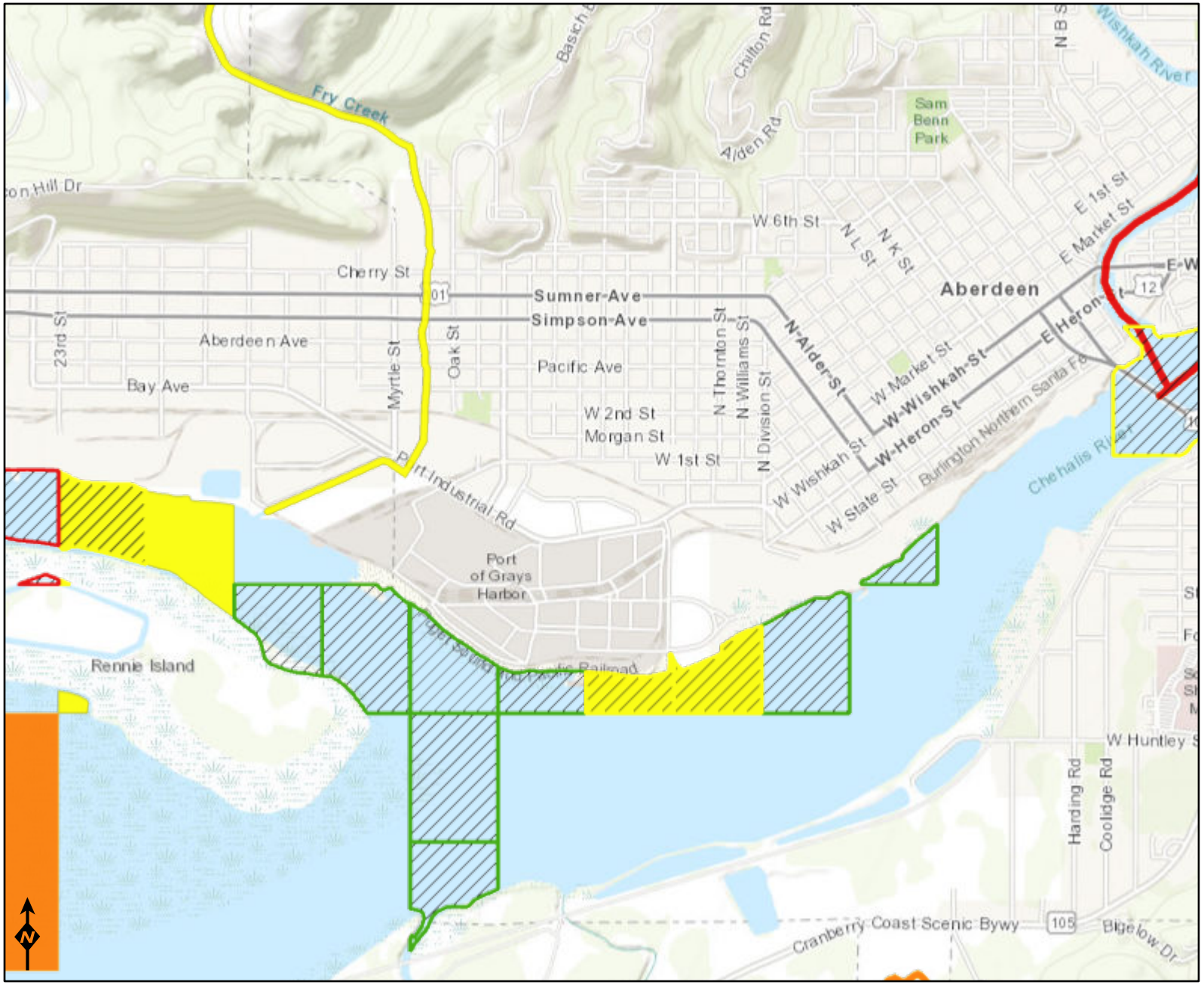


FIGURE 9-5
WETLAND 9
1-KM HABITAT

November 11, 2022

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

Miles
0 0.23 0.45 0.9

Esri, NASA, NGA, USGS, FEMA
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

DEPARTMENT OF ECOLOGY
State of Washington

DEPARTMENT OF ECOLOGY State of Washington

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 - Simpson Timberlands	Temperature	Approved by EPA	Lawrence Sullivan 360-407-6389
Chehalis River Basin - Upper Chehalis River Watershed	Dissolved Oxygen	Approved by EPA	Devan Rostorfer 360-690-4665
Chehalis River Basin - Wildcat Creek	Ammonia-N BOD (5-Day) Chlorine Fecal Coliform	Approved by EPA	Devan Rostorfer 360-690-4665
Grays Harbor	Dioxin Fecal Coliform	Approved by EPA	Devan Rostorfer 360-690-4665
Grays Harbor - Humptulips River	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

To request ADA accommodation, call Ecology at 360-407-7668, 711 (relay service), or 877-833-6341 (TTY). More about our accessibility services.

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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.

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