# WETLAND DELINEATION AND STREAM ASSESSMENT REPORT

# NE Manley Road & Culvert Repair Project

## Prepared for:

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# **Executive Summary**

Clark County Public Works (CCPW) is planning the NE Manley Road and Culvert Repair Project. The project intends to improve traffic safety along Manley Road, and provide fish passage for salmonid species in Daybreak Creek. Otak, Inc. (Otak) was hired by CCPW to complete a wetland delineation and stream assessment of the project area to document baseline conditions, evaluate project design alternatives, and support environmental permitting with local, state, and federal regulatory agencies.

This wetland delineation and stream assessment report was completed by reviewing background information, conducting a field investigation, classifying wetlands and stream habitats and assessing their functions, and determining buffer widths per Clark County Code (CCC) Subtitle 40.4 (Critical Areas and Shorelines). Biologists from Otak completed the field investigation from June 20-23, 2017. The study area for this report generally included 100 feet from both sides of NE Manley Road between NE 244<sup>th</sup> Street and NE 82<sup>nd</sup> Avenue, 150-200 feet upstream and downstream along Daybreak Creek at four culvert crossings, and potential locations for proposed stormwater management facilities.

Fifteen wetlands and one stream (Daybreak Creek) were identified and delineated in the study area. Wetlands consisted of depressional, slope and riverine hydrogeomorphic classes, and palustrine emergent, scrub-shrub and forest Cowardin habitat classes. All wetlands were rated using the *Washington State Wetland Rating System for Western Washington – 2014 Update* (Hruby 2014). Standard buffer widths were determined by CCC Chapter 40.450.030. Wetlands A is rated Category III with a standard buffer width of 80 feet. Wetland B is rated as Category III, and have a standard buffer width of 120 feet. Wetlands C and D are both rated as Category III, and have a standard buffer width of 135 feet. Wetlands E, F, and G are rated as Category III, and have a standard buffer width of 120 feet. Wetlands H and I are rated as Category III, and have a standard buffer width of 135 feet. Wetland J is rated as Category II with a standard buffer width of 220 feet. Wetlands K and L are rated as Category III, and have a standard buffer width of 135 feet. Wetlands M, N, and O are rated as Category III, and have a standard buffer width of 136 feet. Wetlands M, N, and O are rated as Category II, and have a standard buffer width of 180 feet.

Daybreak Creek crosses underneath NE Manley Road three times between NE 244<sup>th</sup> Street and NE 82<sup>nd</sup> Avenue, and runs parallel to Manley Road for approximately 500 linear feet between the middle and northern culverts. A fourth culvert on a private driveway is located between the middle and northern culverts. The creek's ordinary high water mark was delineated upstream and downstream at each of the four culvert crossings, and where it paralleled the road within the study area. The Washington Department of Fish and Wildlife (WDFW) maps the northern and southern culverts as partial fish passage barriers. The middle culvert and private driveway culvert are unmapped by WDFW. The middle culvert is likely a partial or complete fish passage barrier due to the significant hydraulic drop at the outlet. Daybreak Creek generally flows north-northwest towards its confluence with East Fork Lewis River approximately 0.8 mile downstream of the study area. Daybreak Creek is classified as a fish habitat stream (Type F) per CCC Chapter 40.440.010, and has a 200-foot buffer.

Daybreak Creek is within the Willamette/Lower Columbia Recovery Domain for West Coast Salmon and Steelhead under the Endangered Species Act (ESA). Daybreak Creek is listed as critical habitat for the Columbia River (CR) Chum (*Oncorhynchus keta*) Evolutionarily Significant Unit (ESU), CR Steelhead (*Oncorhynchus mykiss*) Distinct Population Segment, and Lower CR Coho (*Oncorhynchus kisutch*) ESU (NOAA 2017). CR Chum, CR Steelhead, and Lower CR Coho are listed as Threatened under the ESA.

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# **Acronyms and Abbreviations**

CCC Clark County Code

CCPW Clark County Public Works CFR Code of Federal Regulations

CWA Clean Water Act

DPS Distinct Population Segment

Ecology Washington State Department of Ecology EPA U.S. Environmental Protection Agency

ESA Endangered Species Act
ESU Evolutionary Significant Unit

FAC Facultative

FACW Facultative wetland

GIS Geographic Information Systems

GPS Global Positioning System

HGM Hydrogeomorphic

HPA Hydraulic Project Approval

NRCS Natural Resources Conservation Service

NWI National Wetlands Inventory

OBL Obligate

OHWM ordinary high water mark
PEM palustrine emergent
PFO palustrine forested

PHS Priority Habitat and Species
PSS Palustrine scrub shrub

RCW Revised Code of Washington RPW Relatively Permanent Water TNW Traditional Navigable Water

UPL Upland

UGA Urban Growth Area

USACE U.S. Army Corps of Engineers USDA U.S. Department of Agriculture USFWS U.S. Fish and Wildlife Service

USGS U.S. Geological Survey

WAC Washington Administrative Code

WDFW Washington State Department of Fish and Wildlife WDNR Washington Department of Natural Resources

WRIA Water Resource Inventory Area

# **Chapter 1. Introduction**

Clark County Public Works (CCPW) is planning the NE Manley Road and Culvert Repair Project. The project intends to improve traffic safety along Manley Road between NE 82<sup>nd</sup> Avenue and NE 244<sup>th</sup> Street, and provide fish passage for salmonid species in Daybreak Creek (also known as Manley Creek) at three stream crossings. Otak, Inc. (Otak) was hired by CCPW to complete a wetland delineation and stream assessment report for the project area to document baseline environmental conditions, evaluate project design alternatives, and support environmental permitting with local, state, and federal regulatory agencies.

The traffic safety component of the project includes roadway widening and realignment, replacing and installing additional guardrails, pavement overlays, striping, signage, and the relocation of objects from the clear zone adjacent to the road. These improvements will address speed, sight distances, and other safety issues that motorists experience along the roadway. The second component of the project is to improve fish passage within Daybreak Creek by replacing three undersized culverts under Manley Road with new fish-passable box culverts. A fourth culvert on Daybreak Creek for a private driveway will also likely be replaced depending on negotiations with the property owner. The culverts will be designed in accordance with the Washington Department of Fish and Wildlife (WDFW) Water Crossing Design Guidelines (WDFW 2013) for fish passage.

This wetland delineation and stream assessment report includes the methods and results of the background research and field survey completed to document baseline wetland and stream boundaries and functions in the project area.

## 1.1 Project Location and Landscape Setting

The proposed project is located along NE Manley Road in unincorporated Clark County, Washington (Appendix B: Figure 1 – Vicinity Map). It is located in Section 29, Township 04 North, Range 02 East in Water Resource Inventory Area (WRIA) 27 (Lewis). Daybreak Creek flows into East Fork Lewis River approximately 0.8 miles from the end of the project site at NE 82<sup>nd</sup> Avenue. Daybreak Creek flows east to west, beginning approximately 1.5 miles east of the project site in Battle Ground. Land use in the watershed primarily consists of agriculture lands (hayfields and pastures) and rural residential areas. A rock quarry is located west and south of Manley Road approximately 1,000 feet from the study area.

The study area for this report generally included 100 feet from both sides of NE Manley Road between NE 244<sup>th</sup> Street and NE 82<sup>nd</sup> Avenue, 150-200 feet upstream downstream along Daybreak Creek at each of the four culvert crossings, and potential locations for proposed stormwater management facilities (Appendix B: Figure 2 – Study Area).

# **Chapter 2. Methods**

This chapter summarizes the methods used in accordance with local, state, and federal guidance in delineating wetland and stream boundaries in Washington State. See Table A-1 in Appendix A for further details regarding methods used for this report.

#### 2.1 Review of Available Published Information

Available published information was reviewed prior to the field investigation to identify any previously documented wetlands, streams, or other pertinent site characteristics (e.g., vegetation community patterns, topography, soils, or water courses) that would indicate the presence of wetlands and streams within the study area. These maps are typically used as guidance, and do not supersede conditions in the field. As part of this effort, Otak biologists reviewed the following sources:

- Soils map from the United States Natural Resources Conservation Service (NRCS) (NRCS 2017);
- National Wetlands Inventory (NWI) map (USFWS 2017);
- Washington Department of Natural Resources (WDNR) Forest Practices Application Mapping Tool (WDNR 2017);
- Clark County MapsOnline (2017);
- WDFW Priority Habitat and Species (PHS) maps (WDFW 2017) and SalmonScape (WDFW 2017a); and,
- Historical aerial photos of the vicinity using Google Earth Pro (Google Maps 2017).

Appendix B includes figures associated with the background review, including: an aerial photograph of the study area (Figure 2), the NRCS soils map (Figure 3), the NWI map (Figure 4), and Clark County critical areas map (Figure 5).

Soil units mapped within the study area include Washougal loam, riverwash-cobbly, Cove silty clay loam, Washougal stony loam, Washougal gravelly loam, Gee silt loam, Dollar loam, Hockinson loam, and Semiahmoo muck (Table 2-1). The majority of the study area is located in the mapped Washougal soil series. Cove silty clay loam, riverwash-cobbly and Semiahmoo muck are mapped as hydric.

Table 2-1. NRCS Soil Units Mapped in the Study Area

Mapped Soil Unit	Slope %	Drainage Class	Parent Material	Hydric?
Washougal loam	0-3	Somewhat excessively drained	Gravelly alluvium	No
Riverwash, cobbly	N/A	N/A	N/A – Landform: alluvial cones	Yes
Cove silty clay loam	0-3	Very poorly drained	N/A – Landform: floodplains	Yes
Washougal stony loam	30-60	Somewhat excessively drained	Gravelly alluvium	No
Washougal gravelly loam	0-8	Somewhat excessively drained	Gravelly alluvium	No
Gee silt loam	8-20	Moderately well drained	Alluvium	No
Dollar loam	0-5	Moderately well drained	Alluvium	No
Hockinson loam	0-8	Moderately well drained	Alluvium	No
Semiahmoo muck	0-1	Very poorly drained	Herbaceous organic material	Yes

NWI freshwater wetlands are mapped within the study area, including linear freshwater forest/shrub and emergent habitats along Daybreak Creek. A palustrine emergent wetland unit between NE 257<sup>th</sup> Street and NE Manley Road is mapped just outside of the study area.

Clark County's MapsOnline does not identify any wetlands within the study area. Daybreak Creek is identified. Flood fringe areas associated with East Fork Lewis Creek abut the north side of the Manley Road embankment in the northern portion of the study area. Clark County regulates these flood fringe areas under the County's Shoreline Master Program (CCC Chapter 40.460).

The WDNR Forest Practices Application Mapping Tool shows Daybreak Creek as a type F (fish habitat) stream. WDFW's PHS maps and SalmonScape show Daybreak Creek in the study area (WDFW 2017, 2017a).

### 2.2 Precipitation Data and Analysis

#### 2.2.1 Evaluation of the Growing Season

Wetland hydrologic conditions are considered present if an area has 14 or more consecutive days of flooding or ponding, or a water table 12 inches or less below the soil surface, during the growing season, depending on soil and plant community conditions (USACE 2010).

In the Pacific Northwest coast region, the beginning and ending dates of the growing season can be defined based on two indicators of biological activity that are readily observable in the field: (1) above ground growth and development of vascular plants, and (2) soil temperature. However, due to seasonal fluctuations from year to year the growing season dates may also be approximated by the number of frost-free days, defined as the time from the last date in spring when the ambient air temperature drops to 28°F, to the first date in fall when it drops to 28°F, over a 30-year period (USACE 2010).

As such, the beginning and ending dates for the growing season in the study area were estimated from long-term weather records as the median dates (50 percent probability) for the first and last 28°F days at the Battle Ground climate station. Based on long-term weather records at the Battle Ground climate station the average start and end dates for the growing season for the area are March 20 and November 8, respectively, for a total growing season of 233 days (NRCS 2017).

#### 2.2.2 Precipitation Data during Field Investigation

The field survey was conducted in the study area from June 20 to June 23, 2017. Approximately 0.00 inches of rain fell on between June 20 and June 23(NRCS 2017). The area received 1.47 inches of precipitation in the two week period (June 5 to June 19) prior to the field survey as measured at the Battle Ground climate station (NRCS 2017). Precipitation amounts for the three months preceding the field survey were above normal for March 2017, above normal in April 2017, and normal in May 2017.

Table 2-2. Summary of Precipitation Data from March 1, 2017 to June 1, 2017

Category	March 2017	April 2017	May 2017
Recorded Precipitation (inches)	10.91	5.87	3.09
Precipitation Average	5.44	4.35	3.43
30-70% Normal Range (inches) from 1971-2000	4.39-6.35	3.06-4.91	2.07-3.94
Comparison to Normal Range	Above normal	Above normal	Normal

Source: NRCS 2017.

## 2.3 Field Investigation

Wetland boundaries and the ordinary high water mark (OHWM) along Daybreak Creek were delineated in the field. Wetland boundaries were marked with sequentially numbered black and pink striped flagging, and OHWM was marked with orange flagging. All flags were professionally surveyed by the County following the wetland and stream delineation.

#### 2.3.1 Wetlands

In accordance with federal, state, and local guidance and regulations, Otak biologists delineated wetlands in the field using the three-parameter approach detailed in the *Corps of Engineers Wetlands Delineation Manual* (USACE, 1987), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (USACE, 2010). Following routine methodology, data on vegetation, soils, and hydrology were collected at twelve paired (wetland/upland) data points. Two additional data points (25 and 26) were recorded to document upland conditions in areas that are being considered for stormwater treatment facilities. The locations of the 26 data points are shown on the Delineated Wetlands and Streams Maps (Appendix B: Exhibits A-A4). The USACE wetland determination data forms for the data points are provided in Appendix C.

#### Vegetation

Representative vegetation communities were documented at the 26 data points in the study area during the field survey. Three vegetation strata were inventoried at each data point, typically including trees within a 30-foot diameter plot, shrubs within a 15-foot diameter plot, and non-woody herbaceous plants (including forbs, grasses, sedges, and rushes) within a 5-foot diameter plot. Plant species in each stratum were identified and absolute percent cover was recorded. Each species was listed following the scientific nomenclature given in the United States Department of Agriculture (USDA) PLANTS database (NRCS 2016). The wetland indicator status for each species was assigned using the 2016 National Wetland Plant List for the Western Mountains, Valleys & Coast Region (Lichvar, et al. 2016).

The dominance test was the primary indicator used to determine the presence or absence of hydrophytic vegetation. A location is considered to have a hydrophytic vegetation community if more than 50 percent of the dominant species have an indicator status of facultative (FAC), facultative-wetland (FACW), or obligate (OBL). Dominant species are defined as those that individually or collectively account for more than 50 percent of the total areal coverage of vegetation in the stratum, plus any other species that, by itself, accounts for at least 20 percent of the total areal coverage (USACE 2010). If more than 50 percent of the dominant plant species in a community have wetland indictor status of OBL, FACW, or FAC, then the plant community is considered hydrophytic (wetland).

#### Soils

Soil samples were obtained at representative data points by digging a pit to a depth of at least 18 inches to determine the presence or absence of hydric soil indicators using the *Field Indicators of* 

Hydric Soils in the United States, Version 8.0 (NRCS 2016). Soil colors were evaluated against a Munsell® soil color chart (Gretag/Macbeth 2000) to distinguish hydric from non-hydric soils.

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile (USACE 2010). Hydric soils exhibit certain characteristics that can be observed in the field. Such characteristics or indicators may include high organic content, accumulation of sulfidic material, greenish or bluishgray color (gley formation), depleted matrices, and development of redoximorphic features.

Per USACE protocol, hydric soil indicators observed in the depressional wetlands included F3 (Depleted matrix), F6 (Redox dark surface), and F8 (Redox depressions). Hydric soil indicators observed in the riverine wetlands included F3 and F6. Hydric soil indicators observed in the slope wetlands included F6 and A11 (Depleted below dark surface).

#### Hydrology

Wetland hydrologic conditions are considered present if, during the growing season, an area has 14 or more consecutive days of flooding or ponding; or a water table 12 inches or less below the soil surface, during the growing season at a minimum frequency of 5 years in 10, depending on soil and plant community conditions (USACE 2010). Primary and secondary wetland hydrology indicators were used to evaluate the presence or absence of wetland hydrology.

The presence of wetland hydrologic indicators was determined at each wetland data point. Primary indicators of wetland hydrology included surface water, soil saturation within 12 inches of the surface, shallow water table, and evidence of previous water inundation or saturation (e.g., watermarks, algal mats, sediment deposits). Secondary indicators may include wetland drainage patterns, geomorphic position, stunted or stressed plants, and water-stained leaves. When at least one primary or two secondary indicators were observed, wetland hydrology was determined to occur during the growing season long enough to result in wetland conditions.

## 2.3.2 Ordinary High Water Mark

The OHWM along Daybreak Creek was flagged in the field based on the methodology outlined in USACE Regulatory Guidance Letter 05-05 (USACE 2005) and *Determining the Ordinary High Water Mark on Streams in Washington State* (Ecology 2008). The OHWM was marked with orange flagging in the field. Identification of OHWM was based on the evaluation of stream physical characteristics, such as: presence of bed and banks, a natural line impressed on the bank, change in sediment and vegetation characteristics, wracking, erosion/scour, and silt deposits.

## 2.4 Wetland and Stream Classification and Ratings

Wetlands in the study area were classified according to *Classification of Wetlands and Deepwater Habitats of Untied States* (Cowardin, et al. 1979), and the hydrogeomorphic (HGM) wetland classification system as adopted by Hruby (2014). Wetland functions were rated using the *Washington State Wetland Rating System for Western Washington – 2014 Update* (Hruby 2014) in accordance with CCC Chapter

40.450.020 (Rating Systems). Wetland standard buffer widths were determined based on wetland category and habitat score for each wetland per CCC Chapter 40.450.030. Wetland buffer conditions were qualitatively assessed based on vegetation cover, land use, and presence of invasive species. Stream classification and buffer widths were determined according to CCC Chapter 40.440.010.

#### 2.5 Stream Habitat Assessment Method

Otak biologists completed a stream habitat survey to characterize habitat and functions in Daybreak Creek and the riparian corridor. Visual assessments were made for the purpose of assessing fish access, identifying surrounding land use and factors that may affect water quality, and describing the site as it may affect use by fish and other organisms. Quantitative and qualitative field measurements were taken for the purpose of assessing habitat unit complexity, wood quantity and dimensions, spawning gravel, canopy cover, and other measurable features. Surveys were conducted in accordance with the methods modified from Timber, Fish, and Wildlife monitoring protocols (Schuett-Hames, et al. 1999).

Daybreak Creek was surveyed in six reaches, including a downstream and upstream reach at each of the three culverts under NE Manley Road and the private driveway culvert. These reaches were given titles of Segment 1 through Segment 6, and are sequentially numbered moving upstream. Stream Segments 1 through 6 are shown on Exhibit A in Appendix B.

- Segment 1 extends from approximately 200 feet downstream of the northern culvert outlet.
- Segment 2 extends from the inlet of the northern culvert to the culvert under the private driveway 131 feet upstream.
- Segment 3 extends upstream from the private driveway culvert to the outlet of the middle culvert (approximately 407 feet).
- Segment 4 extends from the inlet of the middle culvert upstream for approximately 200 linear feet.
- Segment 5 extends from 207 feet downstream to the outlet of the southern culvert.
- Segment 6 extends for 264 feet upstream from the inlet of the southern culvert.

The stream reaches were walked using hip chains, and data was recorded on habitat units (pool, riffle, glide); substrate composition; substrate embeddedness; Large Woody Debris (LWD)/rootwad presence, diameters, lengths, and positions; mean wetted width and depth of habitat units; mean and maximum pool depths and tail-out depth; and bankfull width and depth. Observations concerning bank or bed scour, riparian vegetative community and condition, percent canopy cover measurements, presence and relative abundance of invasive species and photo documentation of the project reaches were performed. Habitat units and selected stream data features are defined below.

• Pool: Habitat units where scouring water has carved out a non-uniform depression in the channel bed or has been dammed. Pools are characterized by slow water, with a width at least one-half of the wetted channel width and 20 cm minimum residual pool depth (Maximum depth—pool tail-out depth). Pools are identified on the basis of their formation

- process as either a dam pool or a scour pool. Backwater and side-channel pools are included in the survey.
- Riffle: Swiftly flowing, turbulent water with hydraulic jumps (white-water); some partially exposed substrate; substrate cobble and/or boulder dominated.
- Glides: wide, relatively uniform channel volume, no thalweg, low to moderate water velocity, little surface agitation. Glides can appear pool-like, but there are no significant scour depressions. Glide substrate is dominated by fine materials.
- Substrate: Stream substrate was broadly characterized by sediment grain size: fines, gravels, cobbles, boulders, and bedrock.
- Embeddedness: This is defined as the degree to which larger stream substrate (gravel, cobble, boulder) is covered by or sunken into fine sediment (sand, silt, mud). Four categories of embeddedness were recorded:
  - 1. Substrate is 0-25% covered with fines
  - 2. Substrate is 26-50% covered with fines
  - 3. Substrate is 51-75% covered with fines
  - 4. Substrate is 76-100% covered with fines
- LWD/Rootwads: These habitat features are defined as logs at least two meters long and 12.5 cm in diameter and/or a root mass of at least one meter in diameter.

Wolman pebble counts were conducted to determine stream sediment sizes using a USGS standard gravelometer. The gravelometer has 14 square holes of common sieve sizes ranging from 2 to 180 millimeters. For each pebble count conducted, one hundred sediment samples were gathered at random along the width of the stream.

## 2.6 Mapping Methods

Flags depicting the boundaries of wetlands and streams (OHWM) were hung in the field by Otak biologists and professionally surveyed by a Clark County survey crew to an accuracy of +/-0.1 foot. Survey data was converted to GIS files and imported to project maps for this report. Wetland data points are associated with specific wetland flags that were surveyed in the field. Additional potential stream and wetland areas within 100 feet of the study area boundary were estimated using aerial photography and observations made during the field investigation.

# **Chapter 3. Existing Conditions**

Otak biologists identified and delineated 15 wetlands in the study area as shown on Exhibits A-A4 in Appendix B. The total area of delineated wetlands is 2.32 acres, consisting mostly of palustrine emergent (PEM) and palustrine forested (PFO) wetland habitats. Wetland determination data forms are provided in Appendix C, including two data points (25 and 26) that were recorded to document upland conditions in areas that are being considered for stormwater treatment facilities. Washington Department of Ecology (Ecology) wetland ratings forms and figures are provided in Appendix D. A list of plant species observed during field work is included as Appendix E.

#### 3.1 Delineated Wetlands

Wetlands A, B, C, and D are depressional wetlands located in a relict side channel of East Fork Lewis River. The wetlands include palustrine forested (PFO), palustrine scrub/shrub (PSS), and palustrine emergent (PEM) habitats; the majority of plant species have a wetland indicator status of FACW and OBL. Dominant plant species include reed canarygrass (*Phalaris arundinacea*), toad rush (*Juncus bufonius*), small bedstraw (*Galium trifidum*), and Oregon ash (*Fraxinus latifolia*). Wetland hydrology in all four wetlands is supported by precipitation and shallow groundwater. Hydrology was identified by water-stained leaves, soil cracks, and geomorphic position. Wetlands A, B and C have shallow soil profiles due to streambed cobbles underlying a mineral soil layer.

Wetlands E and F are riverine wetlands located on the west side of the northern culvert within the OHWM of Daybreak Creek. Wetland E is located on the north side of Daybreak Creek and has PFO and PEM vegetation communities. Wetland F is located on the south side of Daybreak Creek, has a PEM habitat. Both wetlands include a portion of maintained lawn. Hydric soils exhibited a depleted matrix. Both wetlands receive occasional overbank flooding from the creek, and have saturated soils above a high water table.

Wetland G and H occur in agricultural fields that slope toward roadside ditches. The roadside ditch portions of both wetlands make up less than 10 percent of each wetland unit; therefore, both wetland units were classified as slope according to the wetland rating system (Hruby 2014). Wetland hydrology is driven by groundwater seeps that flow into the roadside ditches. The water flows north from Wetland G and Wetland H through Wetland I before discharging into Daybreak Creek on the west side of the southern culvert. Wetland I is a small slope wetland within a vegetated roadside ditch. Wetlands G, H, and I consist of PEM habitat dominated by reed canarygrass, common velvet grass (*Holcus lanatus*), bentgrass (*Agrostis* sp.), and bird's-foot trefoil (*Lotus corniculatus*).

Wetland J is a depressional wetland located on a plateau east of Manley Road south of the southern culvert. Wetland J has PFO and PEM wetland habitats, and extends beyond the study area boundaries to the east. The forested habitat is dominated by Oregon ash, with an understory consisting mostly of slough sedge (*Carex obnupta*) and Nootka rose (*Rosa nutkana*) that creates a hummocky terrain. The wetland connects to a roadside ditch vegetated with slough sedge and

spiraea (*Spiraea douglasii*) that flows north into Daybreak Creek. Soil profiles in Wetland J have a depleted matrix. Surface water ponds occasionally and soils are saturated to the surface.

Wetlands K and L are riverine wetlands with PEM habitat located along Daybreak Creek on east side of the southern culvert. Wetland K is located on the north side of Daybreak Creek and Wetland L is located on the south side of the creek. Both wetlands are located below the OHWM at the toe of slope of upland hillsides. Small-fruited bulrush (*Scirpus microcarpus*) and water-starwort (*Callitriche stagnalis*) dominate the wetland plant community. Sediment deposits from the creek were observed in both wetlands. These two wetlands receive occasional overbank flooding and have areas of permanently saturated soils.

Wetlands M, N, and O are riverine wetlands along the banks of Daybreak Creek west of the southern culvert at the toe of slope in a ravine. All three wetlands receive occasional overbank flooding, and are PEM habitats with dominant vegetation consisting of mannagrass (*Glyceria elata*), small-fruited bulrush, soft rush (*Juncus effusus*), ladyfern (*Athyrium cyclosorum*), and water-starwort. Hydric soil indicators include depleted matrices.

Wetland classes, ratings, sizes, and buffer widths are summarized in Table 3-1. Individual wetland profiles and photographs are provided in Tables 3-2 through 3-16.

Table 3-1. Delineated Wetlands within the Study Area

	Wetland C	lassification	Local Rating	Wetland	d Size <sup>4,5</sup>	D CC W/: 1.1.	D
Wetland <sup>1</sup>	Cowardin <sup>2</sup>	HGM	Clark County (Habitat Score) <sup>3</sup>	Acre	Square feet	Buffer Width (feet) <sup>6</sup>	Representative Data Sheets
A	PEM	Depressional	III (4)	0.10	4,356	80	1,2
В	PEM	Depressional	III (5)	0.05	2,178	120	3,4
С	PFO/PEM	Depressional	III (6)	0.26	11,326	135	5,6
D	PFO/PSS	Depressional	III (6)	0.13	5,663	135	7,8
E	PFO/PEM	Riverine	III (5)	0.03	1,307	120	9,10
F	PEM	Riverine	III (5)	0.01	436	120	9,10
G	PEM	Slope	III (5)	0.50	21,780	120	11,12
Н	PEM	Slope	III (6)	0.80	34,848	135	13,14
I	PEM	Slope	III (6)	0.004	174	135	15,16
J	PFO/PEM	Depressional	II (7)	0.32	13,939	220	17,18
K	PEM	Riverine	III (6)	0.038	1,655	135	19,20
L	PEM	Riverine	III (6)	0.024	1,045	135	21,22
M	PEM	Riverine	II (6)	0.026	1,133	180	23,24
N	PEM	Riverine	II (6)	0.01	436	180	23,24
0	PEM	Riverine	II (6)	0.018	784	180	23,24
TOTAL				2.32	101,060		

#### Note:

- 1. Wetlands shown on Exhibits A and A1-4 in Appendix B.
- 2. Cowardin et al. (1979). Class based on vegetation: PEM = Palustrine Emergent; PSS = Palustrine Scrub-Shrub; PFO = Palustrine Forested.
- 3. Wetlands occurring in Clark County rated according to Hruby (2014) per CCC 40.450.020.
- 4. Wetland sizes measured within the study area boundaries. Some wetlands extend beyond the study area boundaries, and wetland sizes are accordingly larger.
- 5. Cowardin class sizes for wetlands (square feet): C:PFO=6,172, PEM=5,154; D:PFO=1,747, PSS=3,916; E: PFO=875, PEM=432; J: PFO=12,539, PEM=1,400.
- 6. Wetland buffer widths according to CCC 40.450.030.

Table 3-2. Wetland A Summary.

WETLAND A – INFORMATION SUMMARY				
Location:	East corner of NE Manley Road and	NE 259th Street		
		Local Jurisdiction	Clark County	
		WRIA	27 (Lewis)	
	The second secon	Ecology Rating (Hruby 2014)	III	
		Buffer Width	80 Feet (Habitat score of 4)	
	<b>的现在分词</b>	Wetland Size on-site	0.10 acres	
	国际公司主意双手配位之	Cowardin Classification	PEM	
		HGM Classification	Depressional	
	一 对一个人 为此人 的人 各级 计	Wetland Data Sheet(s)	1	
一个人	了一致人。这是第一人,是是一	Upland Data Sheet (s)	2	
		Flag color	Black and pink striped flagging	
Dominant Vegetation	Phalaris arundinacea, Rumex crispus, Juncus t	bufonius, Gnaphalium uliginosium		
Soils	Loam, 10YR 3/2			
Hydrology	Water stained leaves, Geomorphic positi	ion		
Rationale for Delineation	Satisfies all three wetland criteria.			
Rationale for Local Rating	Follows Ecology rating system (Hruby 2	2014) per CCC 40.450.020.		
Local Rating	Wetland Function	one Summary		
			an 2 feet of storage during	
Hydrologic	Wetland A is in a relict stream channel with no outlet, has 0.5 to less than 2 feet of storage during wet periods, and a basin that is more than 100 times the size of the unit. The landscape has the potential to support a high level of hydrologic functioning as more than 25% of the contributing basin is covered in intensive human land use, the wetland receives stormwater discharges and more than 10% of the area within 150 feet generates excess runoff. The wetland is within a sub-basin that has flooding farther down gradient and has not been identified as important in a regional flood control plan.			
Water Quality  Wetland A has no outlet, no organic or clay soil two inches below the surface, persistent, ungrazed vegetation for more than ½ of the area and less than ¼ of the total area is seasonally ponded. The wetland receives stormwater discharges and more than 10% of the area within 150 ft. of the wetland generates pollutants. There are no septic systems within 250 feet. The wetland is within a sub-basin on the 303d list, but does not discharge directly to a waterbody on the 303d list. A TMDL exists for the Lewis River basin.				
Habitat	Wetland A has one Cowardin class (emergent), two hydroperiods (occasionally flooded, saturated only), a medium richness of plant species, no interspersion of habitats and one special habitat feature (large downed wood). 10 to 19% of a 1km polygon around the wetland is directly accessible habitat and 10 to 50% of this area is relatively undisturbed habitat. Less than 50% of the polygon has high intensity land use. There are no priority habitats within 100 meters.			
Buffer Condition	The buffer around Wetland A is disturbed vegetated buffer consists of upland trees			

Table 3-3. Wetland B Summary.

	WETLAND B – INFORMATION SUMMARY				
Location:	East side of NE Manley Road, just n	north of NE 257th Street			
		Local Jurisdiction	Clark County		
	Paris I	WRIA	27 (Lewis)		
Very Market		Ecology Rating (Hruby 2014)	III		
		Buffer Width	120 feet (habitat score of 5)		
	and the same	Wetland Size	0.05 acres		
《建設》,為于上一		Cowardin Classification	PEM		
	The state of the s	HGM Classification	Depressional		
	40	Wetland Data Sheet(s)	3		
		Upland Data Sheet (s)	4		
		Flag color	Black and pink striped flagging		
Dominant Vegetation	Juncus bufonius, Eleocharis palustris, Rorippa	ı curvisiliqua, Gnaphalium uliginosiu	um		
Soils	Loam, 10YR 3/2 – Soils too shallow for surface.	r profile due to relict stream-bed	d cobbles at 4 inches below		
Hydrology	Algal crust, Surface soil cracks				
Rationale for Delineation	Wetland determined based on hydrologic	ic indicators and abundance of	FACW and OBL species.		
Rationale for Local Rating	Follows Ecology rating system (Hruby 2	2014) per CCC 40.450.020.			
	Wetland Function	ons Summary			
Hydrologic	Wetland B has an intermittently flowing outlet, ponding between 0.5-2 feet depth, and a basin that is more than 100 times the size of the unit. The landscape has the potential to support a high level of hydrologic functioning as more than 25% of the contributing basin is covered in intensive				
Water Quality	Wetland B has an intermittently flowing outlet, no organic or clay soil two inches below the surface, persistent, ungrazed vegetation for more than ½ of the area and less than ¼ of the total area is seasonally pended. The wetland receives stormwater discharges and more than 10% of the				
Habitat	Wetland B has one Cowardin class (emergent), two hydroperiods (occasionally inundated, saturated only) and a medium richness of plant species. Wetland B has no interspersion of habitats and one special habitat feature (invasive plant cover <25%). 10 to 19% of a 1km polygon around the wetland is directly accessible habitat and 10 to 50% of this area is relatively undisturbed habitat. Less than 50% of the polygon has high intensity land use. Riparian and instream habitats are located within 100 meters of the wetland boundary.				
Buffer Condition	The buffer around Wetland B is disturb lawns. The vegetated buffer consists of and lawn grass.				

Table 3-4. Wetland C Summary.

	WETLAND C – INFORMATION SUMMARY				
Location:	Location: North side of NE Manley Road, south of NE 257th Street				
		Local Jurisdiction	Clark County		
No. 1. Visite III		WRIA	27 (Lewis)		
<b>罗色学科</b> 。		Ecology Rating (Hruby 2014)	III		
		Buffer Width	135 Feet (Habitat score of 6)		
7 义多数集业		Wetland Size on-site	0.26 acres		
	SWINDS TO BE A SWING	Cowardin Classification	PFO/PEM		
	一个一个一个一个一个	HGM Classification	Depressional		
		Wetland Data Sheet(s)	5		
<b>下四颗。</b>	以第一十一种 <b>的</b> 是一种人们的	Upland Data Sheet (s)	6		
		Flag color	Black and pink striped flagging		
Dominant	Populus balsamifera spp. trichocarpa, Fraxin	us latifolia, Cornus alba, Rubus arm	eniacus, Galium trifidum		
Vegetation	Gnaphalium uliginosium				
Soils	Loam, 10YR 3/2, 10YR 5/6 redox cond	centrations			
Hydrology	Surface soil cracks				
Rationale for Delineation	Satisfies all three wetland criteria.				
Rationale for	Follows Ecology rating system (Hruby 2014) per CCC 40.450.020.				
Local Rating					
	Wetland Function	•			
Hydrologic	Wetland C has an intermittently flowing outlet, 0.5 to less than 2 feet of storage during wet periods, and a basin that is more than 100 times the size of the unit. The landscape has the potential to support a high level of hydrologic functioning as more than 25% of the contributing				
Water Quality	Wetland C has an intermittently flowing outlet, no organic or clay soil two inches below the surface, persistent, ungrazed vegetation for more than ½ of the area and less than ¼ of the total area is seasonally ponded. The wetland receives stormwater discharges and more than 10% of the area within 150 ft. of the wetland generates pollutants. There is one septic system within 250 feet. The wetland is within a sub-basin on the 303d list, but does not discharge directly to a waterbody on the 303d list. A TMDL exists for the Lewis River basin.				
Habitat	Wetland C has two Cowardin classes (emergent, forested), two hydroperiods (occasionally inundated, saturated only), and a medium richness of plant species. Wetland C has low interspersion of habitats and no special habitat features. 10 to 19% of a 1km polygon around the wetland is directly accessible habitat and more than 50% of this area is relatively undisturbed habitat. Less than 50% of the polygon has high intensity land use. There are two priority habitats within 100 meters (instream, riparian).				
Buffer Condition	The buffer around Wetland C is disturbed vegetated buffer consists of upland trees				

Table 3-5. Wetland D Summary.

WETLAND D - INFORMATION SUMMARY				
Location:	North side of NE Manley Road, wes	t of Coonrod property drivew	ay	
		Local Jurisdiction	Clark County	
		WRIA	27 (Lewis)	
		Ecology Rating (Hruby 2014)	III	
		,	135 feet	
	三、三、三、三、三、三、三、三、三、三、三、三、三、三、三、三、三、三、三、	Buffer Width	(habitat score of 6)	
		Wetland Size	0.13 acres	
		Cowardin Classification	PFO/PSS	
		HGM Classification	Depressional	
		Wetland Data Sheet(s)	7	
	71.2	Upland Data Sheet (s)	8	
670		Flag color	Black and pink striped flagging	
Dominant Vegetation	Populus balsamifera spp. trichocarpa, Fraxin	us latifolia, Cornus alba, Phalaris an	rundinacea, Galium trifidum	
Soils	Loam, 10YR 3/1; 10YR 3/2; Depletion	s: 10YR 4/6; Redox: 10YR4/2		
Hydrology	High water table, Saturation			
Rationale for				
Delineation	Satisfies all three wetland criteria.			
Rationale for	Follows Facility atting system (Limby)	2014)		
Local Rating	Follows Ecology rating system (Hruby 2	, 1		
	Wetland Function			
Hydrologic	Hydrologic  Wetland D has an intermittently flowing outlet, ponding between 0.5-2 feet depth, and a basin that is more than 100 times the size of the unit. The landscape has the potential to support a high level of hydrologic functioning as more than 25% of the contributing basin is covered in intensive human land use, the wetland receives stormwater discharges and more than 10% of the area within 150 feet generates excess runoff. The wetland is within a sub-basin that has flooding farther down gradient and the unit has not been identified in a regional flood control plan.			
Water Quality	Wetland D has an intermittently flowing surface, persistent, ungrazed vegetation area is seasonally ponded. The wetland area within 150 ft. of the wetland genera. The wetland is within a sub-basin on the on the 303d list. A TMDL exists for the	for more than 1/2 of the area a receives stormwater discharges a ates pollutants. There are no sep e 303d list, but does not discharge Lewis River basin.	nd less than ¼ of the total and more than 10% of the stic systems within 250 feet. ge directly to a waterbody	
Habitat	Wetland D has two Cowardin classes (so inundated, occasionally inundated, satur D has low interspersion of habitats and around the wetland is directly accessible undisturbed habitat. Less than 50% of the priority habitats within 100 meters (instanting the latest than 50%).	rated only) and a medium richner no special habitat features. 10 to habitat and more than 50% of the polygon has high intensity la- ream, riparian).	ess of plant species. Wetland to 19% of a 1km polygon this area is relatively and use. There are two	
Buffer Condition	The buffer around Wetland D is disturble lawns. The vegetated buffer consists of vegetation.		-	

Table 3-6. Wetland E Summary.

WETLAND E/F – INFORMATION SUMMARY					
Location: North side of Daybreak Creek, west of northern culvert, on tax parcel 227365000 and 227402000					
		Local Jurisdiction	Clark County		
		WRIA	27 (Lewis)		
		Ecology Rating (Hruby 2014)	III		
		Buffer Width	120 feet (habitat score of 5)		
N SEE		Wetland Size	0.03 acres		
		Cowardin Classification	PFO/PEM		
		HGM Classification	Riverine		
		Wetland Data Sheet(s)	9		
	<b>建</b> 次次等于交通图	Upland Data Sheet (s)	10		
		Flag color	Black and pink striped flagging		
Dominant	Alnus rubra, Fraxinus latifolia, Rubus specta	ahilis. Salix sitchensis. Phalaris arun	dinacea. Glyceria elata		
Vegetation	, , , , , , , , , , , , , , , , , , ,				
Soils	Loam, 10YR 4/2; 10YR3/2; Redox: 7.5	YR 5/6			
Hydrology	High water table, Saturation				
Rationale for Delineation	Satisfies all three wetland criteria.				
Rationale for	Follows Ecology rating system (Hruby 2014) per CCC 40.450.020.				
Local Rating		, 1			
	Wetland Functi	-	11		
Hydrologic	Wetland E has a less than 1:1 ratio of wetland width to stream width and has vegetation of more than 1/3 of the area. The adjacent stream is not down cut or controlled by dams and its upgradient watershed includes an incorporated area. Surface flooding is a problem farther downgradient in the sub-basin and the unit has not been identified in a regional flood control plan.				
Water Quality	Wetland E has depressions that cover less than ½ the area and trees and shrubs cover more than 1/3 the area. The wetland unit is not within an incorporated city or UGA, although the contributing basin of the wetland is within an incorporated city. At least 10% of the contributing basin has been heavily worked and more than 10% of the area within 150ft has land uses that generate pollutants. There are no other sources of pollution entering the wetland. The wetland is along a stream that is on the 303(d) list, but there is no TMDL for Daybreak Creek. Wetland E has not been identified as important for maintaining water quality.				
Habitat	Wetland E has two Cowardin classes (en flooded, permanently flowing stream) as interspersion of habitats and one special stream for 10m). Less than 10% of a 1k and more than 50% of this area is relative high intensity land use. There are two particles of the stream of	nd a medium richness of plant s I habitat feature (overhanging pl m polygon around the wetland i vely undisturbed habitat. Less th riority habitats within 100 meter	pecies. Wetland B has low lants extending 1m over the is directly accessible habitat han 50% of the polygon has its (Riparian, Instream).		
Buffer Condition	The buffer around Wetland E is disturb vegetated buffer consists of lawn grass s	•	-		

Table 3-7. Wetland F Summary.

WETLAND F – INFORMATION SUMMARY				
Location: South side of Daybreak Creek, west of northern culvert on tax parcel 227402000				
III WHITE		Local Jurisdiction	Clark County	
	THE TOTAL PROPERTY.	WRIA	27 (Lewis)	
		Ecology Rating (Hruby 2014)	III	
		Buffer Width	120 feet (habitat score of 5)	
Comment of the second		Wetland Size	0.01 acres	
The sales of the transfer of t		Cowardin Classification	PEM	
		HGM Classification	Riverine	
	the time of	Wetland Data Sheet(s)	9	
<b>从发展的</b>	2000年	Upland Data Sheet (s)	10	
		Flag color	Black and pink striped flagging	
Dominant Vegetation	Ornamental grasses, Ranunculus repens, S	cirpus microcarpus, Alopecurus sp.		
Soils	Loam, 10YR 4/2; 10YR3/2; Redox: 7.5YR 5/6			
Hydrology	High water table, Saturation			
Rationale for Delineation	Satisfies all three wetland criteria.			
Rationale for Local Rating	Follows Ecology rating system (Hruby 2014) per CCC 40.450.020.			
, and the second	Wetland Functi	ons Summary		
Hydrologic	Wetland F has a less than 1:1 ratio of wetland width to stream width and has vegetation of more than 1/3 of the area. The adjacent stream is not down cut or controlled by dams and its upgradient watershed includes an incorporated area. Surface flooding is a problem farther downgradient in the sub-basin and the unit has not been identified in a regional flood control plan.			
Water Quality	Wetland F has depressions that cover less than ½ the area and trees and shrubs cover more than 1/3 the area. The wetland unit is not within an incorporated city or UGA, although the contributing basin of the wetland is within an incorporated city. At least 10% of the contributing basin has been heavily worked and more than 10% of the area within 150ft has land uses that generate pollutants. There are no other sources of pollution entering the wetland. The wetland is along a stream that is on the 303(d) list. There is no TMDL for the receiving waterbody (Daybreak Creek), but a TMDL exists for the Lewis River basin. Wetland F has not been identified as important for maintaining water quality.			
Habitat	Wetland F has one Cowardin class (emergent), two hydroperiods (Occasionally flooded, permanently flowing stream) and a medium richness of plant species. Wetland F has low interspersion of habitats and one special habitat feature (overhanging plants extending 1m over the stream for 10m). Less than 10% of a 1km polygon around the wetland is directly accessible habitat and more than 50% of this area is relatively undisturbed habitat. Less than 50% of the polygon has high intensity land use. There are two priority habitats within 100 meters (Riparian, Instream).  The buffer around Wetland F is disturbed by surrounding maintained lawns and pasture land. The			
Buffer Condition	vegetated buffer consists of lawn grass s	•	*	

Table 3-8. Wetland G Summary.

WETLAND G - INFORMATION SUMMARY			
Location: West side of NE 92 <sup>nd</sup> Avenue and south side of NE 244 <sup>th</sup> Street on parcel #227368000			
	1	Local Jurisdiction	Clark County
		WRIA	27 (Lewis)
		Ecology Rating	, ,
		(Hruby 2014)	III
	All for	Buffer Width	120 feet (habitat score of 5)
	The Marie Co.	Wetland Size	0.50 acres
	<b>一种一种一种一种一种一种一种</b>	Cowardin Classification	PEM
Jal John M.	<b>MATTER</b> 4 4 4 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5	HGM Classification	Slope
	海洲 的复数的第三人称单数	Wetland Data Sheet(s)	11
<b>对于大型的</b>	原则的使用和自己的主义	Upland Data Sheet (s)	12
	Maria Maria	Flag color	Black and pink striped flagging
Dominant	Phalaris arundinacea, Holcus lanatus, Equise	tum arvense. Scirpus microcarpus	
Vegetation			
Soils	Silty loam; 10YR 2/1, 10YR 3/1		
Hydrology	Surface water, Saturation, Groundwater seeps		
Rationale for Delineation	Satisfies all three wetland criteria.		
Rationale for Local Rating	Follows Ecology rating system (Hruby 2014) per CCC 40.450.020.		
	Wetland Function	ons Summary	
Hydrologic	Wetland G has rigid vegetation over 90% of the area. More than 25% of the area within 150ft		
Water Quality	Wetland G has a slope of 1% to 2%. The soil is not a true clay or organic. Dense, uncut, herbaceous plants cover more than 90% of the wetland area. More than 10% of the area 150ft upslope of the wetland has land uses that generate pollutants; septic systems are located upslope and may contribute other sources of pollutants to the wetland. The wetland is within a sub-basin with a waterbody on the 303(d) list (Daybreak Creek), and discharges directly to it. A TMDL exists for the Lewis River basin.		
Habitat	Wetland G has one Cowardin class (emergent), one hydroperiod (saturated only) and a medium richness of plant species. Wetland G has no interspersion of habitats and no special habitat features. Less than 10% of a 1km polygon around the wetland is directly accessible habitat and 10 to 50% of this area is relatively undisturbed habitat, contained within more than three habitat patches. Less than 50% of the polygon has high intensity land use. There wetland is within 100 meters of riparian habitat.		
Buffer Condition	The buffer around Wetland G is disturb maintained lawns. The vegetated buffer	, , , , ,	

Table 3-9. Wetland H Summary.

WETLAND H - INFORMATION SUMMARY			
Location: West side of NE 92 <sup>nd</sup> Avenue and north side of NE 244 <sup>th</sup> Street on parcel #227373000			
		Local Jurisdiction	Clark County
		WRIA	27 (Lewis)
		Ecology Rating (Hruby 2014)	III
THE STATE SHAPE	THE RESERVE OF THE PERSON OF T	Buffer Width	135 feet (habitat score of 6)
	5. 有某一工程等一个	Wetland Size	0.80 acres
	THE PARTY OF THE P	Cowardin Classification	PEM
	THE PARTY OF THE P	HGM Classification	Slope
		Wetland Data Sheet(s)	13
74	<b>家民族 (1) 在於 世界版</b>	Upland Data Sheet (s)	14
		Flag color	Black and pink striped flagging
Dominant	Holcus lanatus, Lotus corniculatus, Agrostis c	rapillaris	
Vegetation	110tus tanatus, Lotas tornicalatus, Agrostis tapitaris		
Soils	Loam; 10YR 3/2; 10YR 4/2; Depletions: 10YR 4/2; Redox: 10YR 4/6, 10YR 5/6		
Hydrology	Surface water present in other sampled areas of wetland		
Rationale for	Satisfies all three wetland criteria.		
Delineation			
Rationale for	Follows Ecology rating system (Hruby 2014) per CCC 40.450.020.		
Local Rating	   Wetland Function	one Summary	
		•	f the area within 150ft
Hydrologic  Wetland H has rigid vegetation over 90% of the area. More than 25% of the area within 150ft upslope of the unit has land uses that generate excess surface runoff. Surface flooding problems occur in the sub-basin down-gradient and the unit has not been identified in a regional flood control plan.			
Water Quality	Wetland H has a slope greater than 2% to 5%. The soil is not a true clay or organic. Dense, uncut, herbaceous plants cover more than 90% of the wetland area. More than 10% of the area 150ft upslope of the wetland has land uses that generate pollutants; there are no other sources of pollutants entering the wetland. The wetland is within a sub-basin with a waterbody on the 303(d) list (Daybreak Creek), and discharges to it. A TMDL exists for the Lewis River basin.		
Habitat	patches. Less than 50% of the polygon has high intensity land use. There are three priority habitats within 100 meters (instream, riparian, snags and logs).		
Buffer Condition	The buffer around Wetland H is disturb The vegetated buffer consists of roadsic		esidential maintained lawns.

Table 3-10. Wetland I Summary.

WETLAND I – INFORMATION SUMMARY				
Location:	West side of NE 92 <sup>nd</sup> Avenue within	the right-of-way near parcel	#227373000	
4		Local Jurisdiction	Clark County	
		WRIA	27 (Lewis)	
		Ecology Rating	TIT	
		(Hruby 2014)	III	
		Buffer Width	135 feet	
			(habitat score of 6)	
		Wetland Size	0.004 acres	
A N		Cowardin Classification	PEM	
		HGM Classification	Slope	
THE PARTY OF THE P		Wetland Data Sheet(s)	15	
		Upland Data Sheet (s)	16	
		Flag color	Black and pink striped flagging	
Dominant	Phalaris arundinacea			
Vegetation				
Soils	Loam; 10YR 3/2; 10YR 4/2; 10YR 5/6			
Hydrology	Saturation, precipitation			
Rationale for	Satisfies all three wetland criteria.			
Delineation				
Rationale for	Follows Ecology rating system (Hruby 2014) per CCC 40.450.020.			
Local Rating		, 1		
	Wetland Functi		:.1: 450C 1 C	
Urrdualania	Wetland I has vegetation over 90% of the area. More than 25% of the area within 150ft upslope of			
Hydrologic	the unit has land uses that generate excess surface runoff. Surface flooding problems occur in the sub-basin down-gradient, though the site has not been identified as important for flood storage.			
	Wetland I has a slope of 2% to 5%. The			
	_ =			
Water Quality	plants cover more than 90% of the wetland area. More than 10% of the area 150ft upslope of the wetland has land uses that generate pollutants; there are no other sources of pollutants entering the			
water Quarty	wetland. The wetland is within a sub-ba		=	
	and discharges directly to it. A TMDL e		s(a) not (2 a) steam steen),	
	Wetland I has one Cowardin class (eme		ted only) and a low richness	
	of plant species. Wetland I has no interspersion of habitats and no special habitat features. Less			
	than 10% of a 1km polygon around the wetland is directly accessible habitat and 10 to 50% of this			
Habitat	area is relatively undisturbed habitat, contained within more than three habitat patches. Less than			
	50% of the polygon has high intensity la		-	
	(instream, riparian, snags and logs).			
Buffer Condition	The buffer around Wetland Lie dicturbed by roadways and recidential areas. The vegetated by			
Duller Condition	consists of roadside grasses.			

Table 3-11. Wetland J Summary.

WETLAND J – INFORMATION SUMMARY			
Location: East side of NE 92 <sup>nd</sup> Avenue and east of NE 244 <sup>th</sup> Street on parcel #227178000			
	(A)	Local Jurisdiction	Clark County
		WRIA	27 (Lewis)
		Ecology Rating (Hruby 2014)	II
		Buffer Width	220 feet (habitat score of 7)
	<b>加克斯曼</b>	Wetland Size	0.32 acres
		Cowardin Classification	PFO, PEM
W. J. V. J.		HGM Classification	Depressional
		Wetland Data Sheet(s)	17
		Upland Data Sheet (s)	18
		Flag color	Black and pink striped flagging
Dominant Vegetation	Fraxinus latifolia, Rosa nutkana, Carex obni		
Soils	Loam; 10YR 4/2; Redox: 7.5YR 4/4, 10	OYR 5/6	
Hydrology	Saturation, Water stained leaves		
Rationale for Delineation	Satisfies all three wetland criteria.		
Rationale for Local Rating	Follows Ecology rating system (Hruby 2014) per CCC 40.450.020.		
Wetland Functions Summary			
Hydrologic	Wetland J has an intermittently flowing ditch, marks of ponding between 0.5 and 2 feet and a basin that is 10 to 100 times the area of the unit. The wetland receives stormwater discharges and more		
Water Quality	Wetland J has an intermittently flowing ditch, no clay or organic soils, persistent vegetation in over 95% of the area and is seasonally ponded for more than 1/4 the area. The wetland receives		
Habitat	Wetland J is forested with 3 out of 5 vegetative strata and has emergent habitats. The unit has three hydroperiods (seasonally inundated, occasionally inundated, saturated only), a medium richness of plant species and moderate interspersion of habitats. Wetland J has two special habitat features (Large downed woody debris, less than 25% invasive plant species). 10 to 19% of a 1km polygon around the wetland is directly accessible habitat and 10 to 50% of this area is relatively undisturbed habitat, contained within more than three habitat patches. Less than 50% of the polygon has high intensity land use. There are three priority habitats within 100 meters (snags and logs, riparian, instream).		
Buffer Condition	A portion of the buffer around Wetland and consists of dense upland mixed force		e remaining buffer is intact

Table 3-12. Wetland K Summary.

	WETLAND K – INFORMATION SUMMARY			
Location:				
		Local Jurisdiction	Clark County	
		WRIA	27 (Lewis)	
		Ecology Rating	III	
		(Hruby 2014)	111	
	10000000000000000000000000000000000000	Buffer Width	135 feet	
			(habitat score of 6)	
<b>WITTING</b>	Market She will be to be	Wetland Size	0.038 acres	
Sales Park		Cowardin Classification	PEM	
<b>全个人工工工工工工工工工工工工工工工工工工工工工工工工工工工工工工工工工工工工</b>	<b>达州湖湖</b>	HGM Classification	Riverine	
	<b>加州</b> 中华 上 1000 1000 1000 1000 1000 1000 1000 1	Wetland Data Sheet(s)	19	
		Upland Data Sheet (s)	20	
的的言語如	<b>预算基础 图27</b>		Black and pink striped	
	THE MINISTER STATES OF THE STA	Flag color	flagging	
Dominant				
Vegetation	Phalaris arundinacea, Glyceria elata, Scirpus	microcarpus, Callitriche stagnalis		
Soils	Silt loam; 10YR 3/2; 10YR 4/2; Deplet:	ions: 10VR 4/1: Redox: 10VR 4	./6	
Hydrology	Saturation, overbank flooding	10115. 1011C 1/ 1, 1CCOX. 1011C 1	7 0	
Rationale for	, ,			
Delineation	Satisfies all three wetland criteria.			
Rationale for				
Local Rating	Follows Ecology rating system (Hruby 2014) per CCC 40.450.020.			
Wetland Functions Summary				
	Wetland K has a less than 5:1 ratio of w	retland width to stream width an	nd has more than 2/3 cover	
Hydrologic	by emergent plants. The adjacent stream is not downcut or controlled by dams and its up-gradient			
Trydrologic	=	ea. Surface flooding is a problem farther down-gradient in		
	the sub-basin and the site has not been		_	
	Wetland K has surface depressions that		*	
	over 2/3 the area. The wetland's contributing basin is within an incorporated city, although the			
W. 0 11	wetland unit is not within an incorporat		_	
Water Quality	been heavily worked and less than 10%		_	
	pollutants. There are no other sources of			
	stream that is on the 303(d) list (Daybreak Creek), but there is no TMDL for it. Wetland K has not been identified as important for maintaining water quality.			
	Wetland K has one Cowardin class (em-		rasionally flooded saturated	
	*	• • • •	•	
	only, permanently flowing stream) and a medium richness of plant species. Wetland K has a low			
Habitat	interspersion of habitats and one special habitat feature (large downed wood). 10 to 19% of a 1km polygon around the wetland is directly accessible habitat and 10 to 50% of this area is relatively			
	undisturbed habitat, contained within m			
	polygon has high intensity land use. There are three priority habitats within 100 meters (riparian			
	instream, snags and logs).	1 ,	\ 1	
	The buffer around Wetland K is partiall	y disturbed by the adjacent road	lway, though the remainder	
Buffer Condition	· · · · · · · · · · · · · · · · · · ·			
	herbaceous species.			
-	*			

Table 3-13. Wetland L Summary.

WETLAND L – INFORMATION SUMMARY				
Location:				
		Local Jurisdiction	Clark County	
		WRIA	27 (Lewis)	
		Ecology Rating	III	
		(Hruby 2014)	III	
		Buffer Width	135 feet	
10.382		Bullet width	(habitat score of 6)	
		Wetland Size	0.024 acres	
		Cowardin Classification	PEM	
		HGM Classification	Riverine	
		Wetland Data Sheet(s)	21	
		Upland Data Sheet (s)	22	
			Black and pink striped	
	在全国的一个	Flag color	flagging	
			1888	
Dominant	Callitriche stagnalis, Scirpus microcarpus, Pha	alaris arundinacea, Glyceria elata,		
Vegetation				
Soils	Silt loam; 10YR 4/2	a		
Hydrology	Saturation, High water table, Overbank	flooding		
Rationale for	Satisfies all three wetland criteria.			
Delineation	outones in three wednite criteria.			
Rationale for	Follows Ecology rating system (Hruby 2	2014) per CCC 40.450.020.		
Local Rating	Local Rating			
	Wetland Functions Summary			
	Wetland L has a less than 5:1 ratio of wetland width to stream width and has more than 2/3 cover by emergent plants. The adjacent stream is not downcut or controlled by dams and its up-gradient			
Hydrologic				
	watershed includes an incorporated area. Surface flooding is a problem farther down-gradient in			
	the sub-basin and the site has not been identified in a regional flood control plan.  Wetland L has surface depressions that cover less than ½ the area and herbaceous plants cover			
	-		-	
	over 2/3 the area. The wetland's contributing basin is within an incorporated city, although the wetland unit is not within an incorporated city or UGA. At least 10% of the contributing basin has			
Water Quality	been heavily worked and less than 10%	•	_	
water Quanty	pollutants. There are no other sources of		_	
	stream that is on the 303(d) list (Daybreak Creek), but there is no TMDL for it. Wetland L has not been identified as important for maintaining water quality.			
	Wetland L has one Cowardin class (eme		asionally flooded, saturated	
	only, permanently flowing stream) and a		•	
		1 1		
Habitat	interspersion of habitats and one special habitat feature (large downed wood). 10 to 19% of a 1km			
Tabitat	polygon around the wetland is directly accessible habitat and 10 to 50% of this area is relatively undisturbed habitat, contained within more than three patches. Less than 50% of the polygon has			
	high intensity land use. There are three			
	and logs).	Priority nabitate within 100 met	cro (ripariari, moncami, smags	
	The buffer around Wetland L is partiall	y disturbed by the adjacent road	way though the remainder	
Buffer Condition	of the buffer is intact mixed forest. The	• • • • • • • • • • • • • • • • • • • •	•	
Dunci Condition	herbaceous species.	vegetated buffer consists of up	iana acc, sinub and	
	nerbaccous species.			

Table 3-14. Wetland M Summary.

WETLAND M – INFORMATION SUMMARY				
Location: West side of NE 92 <sup>nd</sup> Avenue, west of southern culvert, on tax parcel #227453000				
		Local Jurisdiction	Clark County	
		WRIA	27 (Lewis)	
		Ecology Rating	II	
<b>一天大学</b>	<b>化</b> ,那么一个人,是次为多个全	(Hruby 2014)	11	
		Buffer Width	180 feet	
		Wetland Size	(habitat score of 6)	
		Cowardin Classification	0.026 acres	
AN WALL			PEM ·	
		HGM Classification	Riverine	
		Wetland Data Sheet(s)	23	
		Upland Data Sheet (s)	24	
	<b>大学</b>	Flag color	Black and pink striped flagging	
Dominant	Scirpus microcarpus, Glyceria elata, Phalaris a	arundinacea, Juncus effusus, Athyriun	n cycolosorum	
Vegetation				
Soils	10YR 3/2, 10YR 4/2 with 10YR 5/6 and 10YR 4/1 redox features			
Hydrology	Shallow groundwater, overbank flooding			
Rationale for	Satisfies all three wetland criteria.			
Delineation				
Rationale for	Follows Ecology rating system (Hruby 2014) per CCC 40.450.020.			
Local Rating	Wetland Functions Summary			
		-	width and has more than	
Hydrologic	Wetland M has a ratio of less than 5:1 ratio of wetland width to stream width and has more than 2/3 cover by emergent plants. The adjacent stream is not downcut or controlled by dams and its up-gradient watershed includes an incorporated area. Surface flooding is a problem farther down-			
	gradient in the sub-basin, though the site has not been identified as important for flood storage.			
	There are no surface depressions presen			
	The wetland's contributing basin is within an incorporated city, although the wetland unit is not. At least 10% of the contributing basin has been heavily worked and more than 10% of the area within			
Water Quality	150ft has land uses that generate pollutants. There are no other sources of pollution entering the			
	wetland. The wetland is along a stream		_	
	TMDL for it. Wetland M has not been identified as important for maintaining water quality.  Wetland M has one Cowardin class (emergent), three hydroperiods (occasionally inundated,			
	saturated only, permanently flowing stre		-	
	has a low interspersion of habitats and one special habitat feature (large downed wood). Less than			
Habitat	10% of a 1km polygon around the wetland is directly accessible habitat and 10 to 50% of this area			
	is relatively undisturbed habitat. Less that	•		
	are three priority habitats within 100 me	1 .0	•	
D 66 0	The buffer around Wetland M is disturb	, , ,	<u> </u>	
Buffer Condition	consists of upland tree, shrub and herba			
L	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	T	

Table 3-15. Wetland N Summary.

WETLAND N - INFORMATION SUMMARY				
Location: West side of NE 92 <sup>nd</sup> Avenue, west of southern culvert, on tax parcel #227453000				
		Local Jurisdiction	Clark County	
<b>第</b>		WRIA	27 (Lewis)	
		Ecology Rating	II	
	<b>医性发生</b> (1) (1) (1)	(Hruby 2014)	11	
		Buffer Width	180 feet	
			(habitat score of 6)	
	MANUSE SEPTEMBER 1	Wetland Size	0.01 acres	
		Cowardin Classification	PEM	
OF THE PROPERTY OF THE PROPERT		HGM Classification	Riverine	
The state of the s		Wetland Data Sheet(s)	23	
2	10000000000000000000000000000000000000	Upland Data Sheet (s)	24	
		Flag color	Black and pink striped flagging	
Dominant	Scirpus microcarpus, Glyceria elata, Phalaris a	arundinacea. Iuncus effusus. Athvrius	n cycolosorum	
Vegetation	1 1		9	
Soils	10YR 3/2, 10YR 4/2 with 10YR 5/6 ar			
Hydrology	Shallow groundwater, overbank flooding			
Rationale for	Satisfies all three wetland criteria.			
Delineation Rationale for				
	Follows Ecology rating system (Hruby 2014) per CCC 40.450.020.			
Local Rating	Local Rating Wetland Functions Summary			
		•	width and has more than	
	Wetland N has a ratio of less than 5:1 ratio of wetland width to stream width and has more than 2/3 cover by emergent plants. The adjacent stream is not down cut or controlled by dams and its			
Hydrologic	up-gradient watershed includes an incorporated area. Surface flooding is a problem farther down-			
	gradient in the sub-basin, though the site has not been identified as important for flood storage.			
	There are no surface depressions presen			
	The wetland's contributing basin is with			
Water Onality	least 10% of the contributing basin has been heavily worked and more than 10% of the area within			
Water Quality	150ft has land uses that generate pollutants. There are no other sources of pollution entering the			
	wetland. The wetland is along a stream t	that is on the 303(d) list (Daybre	eak Creek), but there is no	
	TMDL for it. Wetland N has not been i	dentified as important for main	taining water quality.	
	Wetland N has one Cowardin class (emo	• • •	•	
	saturated only, permanently flowing stream), and a medium richness of plant species. Wetland N			
Habitat	has a low interspersion of habitats and one special habitat feature (large downed wood). Less than			
1100100	10% of a 1km polygon around the wetland is directly accessible habitat and 10 to 50% of this area			
	is relatively undisturbed habitat. Less that		-	
	are three priority habitats within 100 me		0,	
Buffer Condition	The buffer around Wetland N is disturb		_	
	consists of upland tree, shrub and herba	iceous species and some orname	ental herbaceous species.	

Table 3-16. Wetland O Summary.

WETLAND O – INFORMATION SUMMARY				
Location:	Location: West side of NE 92 <sup>nd</sup> Avenue, west of southern culvert, on tax parcel #227453000			
		Local Jurisdiction	Clark County	
STATE OF THE STATE		WRIA	27 (Lewis)	
100		Ecology Rating	II	
		(Hruby 2014)	11	
		Buffer Width	180 feet	
		Wetland Size	(habitat score of 6) 0.018 acres	
	<b>大大人</b> 人人,一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一	Cowardin Classification	PEM	
		HGM Classification	Riverine	
<b>美国的</b>		Wetland Data Sheet(s)	23	
	一个生态风险大流 经衰弱	Upland Data Sheet (s)	24	
		Flag color	Black and pink striped flagging	
Dominant	Scirpus microcarpus, Glyceria elata, Phalaris a	arundinacea, Athyrium cycolosorum		
Vegetation	1 1			
Soils	10YR 3/2, 10YR 4/2 with 10YR 5/6 and 10YR 4/1 redox features			
Hydrology	Shallow groundwater, overbank flooding			
Rationale for Delineation	Satisfies all three wetland criteria.			
Rationale for Local Rating	Follows Ecology rating system (Hruby 2014) per CCC 40.450.020.			
Local Rating	Wetland Function	ons Summary		
		-	width and has more than	
Hydrologic	Wetland O has a ratio of less than 5:1 ratio of wetland width to stream width and has more than 2/3 cover by emergent plants. The adjacent stream is not down cut or controlled by dams and its up-gradient watershed includes an incorporated area. Surface flooding is a problem farther downgradient in the sub-basin, though the site has not been identified as important for flood storage.			
Water Quality	There are no surface depressions present on the unit and trees and shrubs cover over 2/3 the area. The wetland's contributing basin is within an incorporated city, although the wetland unit is not. At least 10% of the contributing basin has been heavily worked and more than 10% of the area within 150ft has land uses that generate pollutants. There are no other sources of pollution entering the wetland. The wetland is along a stream that is on the 303(d) list (Daybreak Creek), but there is no TMDL for it. Wetland O has not been identified as important for maintaining water quality.			
Habitat	Wetland O has one Cowardin class (emergent), three hydroperiods (occasionally inundated, saturated only, permanently flowing stream), and a medium richness of plant species. Wetland O has a low interspersion of habitats and one special habitat feature (large downed wood). Less than 10% of a 1km polygon around the wetland is directly accessible habitat and 10 to 50% of this area is relatively undisturbed habitat. Less than 50% of the polygon has high intensity land use. There are three priority habitats within 100 meters (riparian, instream, snags and logs).			
Buffer Condition	The buffer around Wetland O is disturb consists of upland tree, shrub and herba	•	_	

# 3.2 Wetland Functions, Ratings, and Buffer Widths

Wetlands A, B, C, and D are depressions located within a relict side channel of East Fork Lewis River situated on the north side of the Manley Road embankment. Wetland A is rated as a Category III with a habitat score of 4, and has a standard buffer width of 80 feet. Wetland B is rated as Category III with a habitat score of 5, and has a standard buffer width of 120 feet. Wetlands C and D are rated Category III with a habitat score of 6, and have a standard buffer width of 135 feet. Hydrology in wetlands A through D is supported by precipitation and shallow groundwater. The wetlands have the ability to hold water and trap and remove pollutants from stormwater runoff from the adjacent roadway. These wetlands are connected by a series of perched culverts in residential driveways. Wetlands A and B provide limited habitat opportunities due to low structural complexity of vegetation and a lack of special habitat features (e.g., snags, ponded areas with thinstemmed wood, logs). Wetlands C and D have a higher rating for habitat as they have higher vegetation complexity, interspersion of habitats, and are within 100 meters of riparian and instream habitats along Daybreak Creek.

Wetlands E and F are Category III rated riverine wetlands with a habitat score of 5, and have a standard buffer width of 120 feet. Wetlands E and F are on opposite sides of Daybreak Creek, and were rated as one unit. Daybreak Creek is a 303(d) listed waterbody, and its contributing basin is located within the Battle Ground Urban Growth Area (UGA). Wetlands E and F have moderate to high potential for water quality and hydrologic functions. Wetland F consists primarily of maintained lawn grasses, which limits its ability to slow water velocities during high flows. Wetland E is more densely vegetated, and provides a relatively higher level of water quality and hydrologic functions. Wetland E has a moderate level of habitat functions, including overhanging vegetation that extends approximately 1 meter over the stream for at least 10 meters.

Wetland G is rated Category III with a habitat score of 5, and has a standard buffer width of 120 feet. Wetland H is rated Category III with a habitat score of 6, and has a standard buffer width of 135 feet. Wetland I is rated Category III with a habitat score of 6 and has a standard buffer width of 135 feet. Wetlands G, H, and I are slope wetlands. Wetlands G and H are located in former pasture lands, and Wetland I is located within a vegetated roadside ditch. All three wetlands include significant patches of reed canarygrass. Wetlands G, H and I are rated moderate to high for water quality functions, and moderate for all hydrologic functions. Wetlands G, H and I have low habitat site potential and moderate habitat landscape potential. Wetland G is within 100 meters of riparian habitat, and Wetlands H and I are within 100 meters of riparian, instream, and snags and logs priority habitats.

Wetland J is rated Category II with a habitat score of 7, and has a standard buffer width of 220 feet. Wetland J is a depressional wetland that discharges directly to Daybreak Creek, a 303(d) listed waterbody. The wetland scores moderate to high for water quality functions, and moderate for all hydrologic functions. The wetland receives stormwater discharges from the adjacent roadway during precipitation events, and has seasonal ponding for more than a quarter of the area that traps and removes pollutants. The wetland scored medium for habitat site potential and landscape potential,

and high for habitat value. Wetland J is a multi-strata forested wetland with several hydroperiods and special habitat features. It is also within 100 meters of the WDFW-listed priority habitats, including riparian and instream habitats and snags and logs.

Wetlands K and L are rated Category III with a habitat score of 6, and have a standard buffer width of 135 feet. Wetlands K and L were rated as one unit, and provide a moderate level of water quality functions. Daybreak Creek originates in the Battle Ground UGA and discharges to East Fork Lewis River. The wetland unit scored moderate to high for hydrologic functions as the wetlands attenuate flooding downstream. The wetlands scored low to high for habitat functions. The unit has limited plant communities and interspersion of habitats; however, the unit is within 100 meters of three WDFW-listed priority habitats.

Wetlands M, N, and O were rated as one unit. The unit is rated Category II with habitat score of 6, and the wetlands have a standard buffer width of 180 feet. The riverine wetlands are located on the north and south banks of Daybreak Creek on the west side of the southern culvert. The wetlands scored moderate to high for water quality and hydrologic functions. The wetland unit has dense emergent vegetation that slows floodwaters and traps sediment and pollutants. Wetlands M, N, and O scored low to medium for habitat functions due to only one Cowardin habitat class, low interspersion of habitat classes, and proximity to riparian and instream priority habitats.

#### 3.3 Delineated Watercourses

Daybreak Creek flows northwest for approximately 4,000 feet through the study area, and discharges to East Fork Lewis River approximately 0.8 mile downstream. Daybreak Creek is currently on Ecology's 303(d) list as a Category 5 for elevated temperature and low dissolved oxygen (Ecology 2017). Within the study area, Daybreak Creek flows through three culverts under Manley Road, referred to herein as the northern, middle, and southern culverts. The creek flows through a fourth culvert under a private driveway between the northern and middle culverts. The Daybreak Creek habitat survey was divided into separate reaches based on the three Manley Road culverts, and are indicated as Segments 1 through Segments 6 as described in Section 2 (Methods) of this report and shown on Exhibit A in Appendix B. Characteristics of Daybreak Creek are summarized in Table 3-17.

Table 3-17. Daybreak Creek

	STREAM INFORMA	TION SUMMARY	
Location:	Headwaters at NE 244th Street and N into East Fork Lewis River.	NE 112 <sup>th</sup> Avenue, flowing wes	tward and discharging
		Stream Name	Daybreak Creek
		WRIA	27
		WDNR Stream ID	1226050458131
		Local Jurisdiction	Clark County
		DNR Stream Type	F
		Local Stream	F
		Classification	
	60	USACE Classification	RPW
		Buffer Width	200 feet (CCC 40.440.010)
	4)		,
		Documented Fish Use	WDFW-documented partial fish passage barriers are located downstream of the project corridor; partial and total fish passage barriers are documented within the project corridor; and, a total fish passage barrier is located upstream of the project corridor. Daybreak Creek has documented use by coho salmon and
Riparian Buffer Condition	Mix of upland forest and shrub habitats buffer width is greatly reduced in the no uses and rural residential lots.		•
Flow Regime and Flow Path	Daybreak Creek flows into East Fork L is a fish bearing stream, and has a peren	9	•

### 3.3.1 Daybreak Creek: Segment I

#### Stream Reach Assessment: Segment I

Segment 1 flows through a maintained lawn with concrete armoring near the adjacent property, and into a narrow forested riparian corridor. The channel is slightly incised through the lawn area. Riparian wetlands E and F are included in Segment 1. Segment 1 has low in-channel complexity with riffles comprising the majority of the in-stream habitat units (94 percent), and pools for the remainder (6 percent). The mean bankfull width in Segment 1 is 18.5 feet, and the mean bankfull depth is 2.26 feet.

Substrate in Segment 1 primarily consists of fine-grained sediments and gravels, with fine sediments dominating the downstream end of the reach and gravels dominating the higher gradient portion of the reach near the culvert. Portions of the concrete armoring had eroded into the stream, resulting in

some larger substrate within the channel. In the lower energy portions of the reach, substrate was observed to be 50-100 percent embedded with fines, while the higher energy portions of the segment exhibited 0-25 percent embeddedness. Stream banks along the lower portion of Segment 1 were stable, whereas concrete bank armoring and slightly unstable banks were observed in the upper portion.

#### Riparian Corridor Assessment: Segment I

Segment 1 flows through maintained lawn and a small portion of a riverine forested wetland (Wetland E). Vegetation cover for the forested banks in the down-gradient portion of the reach includes Pacific willow (Salix lasiandra), with an herbaceous layer consisting of small-fruited bulrush, sawbeak sedge (Carex stipata) and stinging nettle (Urtica dioica). Invasive vegetation includes Himalayan blackberry (Rubus armeniacus), jewelweed (Impatiens capensis), wild cucumber (Echinocystis lobata) and creeping nightshade (Solanum dulcamara). Human manipulation of the riparian vegetation was evident on both banks in the up-gradient portion of the reach. This area consists of a maintained lawn, with landscaping grass, creeping buttercup (Ranunculus repens), and common dandelion (Taraxacum officinale). Big leaf maple (Acer macrophyllum) and winged elm (Ulmus alata) were observed near the mouth of the culvert. Canopy cover overall was estimated to be approximately 10 percent.

#### Fish Habitat Value: Segment I

Segment 1 has low fish habitat value. Habitat limiting factors for fish include a complete absence of large or medium woody debris for providing in-stream habitat features; a highly disturbed riparian zone consisting of invasive plant species and bank armoring; a simplified habitat that consists of a mostly straight riffle habitat with very few pools; lack of vegetative shading and thermal buffering and a high likelihood of degraded water quality at periodic intervals due to surrounding land uses such as horse pastures and mowed lawns.

#### 3.3.2 Daybreak Creek: Segment II

#### Stream Reach Assessment: Segment II

Segment 2 of Daybreak Creek begins at the upstream end of the northern culvert and extends to the downstream end of the culvert below the adjacent property's driveway, for a length of approximately 131 feet. This segment is characterized by a large upland island consisting of grass and bare cobbles, diverting the stream into two flow paths. The stream path near the left bank was elevated, did not convey flow, and lacked any habitat units--thus characterization for this segment was taken along the wider stream path nearest the right bank. The stream is bordered by NE Manley Road, driveways and cattle pasture. Stream habitat units consist mostly of cascades (88 percent) with one riffle (12 percent). The mean bankfull width in Segment 2 is 16 feet, and the mean bankfull depth is 2.1 feet.

Substrate in Segment 2 consisted primarily of gravels with some cobbles and few fine-grained sediments. Embeddedness of sediment is 0-25 percent throughout the reach. Both banks near the northern culvert are armored by a rock wall. Both banks consist of landscaping and some ornamental vegetation. No large wood was observed in-stream.

#### Riparian Corridor Assessment: Segment II

Segment 2 flows through a maintained landscaped area. As a result, the riparian corridor is heavily impacted by human use and planted with non-native ornamental vegetation. The vegetation cover is sparsely forested by big leaf maple and Douglas fir (*Pseudotsuga menziesii*). Herbaceous species including ornamental species consist of archangel (*Lamium galeobdolon*), daylily (*Hemerocallis sp.*), pennywort (*Hydrocotyle sibthorpioides*), buttercup, boxwood (*Buxaceae sp.*), ornamental roses, ornamental laurels, and honeysuckle (*Lonicera sp.*). Overall canopy cover was estimated to be approximately 70 percent.

#### Fish Habitat Value: Segment II

Segment 2 has low to moderate fish habitat value. Sculpin were noted in Segment 2 during the habitat assessment. Gravels and cobbles dominate over fine-grained sediments, and have a low embeddedness. An ample tree canopy provides shade and organic input. Habitat limiting features for fish include an absence of woody debris, highly disturbed riparian zone consisting of landscaped areas, a lack of habitat type complexity, and high potential for degraded water quality due to adjacent roadway and cattle pasture.

#### 3.3.3 Daybreak Creek: Segment III

#### Stream Reach Assessment: Segment III

Segment 3 begins at the upstream end of the driveway culvert and continues up-gradient to the downstream end of the middle culvert for approximately 407 feet. The reach is a long linear corridor with very little variation in habitat types. A long linear riffle comprises approximately 92 percent of the reach. Immediately downstream of the middle culvert is a large cascade comprising approximately 8 percent of the reach. The riffle habitat has an approximate 3-4 percent gradient, and the cascade habitat unit has a 13 percent gradient. The mean bankfull width for Segment 3 is 15.5 feet, and the mean bankfull depth is 2.24 feet.

Substrate throughout the segment is consistent in size, with gravels and cobbles being most abundant with the presence of few fine-grained sediments. Substrate is embedded by fines to a degree of 0 to 25 percent. Bank instability was observed on both the right and left banks of the reach. The right bank is largely undercut, and evidence of heavy scour and erosion is evident along the left bank immediately downstream of the middle culvert from heavy flows. Field observations noted a portion of the middle culvert had separated at a seam and had water piping through the side. Five pieces of large wood were observed within the channel in the up-gradient sections of the reach.

#### Riparian Corridor Assessment: Segment III

Segment 3 is channelized between a roadway and fenced pastureland. The right bank has very steep slopes to the roadway above, and the left bank is largely flat land leading to cattle pasture. Vegetative cover includes mixed deciduous and coniferous tree canopy with red alder (*Alnus rubra*), big leaf maple, and Douglas fir as the dominant species. Shrubs and groundcover include lawn grass, Siberian miner's lettuce (*Claytonia sibirica*), pennywort, fringecup (*Tellima grandiflora*), salmonberry (*Rubus spectabilis*), maidenhair fern (*Adiantum pedatum*). Invasive species include holly (*Ilex aquifolium*),

cut-leaf blackberry (*Rubus laciniatus*), and Himalayan blackberry. Canopy cover was estimated to be approximately 90 percent.

#### Fish Habitat Value: Segment III

Segment 3 has moderate fish habitat value. The presence of a dense tree canopy provides shade and organic input. There is minimal habitat unit complexity; riffle habitat is dominant, but no pool habitat exists within the segment. The dominance of gravels and cobbles with a low degree of embeddedness provides suitable spawning habitat and large wood within the segment enhances stream channel complexity. Limiting factors for fish include unstable banks, which can cause sedimentation within the stream; evidence of scouring suggests that the culvert is undersized and creates velocity issues, and the high likelihood of degraded water quality due to stormwater runoff from the roadway and adjacent pasture.

#### 3.3.4 Daybreak Creek: Segment IV

#### Stream Reach Assessment: Segment IV

Segment 4 extends from the upstream side of the middle culvert to approximately 200 feet upgradient. The stream in this reach has a complex natural channel morphology consisting of braided channels and slight meanders through a steep sided forested ravine. Segment 4 has high in-stream habitat variability with alternating between cascades and riffles. Cascades have gradients between approximately 13-25 percent, and riffles had gradients of approximately 1-7 percent. Riffles comprise 84 percent of the reach, and cascades comprise 16 percent. The mean bankfull width was 10.17 feet, and the mean bankfull depth was 1.8 feet.

Primary substrate in Segment 4 consists of a mix of cobbles and gravels with trace fine-grained sediments near the upstream end of the reach. Embeddedness values for the entire reach are 0-25 percent cover by fine-grained sediments.

Bank stability for the majority of Segment 4 is stable. The left bank is a steep sided ravine with a roadway at the top of slope. Portions of the roadway shoulder above are eroded, though the stream bank itself is stable. The right slope is also steep-sided, and is supported by mixed forest and a dense shrub layer. Two large wood pieces were observed at the downstream end of the reach near the culvert opening; both were located within the channel and suspended across it. A rootwad partially within the channel and on the bank was observed near the downstream section of the reach. A large log approximately 50 feet in length was observed in the middle of the reach at the beginning of the braided channel section. It was evident by its stage of decay that the log had blocked the primary stream path and created the braided system, increasing the habitat complexity of the reach.

#### Riparian Corridor Assessment: Segment IV

This reach of Daybreak Creek flows through a steep sided ravine with mixed forest on both sides. A roadway is present at the top of the left side of the ravine. The mixed forest canopy is dominated by red alder and Douglas fir, and has a dense shrub and herbaceous understory. Dominant shrubs and herbaceous species include: vine maple (*Acer circinatum*), salmonberry, red elderberry (*Sambucus racemosa*), Western meadowrue (*Thalictrum occidentale*), inside-out flower (*Vancouveria hexandra*), pacific

waterleaf (*Hydrophyllum tenuipes*), maidenhair fern (*Adiantum sp.*), stinging nettle, and red huckleberry (*Vaccinium parvifolium*). Canopy cover was estimated to be approximately 80 percent.

#### Fish Habitat Value: Segment IV

Segment 4 has moderate to high fish habitat value, with sufficient canopy for shade relief, presence of overhanging shrubs and trees to provide organic input, a complex stream habitat system with alternating riffles and cascades, and large woody debris within the channel. Limiting factors include, lack of pool habitats, and the potential for degraded water quality from stormwater runoff from the adjacent roadway.

#### 3.3.5 Daybreak Creek: Segment V

#### Stream Reach Assessment: Segment V

Segment 5 begins approximately 207 feet downstream of the southern culvert, and is bordered by moderately steep slopes with residential yards and roadways at the top of the banks. The downstream side of the southern culvert is characterized by a large scour pool from high velocity flows through the culvert. The reach has moderate in-stream habitat complexity and is marked by alternating glides and riffles before reaching the pool at the mouth of the southern culvert. Riffles comprise approximately 38 percent of the reach, glides comprise approximately 50 percent, and the pool comprises approximately 12 percent. The mean bankfull width was 15.4 feet, and the mean bankfull depth was 2.72 feet.

Substrate size is consistent throughout the reach, and consists mostly of fine-grained sediments and some gravels. Small angular rock, which appeared to be a type of fill material, was observed within the scour pool and at the tail of the pool. Embeddedness of substrate is 75 to 100 percent throughout the reach. Both banks are stable, and no large wood was observed.

#### Riparian Corridor Assessment: Segment V

Both banks are densely vegetated with mixed forest, shrubs and emergent vegetation. The left bank is forested with a roadway at the top of bank. Dominant tree species include: cascara (Frangula purshiana), Oregon ash, Western red cedar (Thuja plicata), and red alder. Dominant shrub and herbaceous species include: Himalayan blackberry, reed canarygrass, creeping nightshade, small-fruited bullrush, water-starwort (Callitriche stagnalis), willowherb (Epilobium watsonii), Pacific ninebark (Physocarpus capitatus), mannagrass, beaked hazelnut (Corylus cornuta), and salmonberry. Both banks are vegetated with emergent species and lack shade from overhanging shrub or tree limbs. Canopy cover was estimated to be approximately 25 percent. Banks on both sides are stable throughout the reach.

#### Fish Habitat Value: Segment V

Segment 5 has low habitat value for fish species. The reach has varying habitat types between glides and riffles and a large pool, but lacks instream complexity from large wood. The reach is characterized by heavy sedimentation, which reduces available spawning and rearing habitat for fish. Evidence of angular gravels—not associated with alluvial/stream material—was apparent. There is a

high probability for reduced water quality from pollutants entering the stream from the adjacent roadway.

### 3.3.6 Daybreak Creek: Segment VI

#### Stream Reach Assessment: Segment VI

Segment 6 begins at the upstream end of the southern culvert and extends approximately 264 feet upstream. The southern culvert is undersized and partially crushed by the roadway overhead, resulting in a large backwatering effect. Segment 6 consists mostly of long glides and one riffle segment. Glides comprise approximately 82 percent of the reach and riffles comprise approximately 18 percent. The mean bankfull width was 37.6 feet and the mean bankfull depth was 3.78 feet.

Substrate size is consistent throughout the reach, and consists mostly of fine-grained sediments with some gravels. Heavy sedimentation results in substrate embeddedness of 75 to 100 percent throughout the reach. Banks are stable on both sides for the length of the segment, and one piece of large wood was observed, contributing to stream complexity. The large wood piece spans the channel, is submerged at one end, and is embedded within the bank at the other end. The log is approximately 17 inches in diameter and approximately 20 feet in length.

#### Riparian Corridor Assessment: Segment VI

Segment 6 is bordered by mixed forest and shrub habitat along both banks. Banks consist of bare mud and silt deposits with sparse emergent vegetation and gradually slope up towards the shrubs and mixed forest. Dominant tree species include big leaf maple, Douglas fir, red alder, cascara and Oregon ash. Dominant shrubs and herbaceous species include large mats of water-starwort, pennywort, maidenhair fern, pacific waterleaf, creeping nightshade, salmonberry, osoberry (*Oemleria cerasiformis*), red elderberry, reed canarygrass and Himalayan blackberry. Canopy cover was estimated to be approximately 15 percent.

#### Fish Habitat Value: Segment VI

Segment 6 has low fish habitat value. The stream is choked with fine sediments and large mats of water-starwort providing little to no habitat for spawning or rearing. The majority of the reach consists of one large glide habitat, and the reach lacks stream complexity overall. Lack of shading over the channel from trees and shrubs likely generate higher water temperature waters which are suboptimal for salmonids.

# 3.4 Sensitive Plants, Fish, and Wildlife

Daybreak Creek is within the Willamette/Lower Columbia Recovery Domain for West Coast Salmon and Steelhead under the Endangered Species Act (ESA). Daybreak Creek is listed as critical habitat for the Columbia River (CR) Chum (*Oncorhynchus keta*) Evolutionarily Significant Unit (ESU), CR Steelhead (*Oncorhynchus mykiss*) Distinct Population Segment, and Lower CR Coho (*Oncorhynchus kisutch*) ESU (NOAA 2017). CR Chum, CR Steelhead, and Lower CR Coho are listed as Threatened under the ESA.

WDFW's SalmonScape online mapping tool shows the potential presence of fall-run chum salmon, presumed presence of summer steelhead, and documented presence of coho salmon and winter steelhead within Daybreak Creek. Winter steelhead is also presumed in the upper reaches of Daybreak Creek upstream of the study area (WDFW 2017a).

WDFW's PHS on the Web online mapping tool lists priority species occurring within Daybreak Creek: resident steelhead (i.e., rainbow trout), winter- and summer-run steelhead, and coho salmon (WDFW 2017). Gray wolf (*Canis lupus*) is mapped to occur within the same surveyed land township as the project site (T04N). Caves or cave-rich areas, a WDFW-listed priority habitat, occurs within the same surveyed land township as the project site.

Per the Washington Natural Heritage Program, no sensitive plant species or natural heritage features are known to occur within the same surveyed land section as the study area (WDNR 2017a).

# 3.5 Regulatory Summary

Wetlands and streams in the study area are regulated by federal (USACE), state (Ecology and WDFW), and local (Clark County) agencies. Wetland and stream buffers are regulated by Clark County per CCC Chapters 40.440 (Habitat Conservation) and 40.450 (Wetland Protection). Impacts to wetlands and streams and their buffers require prior authorization and coordination with regulatory agencies.

## 3.5.1 U.S. Army Corps of Engineers

The Environmental Protection Agency (EPA) and USACE regulate wetlands and other waters of the United States under Section 404 of the Clean Water Act (CWA). The 2006 Rapanos Supreme Court decision held that EPA and USACE maintain jurisdiction over traditional navigable waters (TNW), wetlands adjacent to or abutting TNW, non-navigable tributaries of TNW that are relatively permanent waters (RPW), and wetlands that abut such tributaries. For those wetlands associated with non-navigable tributaries that are not relatively permanent waters (non-RPW), the agencies will assert jurisdiction where they are found to have a significant nexus to a TNW.

Daybreak Creek and the associated wetlands in the study area meet the definition of Waters of the US per 33 Code of Federal Regulations (CFR) Part 328. East Fork Lewis River is a TNW, and the wetlands in the study area that abut Daybreak Creek or are within the floodplain of East Fork Lewis Creek are assumed to be regulated. Discharge of fill material into Daybreak Creek and the associated wetlands is therefore regulated under Section 404 and 401 of the CWA.

## 3.5.2 Washington State Department of Fish and Wildlife

WDFW requires issuance of a Hydraulic Permit Approval (HPA) prior to any activities that may directly or indirectly affect streams or associated aquatic resources considered as waters of the state. WDFW has jurisdiction over Daybreak Creek in the study area, and administers the HPA program under the state Hydraulic Code [Chapter 77.55 Revised Code of Washington (RCW)]. An HPA will

be required for any work within and adjacent to the OHWM of Daybreak Creek, including both wetlands and uplands within the riparian corridor.

#### 3.5.3 Washington State Department of Ecology

Ecology regulates activities in wetlands and streams under Section 401 of the CWA through the Water Quality Certification process. Ecology has authority over discharge into all wetlands and streams, and can impose buffers and compensatory mitigation for impacts under 90.48 RCW depending on the proposed project and amount of impacts to aquatic resources.

#### 3.5.4 Local Jurisdiction - Clark County

The Clark County regulates critical areas (e.g., wetlands, streams and their buffers) per CCC Chapter 40.4 (Critical Areas and Shorelines). All wetlands and streams within the study area are regulated by the Clark County. Activities that modify wetlands, streams or their buffers requires authorization from the city, including a critical areas assessment report that adequately evaluates the proposed action and potential impacts to support any land use application (CCC Chapter 40.450.010).

# **Chapter 4. References**

- Brinson, M.M. 1993. Hydrogeomorphic classification for wetlands. Technical Report. WRP-DE-4. 79 pp. Washington, D.C: U.S. Army Corps of Engineers, Wetlands Research Program.
- Cowardin, L.M., V. Carter, F. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. FWS/OBS-70/31. 131 pp. Washington, D.C: U.S. Fish & Wildlife Service, Office of Biological Services.
- Google Earth Pro. 2017. Available at <a href="https://www.google.com/earth/">https://www.google.com/earth/</a>, accessed June 16, 2017.
- Hruby, T. 2014. Washington State Wetland Rating System for Western Washington: 2014 update. Washington State Department of Ecology Publication # 14-06-029. Olympia, Washington.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. Western Mountains, Valleys, and Coast: 2016 Regional Wetland Plant List. Phytoneuron 2016-30: 1-17.
- Natural Resources Conservation Service (NRCS). 2017. WETS Station Battle Ground, WA. United States Department of Agriculture. Available at <a href="https://www.wcc.nrcs.usda.gov/climate/navigate\_wets.html">https://www.wcc.nrcs.usda.gov/climate/navigate\_wets.html</a>, accessed August 18, 2017.
- National Ocean and Atmospheric Administration (NOAA) Fisheries. Endangered Species Act Critical Habitat West Coast Region. 2017. Available at <a href="http://www.westcoast.fisheries.noaa.gov/maps\_data/endangered\_species\_act\_critical\_habitat.html">http://www.westcoast.fisheries.noaa.gov/maps\_data/endangered\_species\_act\_critical\_habitat.html</a>, accessed on August 18, 2017.
- Natural Resource Conservation Service (NRCS). 2016. Field Indicators of Hydric Soils in the United States Version 8.0. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds). USDA-NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- NRCS. 2017. Web Soil Survey. United States Department of Agriculture. Available online at http://websoilsurvey.nrcs.usda.gov/., accessed June 16, 2017.
- NRCS. 2017. The PLANTS Database (last updated October 16, 2017). National Plant Data Team, Greensboro, NC. United States Department of Agriculture. Accessed October 2017 at <a href="http://plants.usda.gov">http://plants.usda.gov</a>.
- Schuett-Hames, D., A.E. Pleus, And D. Smith. 1999. TFW Monitoring Program method manual for the salmonid spawning habitat availability survey. Prepared for the Washington Department of Natural Resources under the Timber, Fish, and Wildlife Agreement. TFEW-AM9-99-007. DNR #109. November.
- U.S. Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetland Delineation Manual. Technical Report. Y-87-1. Vicksburg, Mississippi: U.S. Army Corps of Engineers Environmental Laboratory.
- USACE. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, Version 2.0, ed. J.S. Wakeley, R.W. Lichvar, and

- C.V. Noble. ERDC/EL TR-10-3. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.
- U.S. Fish and Wildlife Service (USFWS). 2017. National Wetlands Inventory website. U.S. Department of the Interior, Washington D.C. Available at: <a href="http://www.fws.gov/wetlands">http://www.fws.gov/wetlands</a>
- Washington Department of Ecology (Ecology). 2008. Determining the Ordinary High Water Mark on Streams in Washington State (Second Review Draft) Revised March 2010. Ecology publication #08-06-001. Olympia, WA.
  - -Ecology. 2017. Washington State Water Quality Atlas. Washington State Department of Ecology. Available at <a href="https://fortress.wa.gov/ecy/waterqualityatlas/StartPage.aspx">https://fortress.wa.gov/ecy/waterqualityatlas/StartPage.aspx</a>, accessed on August 17, 2017.
- Washington Department of Fish and Wildlife (WDFW). 2017. PHS on the Web. Available online at <a href="http://apps.wdfw.wa.gov/phsontheweb/">http://apps.wdfw.wa.gov/phsontheweb/</a>, accessed on August 17, 2017.
  - WDFW. 2017a. SalmonScape. Available online at <a href="http://apps.wdfw.wa.gov/salmonscape/">http://apps.wdfw.wa.gov/salmonscape/</a>, accessed on August 17, 2017.
- Washington Department of Natural Resources (WDNR). 2017. Forest Practices Application Mapping Tool. Available online at <a href="https://fortress.wa.gov/dnr/protectiongis/fpamt/default.aspx">https://fortress.wa.gov/dnr/protectiongis/fpamt/default.aspx</a>, accessed on June 16, 2017.
  - WDNR. 2017a. Sections that Contain Natural Heritage Features, Data Current as of February 6, 2017. Available online at: <a href="http://file.dnr.wa.gov/publications/amp-nh-trs.pdf">http://file.dnr.wa.gov/publications/amp-nh-trs.pdf</a>

# **Appendix A** — **Methods and Tools**

Table A-1. Methods and Tools Used to Prepare the Report.

Parameter	Method or Tool	Website	Reference
Wetland Delineation	Washington State Wetlands Identification and Delineation Manual	https://fortress.wa.gov/ecy/ publications/publications/9 694.pdf	Washington Department of Ecology. 1997.  Washington State Wetlands Identification and Delineation Manual. Ecology Publication #96-94. Olympia, Washington.
	Corps of Engineers Wetlands Delineation Manual	http://el.erdc.usace.army.m il/elpubs/pdf/wlman87.pdf	U.S. Army Corps of Engineers. 1987. Corps of Engineers Wetland Delineation Manuel. Environmental Laboratory Wetlands Research Program Technical Report Y-87-1, U.S. Army Corps of Engineers, Engineer Waterways Experiment Station, Vicksburg, Mississippi.
	Regional Supplement to the Corps of Engineers Wetland Delineation Manual : WMVC	http://www.usace.army.mil/ Portals/2/docs/civilworks/re gulatory/reg_supp/west_mt_finalsupp.pdf	U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. J.S. Wakely, R. W. Lichvar, and C.V. noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
Wetland Classification	USFWS / Cowardin Classification System	http://www.fws.gov/nwi/Pub s_Reports/Class_Manual/cl ass_titlepg.htm	Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. Government Printing Office, Washington, D.C.
	Hydrogeomorphic Classification (HGM) System	http://el.erdc.usace.army.m il/wetlands/pdfs/wrpde4.pdf	Brinson, M. M. (1993). "A hydrogeomorphic classification for wetlands," Technical Report WRP-DE-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS. NTIS No. AD A270 053.
Wetland Rating	Washington State Wetland Rating System: Western WA	http://www.ecy.wa.gov/bibli o/0406025.html	Hruby. 2014. Washington State Wetland Rating System for Western Washington –2014 Update. Publication # 14-06-029.
	Clark County Municipal Code	http://www.codepublishing. com/WA/ClarkCounty/	Website. Requires compliance with Clark County Municipal Code (40.450) and use of 2014 Ecology rating system.
Stream Delineation	OHWM	http://www.usace.army.mil/ Portals/2/docs/civilworks/re gulatory/cwa_guide/app_h _rgl05-05.pdf	U.S. Army Corps of Engineers. Regulatory Guidance Letter No. 05-05. Ordinary High Water Mark Identification.
	ОНWМ	http://www.ecfr.gov/cgi- bin/text- idx?tpl=/ecfrbrowse/Title33/ 33cfr328 main 02.tpl	Congressional Federal Register 33 Part 328 Definition of Waters of the United States.
	OHWM	https://fortress.wa.gov/ecy/publications/documents/16 06029.pdf	Washington State Department of Ecology. 2010. Determining the Ordinary High Water Mark for Shoreline Management Act

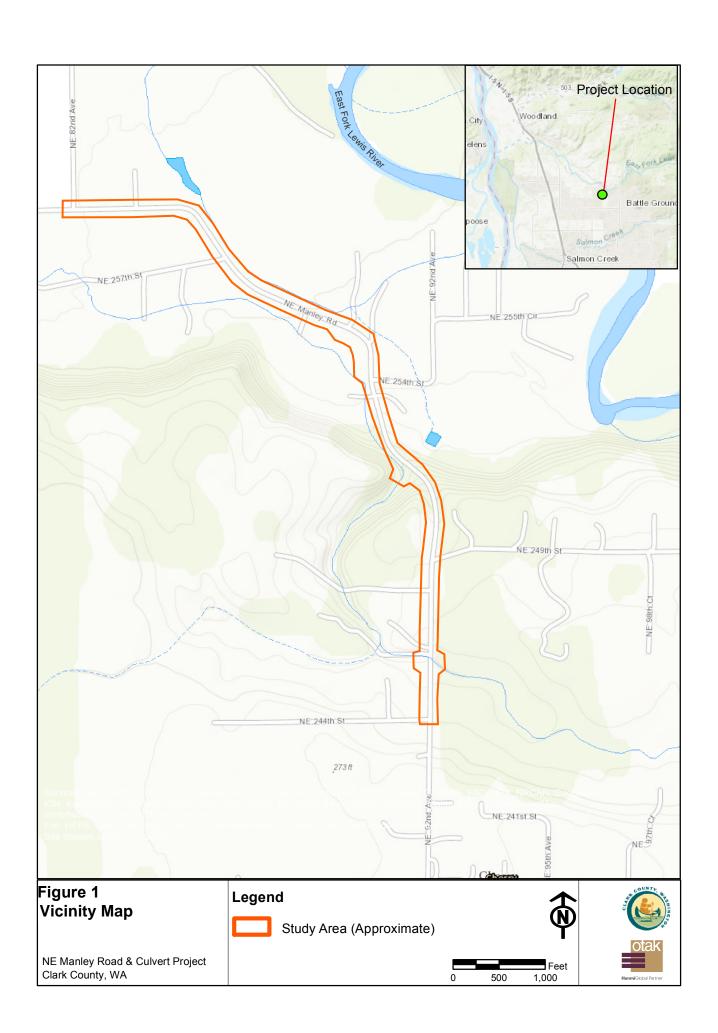
Parameter	Method or Tool	Website	Reference
			Compliance in Washington State – Revised October 2016. Ecology publication #16-06-029. Olympia, WA.
Stream Classification	Department of Natural Resources (DNR) Water Typing System	Forest Practices Water Typing: http://www.stage.dnr.wa.go v/forestpractices/watertypin g/ WAC 222-16-030: http://apps.leg.wa.gov/WA C/default.aspx?cite=222- 16-030 Water Type Mapping: http://www3.wadnr.gov/dnr app5/website/fpars/viewer. httm	Washington Administrative Code (WAC) 222-16-030. DNR Water typing system.
	Clark County Code	http://www.codepublishing. com/WA/ClarkCounty/	Clark County Municipal Code 40.440.010
Wetland Indicator Status	Western Mountains, Valleys, and Coast 2016 Regional Wetland Plant List	http://rsgisias.crrel.usace.a rmy.mil/NWPL/	Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. Western Mountains, Valleys, and Coast: 2016 Regional Wetland Plant List. Phytoneuron 2016-30: 1-17.
Plant Names	USDA PLANTS Database	http://plants.usda.gov/	Website
Report Preparation	Clark County Municipal Code	http://www.codepublishing. com/WA/Sammamish/	Clark County Municipal Code 40.450.030 (Standards).
Soils Data	Soil Survey	Web Soil Survey: http://websoilsurvey.nrcs.u sda.gov/app/WebSoilSurve y.aspx Soil Data Mart: http://soildatamart.nrcs.usd a.gov/	Websites
Threatened and Endangered Species	Washington Natural Heritage Program	http://www.dnr.wa.gov/nhp/	Washington Natural Heritage Program (list updated September 2014). Endangered, threatened, and sensitive plants of Washington. Washington State Department of Natural Resources, Washington Natural Heritage Program, Olympia, WA
Threatened and Endangered Species	Washington Priority Habitats and Species	http://wdfw.wa.gov/hab/phs page.htm	Priority Habitats and Species (PHS) Program – August 2008 Washington State Priority Habitats and Species List. Website reviewed June 26, 2017.

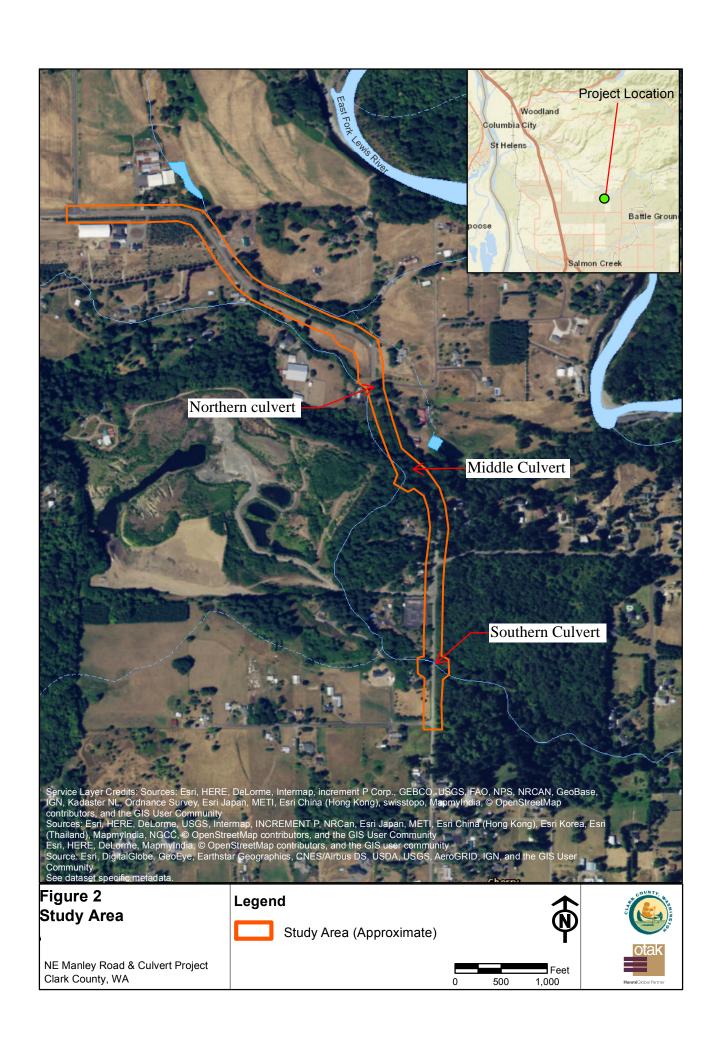
Parameter	Method or Tool	Website	Reference
(continued)	NOAA fisheries species list and maps	http://www.nwr.noaa.gov/E SA-Salmon- Listings/Salmon- Populations/Index.cfm and http://www.nmfs.noaa.gov/ pr/species/	Websites
	USFWS species list by state	http://ecos.fws.gov/ecp0/re ports/species-listed-by- state- report?state=WA&status=li sted	Website

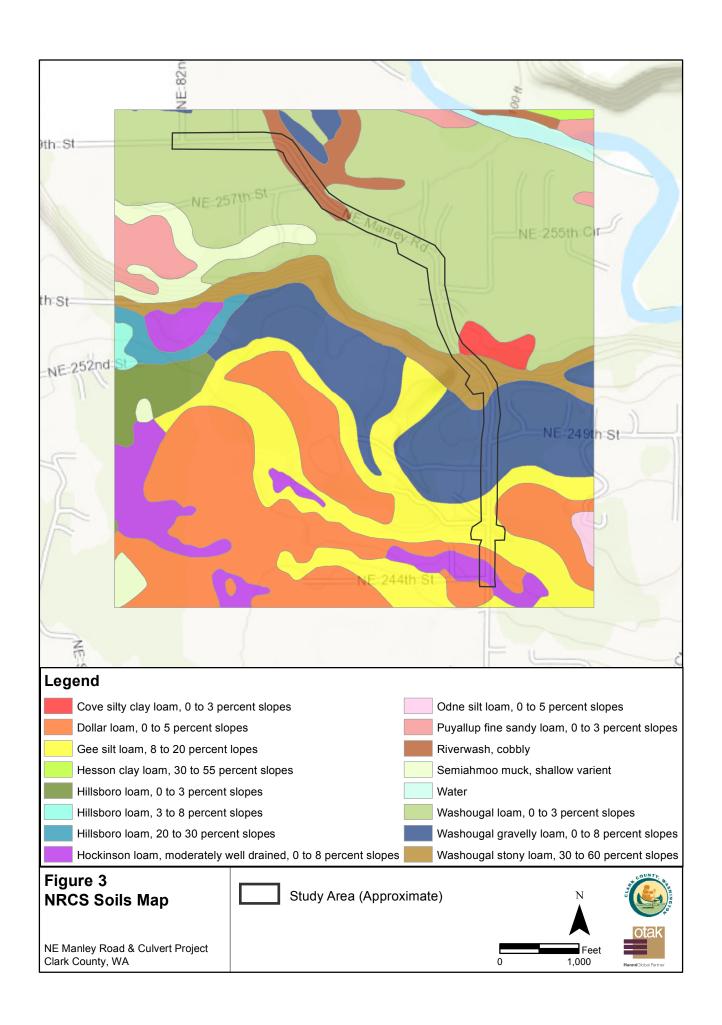
# **Appendix B — Project Figures and Background Information**

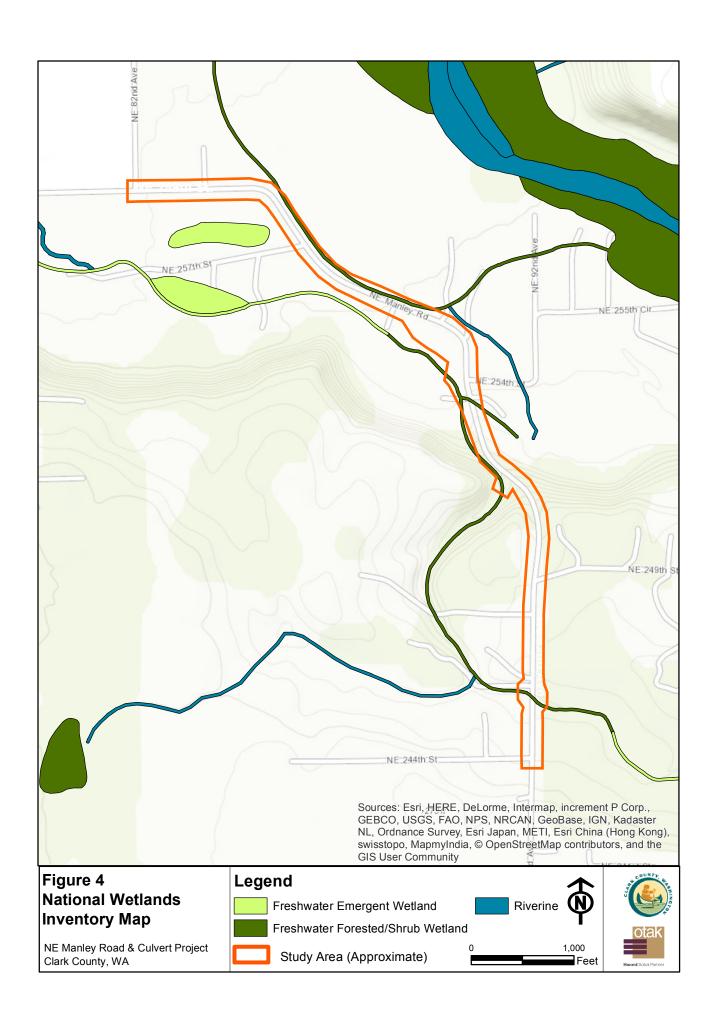
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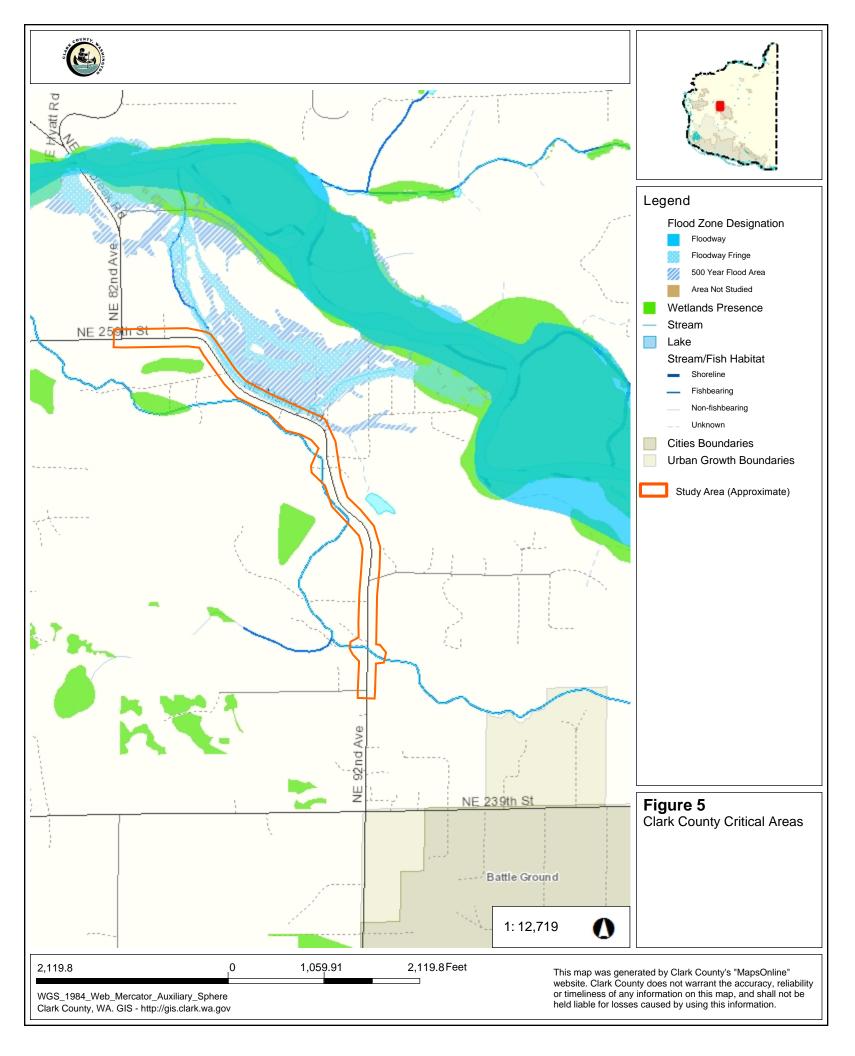
- Figure 1: Vicinity Map
- Figure 2: Study Area and Tax Parcel Map
- Figure 3: NRCS Soils Map
- Figure 4: National Wetlands Inventory Map
- Figure 5: Local Critical Areas Map
- Exhibits A-A4: Delineated Wetlands and Streams Maps

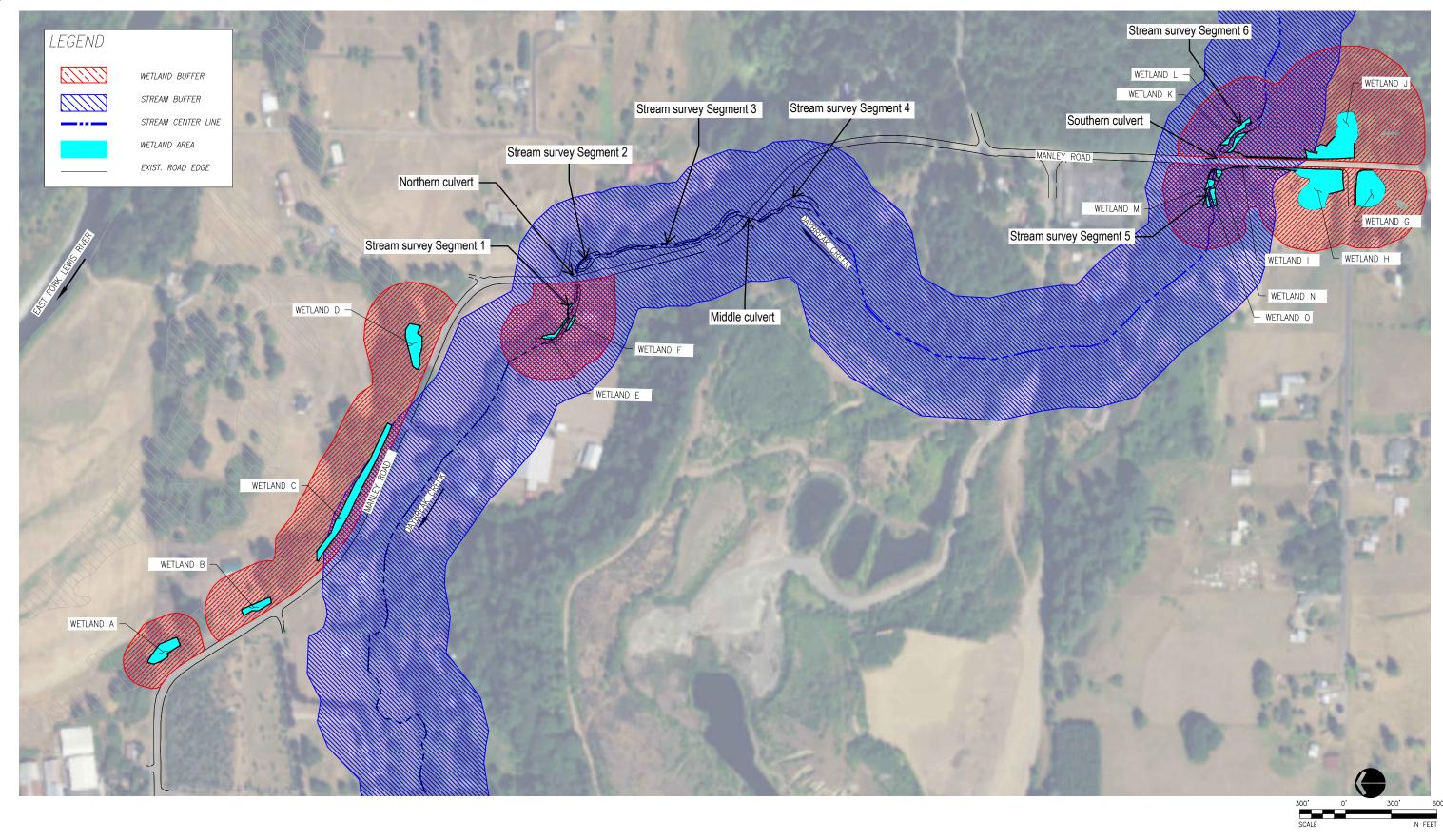












LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MAY BE INCOMPLETE

RIGHT-OF-WAY LINEWORK DISPLAYED IS REFERENCING CLARK COUNTY GIS TAXLOT INFORMATION AND SHOULD NOT BE CONSIDERED AS SURVEYED RIGHT-OF-WAY





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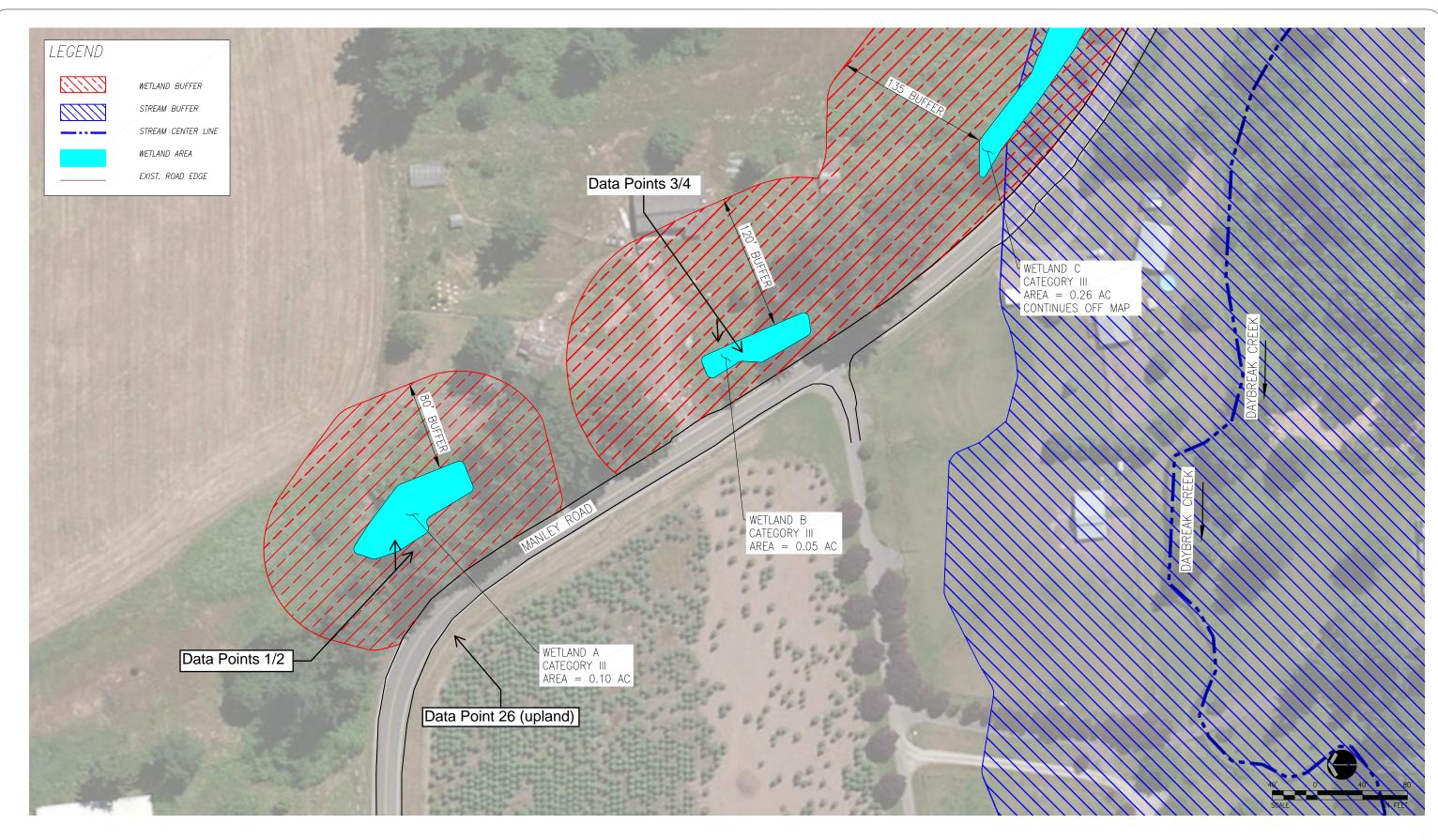
DELINEATED WETLANDS AND STREAMS WITH BUFFERS

TRANSPORTATION PROGRAM



DATE 9/20/2017

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2 of 5

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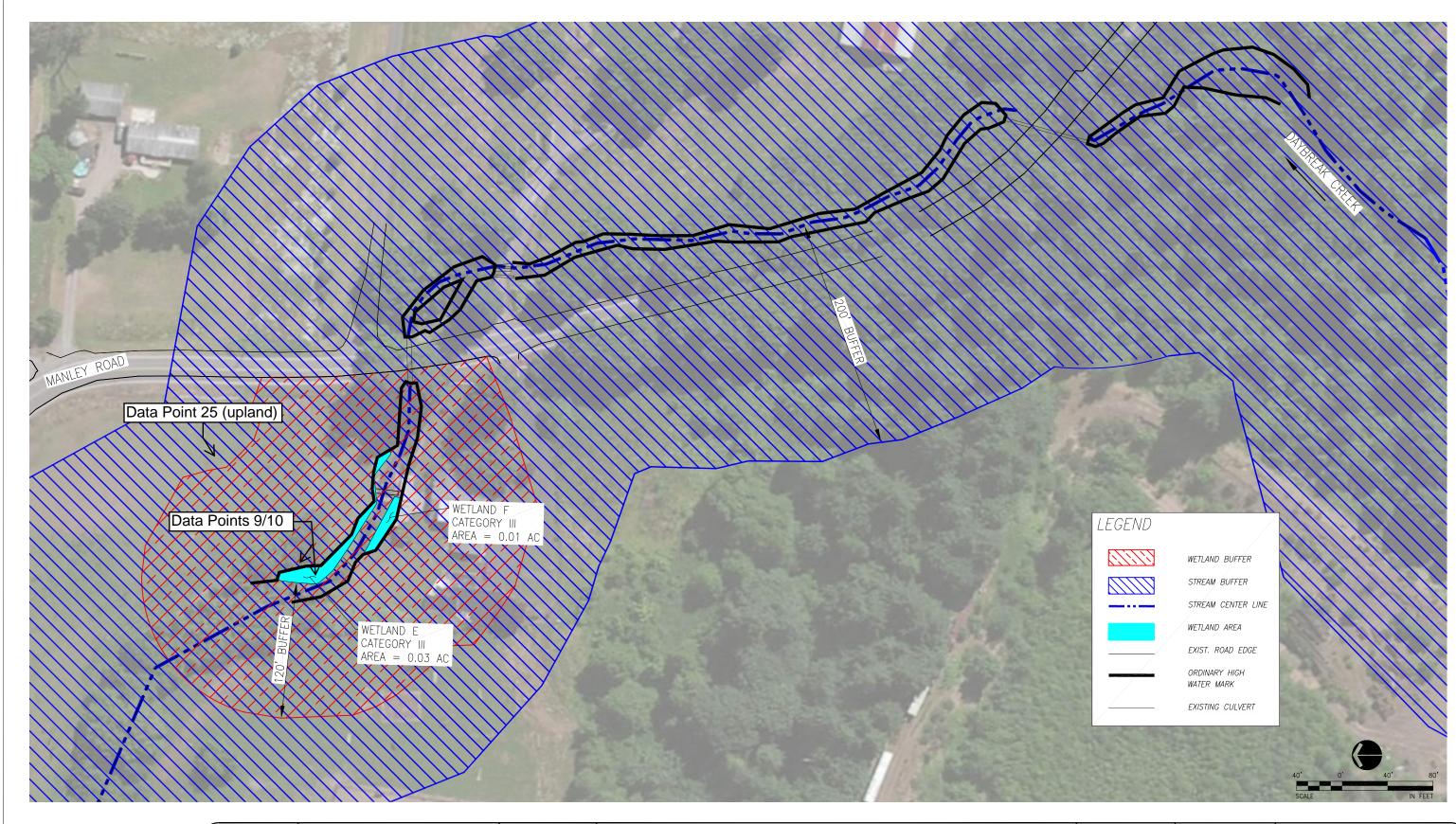
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EXHIBIT A4

5 of 5

# **Appendix C** — Wetland Determination Data Forms

# **WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project Site:	Manley Road			City/Cour	nty: Battle Ground/Clark County	Sampling Date:	6/21	/17	
Applicant/Owner:	Clark County				State: WA	Sampling Point:	<u>1</u>		
Investigator(s):	Jeff Gray, Kevin O'Brien, Steph	anie Modjesk	<u>i</u>		Section, Township, Ran	ge: <u>29, 04N, 02E</u>			
Landform (hillslope, te	errace, etc.): Relict stream ch	annel	Loc	cal relief (cond	cave, convex, none): concave	Slop	e (%):	0-2	
Subregion (LRR):	<u>A</u>	Lat: 45.8	<u>309149</u>		Long: <u>-122.585599</u>	Datum:	WGS 1	1984	
Soil Map Unit Name:	Riverwash, cobbly (hydric)				NWI clas	ssification: PEM			
Are climatic / hydrolog	gic conditions on the site typical fo	r this time of	year?	Yes 🛛	No 🗌 (If no, explain	n Remarks.)			
Are Vegetation	, Soil □, or Hydrology	☐, signific	cantly disturbe	ed? Are	'Normal Circumstances" present	? Yes	$\boxtimes$	No	
Are Vegetation	, Soil □, or Hydrology	☐, natura	lly problemati	c? (If ne	eeded, explain any answers in Re	emarks.)			
SUMMARY OF FIN	NDINGS – Attach site map s	howing sa	mpling poir	nt locations	, transects, important featu	ıres, etc.			
Hydrophytic Vegetation		Yes ⊠			·				
Hydric Soil Present?		Yes 🗵	No □	Is the Sam		Yes	$\boxtimes$	No	
Wetland Hydrology Pr	resent?	Yes ⊠	No □	within a we	etianu ?				
Remarks: Wetland	data point located 3 feet downs	slope (east) o	of flag A7. Al	I three wetlar	nd indicators present.				
		rope (eact)	g						
VEGETATION - U	se scientific names of plant	ts							
Tree Stratum (Plot siz	ze: 30' radius)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet:				
1. <u>-</u>					Number of Dominant Species	. <u>2</u>			(A)
2					That Are OBL, FACW, or FAC	: =			( )
3					Total Number of Dominant	<u>2</u>			(B)
4					Species Across All Strata:	_			` '
50% =, 20% =			= Total Cov	er	Percent of Dominant Species That Are OBL, FACW, or FAC	. <u>100</u>			(A/B)
	<u>m</u> (Plot size: <u>15' radius</u> )			<b>5.10</b>					
1. <u>Rubus armeniacu</u>	<u>'S</u>	<u>1</u>	<u>no</u>	<u>FAC</u>	Prevalence Index worksheet		lu bu		
2					Total % Cover of:	Multip x1 =	<u>іу бу.</u>		
3 4.					OBL species	x1 - x2 =			
5.					FAC species	x3 =		_	
50% =, 20% =		1	= Total Cov	——	FACU species	x4 =			
Herb Stratum (Plot siz	·	<u> </u>	- Total Gov	CI .	UPL species	x5 =		_	
Phalaris arundina	<del></del>	30	VAS	FACW					21
	<u>cea</u>	<u>30</u>	<u>yes</u>		Column Totals:	(A) e Index = B/A =		(E	))
2. <u>Juncus bufonius</u>		<u>12</u>	<u>yes</u>	<u>FACW</u> FACW					
Carex athrostachy     Epilobium ciliatum		<u>10</u>	no no	FACW FACW	Hydrophytic Vegetation Indi  ☐ 1 – Rapid Test for Hydro				
5. Persicaria maculo	_	<u>8</u> <u>5</u>	no no	FACW	□				
6. Geum macrophyll		<u>5</u>	no no	FAC					
	<u>um</u>		no no		_	_			
7. <u>Juncus sp.</u> 8. <u>Nasturtium officina</u>	ale	<u>5</u> <u>5</u>	<u>no</u> no	<u>NI</u> OBL	4 - Morphological Adapta data in Remarks or o		rting		
Solanum dulcama		<u>u</u> 1	no	FAC	5 - Wetland Non-Vascula	ar Plants <sup>1</sup>			
10.	<u></u>	<u>-</u>	<u></u>	<u> </u>	☐ Problematic Hydrophytic				
11.					Problematic Hydrophytic	vegetation (Explain)			
50% = 40.5, 20% = 16	6.2	<u>81</u>	= Total Cov	er	<sup>1</sup> Indicators of hydric soil and w				
Woody Vine Stratum		<u> </u>		0.	be present, unless disturbed o	r problematic.			
1. <u>-</u>									
2					Hydrophytic				
50% =, 20% =			= Total Cov	er		′es ⊠	No		
% Bare Ground in He					Present?				
	Hydrophytic vegetation indicator r	resent: meet	s Dominance	Test					
Remarks:	Tryanophytic vogetation maloator p	roooni, mooi	o Bominanco	1001.					
1									

Project Site: Manley Road

SOIL Sampling Point: 1 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc<sup>2</sup> Remarks 10 YR 3/2 100 0-4 loam <u>4-8</u> 10YR 3/2 92 10 YR 4/6 5 C <u>loam</u> refusal @ 8" 10YR 4/1 D <sup>2</sup>Location: PL=Pore Lining, M=Matrix <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) П  $\Box$ Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12)  $\boxtimes$ Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic Restrictive Layer (if present): Type: Streambed cobbles **Hydric Soils Present?** Yes  $\boxtimes$ Depth (inches): No Remarks: Soil refusal at 8" due to relict stream bed cobbles. Data point meets hyric soil indicator F6: Redox Dark Surface. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Saturation (A3) П Drainage Patterns (B10)  $\boxtimes$ Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3)  $\boxtimes$ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Stunted or Stresses Plants (D1) (LRR A) П Surface Soil Cracks (B6) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No  $\boxtimes$ Depth (inches): Yes  $\boxtimes$ Water Table Present? No Depth (inches): Saturation Present? Wetland Hydrology Present? Yes  $\boxtimes$ No Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Saturation at 12" in other sample pits of wetland. Hydrologic indicators present: B1-Water marks, B9-Water-stained leaves, and D3-Geomorphic position. Remarks: Wetland is located in depression of relict stream channel.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site:	Manley Road			City/Coun	ity: Battle Ground/Clark	Sampling [	Date:	6/21/17	
Applicant/Owner:	Clark County				State:	WA Sampling F	Point:	<u>2</u>	
Investigator(s):	Jeff Gray, Kevin O'Brien, Ste	ephanie Modjesk	<u>ti</u>		Section, Townsh	ip, Range: 29, 041	N, 02E		
Landform (hillslope, te	errace, etc.): <u>Hillslope</u>		Loc	al relief (conc	ave, convex, none): no	<u>one</u>	Slope	e (%): <u>5</u>	
Subregion (LRR):	<u>A</u>	Lat: 45.	809120		Long: <u>-122.585634</u>		Datum: V	NGS 1984	<u> </u>
Soil Map Unit Name:	Riverwash, cobbly (hydric)				N	WI classification:	<u>n/a</u>		
Are climatic / hydrolog	ic conditions on the site typica	al for this time of	year?	∕es ⊠	No 🗌 (If no, e	xplain in Remarks.)	)		
Are Vegetation ☐,	, Soil □, or Hydrolog	y □, signifi	cantly disturbe	d? Are "	Normal Circumstances" p	resent?	Yes	⊠ No	
Are Vegetation ,	, Soil □, or Hydrolog	y □, natura	ally problemation	? (If ne	eded, explain any answe	rs in Remarks.)			
SUMMARY OF FIN	IDINGS – Attach site ma	p showing sa	mpling poin	t locations,	transects, important	t features, etc.			
Hydrophytic Vegetatio	n Present?	Yes 🛭	No □	1. (1. 0					
Hydric Soil Present?		Yes [	No ⊠	Is the Samp			Yes	☐ No	
Wetland Hydrology Pr	esent?	Yes [	] No ⊠						
Remarks: Upland d	ata point located 5 feet ups	ope of flag A7	on road emba	nkment. Not	all three wetland indica	tors present.			
VEGETATION - Us	se scientific names of pl	ants							
Tree Stratum (Plot siz	e: 30' radius)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Work	sheet:			
1. Populus balsamife	e <u>ra</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	Number of Dominant S	necies			
2			<u> </u>		That Are OBL, FACW,		<u>2</u>		(A)
3					Total Number of Domin	ant	•		(5)
4					Species Across All Stra		<u>3</u>		(B)
50% = <u>15,</u> 20% = <u>6</u>		<u>30</u>	= Total Cove	er	Percent of Dominant Sp	pecies	00		(A (D)
Sapling/Shrub Stratun	n (Plot size: 15' radius)				That Are OBL, FACW,		<u>66</u>		(A/B)
1. Rubus armeniacus	<u>s</u>	<u>5</u>	<u>ves</u>	<u>FAC</u>	Prevalence Index wor	ksheet:			
2					Total % Co	over of:	Multiply	y by:	
3					OBL species		x1 =		
4					FACW species	9	x2 =	<u>18</u>	
5					FAC species	<u>44</u>	x3 =	<u>132</u>	
50% = <u>2.5,</u> 20% = <u>1</u>		<u>5</u>	= Total Cove	er	FACU species	<u>75</u>	x4 =	<u>300</u>	
Herb Stratum (Plot siz	ze: <u>5' radius</u> )				UPL species		x5 =		
1. <u>Tellima grandiflora</u>	<u>a</u>	<u>65</u>	<u>yes</u>	FACU	Column Totals:	<u>128</u> (A)		450 (B)	)
2. Verbascum thapsu	<u>us</u>	<u>10</u>	<u>no</u>	<u>FACU</u>		evalence Index = B/	/A = <u>3.5</u>		
3. <u>Lathyrus sp.</u>		<u>5</u>	<u>no</u>	FAC	Hydrophytic Vegetation	on Indicators:			
4. Phalaris arundinad	<u>cea</u>	<u>-</u> <u>5</u>	no	FACW	☐ 1 – Rapid Test fo	r Hydrophytic Vege	tation		
5. Epilobium ciliatum	1	<u>4</u>	<u>no</u>	FACW	□ 2 - Dominance Te				
6. <u>Geum macrophyll</u>	<u>um</u>	<u>4</u>	<u>no</u>	<u>FAC</u>	☐ 3 - Prevalence Inc	dex is <3.0 <sup>1</sup>			
7		_	_		4 Morphological	Adaptations <sup>1</sup> (Prov	vide sunnor	tina	
8						ks or on a separate		ung	
9.					5 - Wetland Non-	Vascular Plants <sup>1</sup>			
10					_	ophytic Vegetation <sup>1</sup>	(Explain)		
11				·	_ rrobicinado riyar	opnytio vogotation	(Explair)		
50% = <u>46.5</u> , 20% = <u>18</u>	3	93	= Total Cove	er	<sup>1</sup> Indicators of hydric soi				
Woody Vine Stratum (	=	_			be present, unless distu	urbed or problemati	C.		
1									
2.				·	Hydrophytic				
50% =, 20% =			= Total Cove	er	Vegetation	Yes	$\boxtimes$	No	
% Bare Ground in Her					Present?				
	Hydrophytic vegetation indicate	nr nresent							
Remarks:	ryuropriyuo vegetation mulcat	or present.							

Project Site: Manley Road

	rix			Redox Feat	luies							
nches) Color (moist)	%	Co	olor (mo	oist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	<u> </u>		Remarks	3	
<u>0-16</u> <u>10 YR 3/3</u>	<u>100</u>	<u>)</u>					<u>loam</u>	<u> </u>				
		_										
		_										
		_					-					
<del></del>		_										
		_										
		_										
ype: C= Concentration, D=I	Depletion F	<del></del> RM=Reduc	ed Matr	rix CS=Covered or Co	ated Sand	I Grains <sup>2</sup> I o	cation: PI	=Pore Lining,	M=Matrix			
dric Soil Indicators: (App	-							cators for Pro		Hvdric S	oils <sup>3</sup> :	
Histosol (A1)		, .		Sandy Redox (S5)				2 cm Muck		,		
Histosol (A1) Histic Epipedon (A2)				Stripped Matrix (S6)				Red Paren		TF2)		
Black Histic (A3)				Loamy Mucky Miner	al (F1) <b>(ex</b>	cept MLRA 1)		Very Shallo	ow Dark Su	ırface (TI	F12)	
Hydrogen Sulfide (A4)				Loamy Gleyed Matri:	x (F2)			Other (Exp	lain in Rem	narks)		
Depleted Below Dark S	urface (A1	1)		Depleted Matrix (F3)	)							
Thick Dark Surface (A1	2)			Redox Dark Surface	(F6)							
Sandy Mucky Mineral (	S1)			Depleted Dark Surfa	ice (F7)			icators of hydr				
Sandy Gleyed Matrix (S	64)			Redox Depressions	(F8)			wetland hydrol unless disturbe			τ,	
strictive Layer (if present	:):											
pe:												
pth (inches):						Hydric Soils P	esent?		Yes		No	$\triangleright$
emarks: No hydric soil ir	idicator pre	sent.				•						
emarks: No hydric soil ir		sent.				•						
emarks: No hydric soil ir  YDROLOGY  etland Hydrology Indicato	ors:					•						
emarks: No hydric soil ir  YDROLOGY  etland Hydrology Indicator rimary Indicators (minimum	ors:							ndary Indicator			ed)	
YDROLOGY etland Hydrology Indicator imary Indicators (minimum  Surface Water (A1)	ors:		call tha	Water-Stained Leave	. ,			Water-Stained	d Leaves (E	39)	ed)	
YDROLOGY etland Hydrology Indicator imary Indicators (minimum)  Surface Water (A1)  High Water Table (A2)	ors:			Water-Stained Leave (except MLRA 1, 2,	. ,			Water-Stained	Leaves (E	39) <b>)</b>	ed)	
YDROLOGY etland Hydrology Indicato mary Indicators (minimum  Surface Water (A1) High Water Table (A2) Saturation (A3)	ors:			Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11)	4A, and 4			Water-Stained (MLRA 1, 2, 4 Drainage Patt	Leaves (E A, and 4B erns (B10)	39) <b>)</b>	ed)	
/DROLOGY etland Hydrology Indicator mary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ors: of one requ			Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate	<b>4A</b> , and <b>4</b> s (B13)			Water-Stained (MLRA 1, 2, 4) Drainage Patt Dry-Season W	d Leaves (E A, and 4B erns (B10) Vater Table	39) )		
PROLOGY  Petland Hydrology Indicator mary Indicators (minimum)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)	ors: of one requ			Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc	<b>4A</b> , and <b>4</b> s (B13) dor (C1)	ВВ)		Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis	d Leaves (EAA, and 4B) erns (B10) Vater Table	39) ) e (C2) rial Image		
/DROLOGY etland Hydrology Indicate mary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ors: of one requ			Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher	4A, and 4 s (B13) dor (C1) res along l	JB) Living Roots (C3)		Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season V Saturation Vis Geomorphic F	d Leaves (EAA, and 4B) erns (B10) Vater Table ible on Aei	39) ) e (C2) rial Image		
YDROLOGY etland Hydrology Indicatorimary Indicators (minimum) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	ors: of one requ			Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduce	4A, and 4 s (B13) dor (C1) res along L d Iron (C4	J.B) Living Roots (C3)		Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit	d Leaves (E AA, and 4B erns (B10) Vater Table ible on Aer Position (D2 ard (D3)	39) ) e (C2) rial Image		
YDROLOGY  Yetland Hydrology Indicator rimary Indicators (minimum  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)	ors: of one requ			Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction	4A, and 4 s (B13) dor (C1) res along L d Iron (C4 on in Tilled	Living Roots (C3)		Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral	d Leaves (E AA, and 4B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Fest (D5)	39)  (C2)  rial Image (2)	ery (C9)	
YDROLOGY etland Hydrology Indicator imary Indicators (minimum  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B	ors: of one requ	iired; check		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction	s (B13) dor (C1) res along L d Iron (C4 on in Tilled Plants (D1	Living Roots (C3)		Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant Me	d Leaves (E AA, and 4B erns (B10) Vater Table bible on Aer Position (D2 ard (D3) Fest (D5) bounds (D6)	(C2) rial Image 2)	ery (C9)	
YDROLOGY etland Hydrology Indicator imary Indicators (minimum)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B  Inundation Visible on A	ors: of one requ	nired; check		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction	s (B13) dor (C1) res along L d Iron (C4 on in Tilled Plants (D1	Living Roots (C3)		Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral	d Leaves (E AA, and 4B erns (B10) Vater Table bible on Aer Position (D2 ard (D3) Fest (D5) bounds (D6)	(C2) rial Image 2)	ery (C9)	
YDROLOGY etland Hydrology Indicate imary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B Inundation Visible on A Sparsely Vegetated Cc	ors: of one requ	nired; check		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Presence of Reduce Recent Iron Reduction	s (B13) dor (C1) res along L d Iron (C4 on in Tilled Plants (D1	Living Roots (C3)		Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant Me	d Leaves (E AA, and 4B erns (B10) Vater Table bible on Aer Position (D2 ard (D3) Fest (D5) bounds (D6)	(C2) rial Image 2)	ery (C9)	
YDROLOGY etland Hydrology Indicate imary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B Inundation Visible on A Sparsely Vegetated Co	ors: of one requ  of one requ	ery (B7)		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oct Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stresses Other (Explain in Re	s (B13) dor (C1) res along L d Iron (C4 on in Tilled Plants (D1	Living Roots (C3)		Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant Me	d Leaves (E AA, and 4B erns (B10) Vater Table bible on Aer Position (D2 ard (D3) Fest (D5) bounds (D6)	(C2) rial Image 2)	ery (C9)	
YDROLOGY etland Hydrology Indicator imary Indicators (minimum) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B Inundation Visible on A Sparsely Vegetated Co	ors: of one requ  6) erial Image	ery (B7) face (B8)		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizosphei Presence of Reduce Recent Iron Reductic Stunted or Stresses Other (Explain in Re	s (B13) dor (C1) res along L d Iron (C4 on in Tilled Plants (D1	Living Roots (C3)		Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant Me	d Leaves (E AA, and 4B erns (B10) Vater Table bible on Aer Position (D2 ard (D3) Fest (D5) bounds (D6)	(C2) rial Image 2)	ery (C9)	
YDROLOGY etland Hydrology Indicator imary Indicators (minimum) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B Inundation Visible on A Sparsely Vegetated Coeld Observations: urface Water Present? atter Table Present?	ors: of one requ  6) erial Image oncave Surf  Yes	ery (B7)		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oct Oxidized Rhizospher Presence of Reduce Recent Iron Reduction Stunted or Stresses Other (Explain in Re	s (B13) dor (C1) res along L d Iron (C4 on in Tilled Plants (D1	Living Roots (C3) ) d Soils (C6)		Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant Me	d Leaves (EAA, and 4BA erns (B10) Vater Table dible on Aer Position (D2 ard (D3) Fest (D5) Dounds (D6) Hummocks	(C2) rial Image 2)	ery (C9)	0
YDROLOGY etland Hydrology Indicator imary Indicators (minimum) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B Inundation Visible on A Sparsely Vegetated Coeld Observations: urface Water Present? ater Table Present? cturation Present? cturation Present?	ors: of one requ  f)  f)  erial Image oncave Surf  Yes   Yes   Yes	ery (B7) face (B8) No		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizosphei Presence of Reduce Recent Iron Reductic Stunted or Stresses Other (Explain in Re  Depth (inches): Depth (inches):	s (B13) dor (C1) res along l d Iron (C4 on in Tilled Plants (D1 marks)	Living Roots (C3) ) d Soils (C6) d) (LRR A)  Wet		Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant M Frost-Heave H	d Leaves (EAA, and 4BA erns (B10) Vater Table dible on Aer Position (D2 ard (D3) Fest (D5) Dounds (D6) Hummocks	39)  (C2)  rial Image 2)  (LRR A)	ery (C9)	0
YDROLOGY etland Hydrology Indicator imary Indicators (minimum)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B  Inundation Visible on A	ors: of one requ  f)  f)  erial Image oncave Surf  Yes   Yes   Yes	ery (B7) face (B8) No		Water-Stained Leave (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizosphei Presence of Reduce Recent Iron Reductic Stunted or Stresses Other (Explain in Re  Depth (inches): Depth (inches):	s (B13) dor (C1) res along l d Iron (C4 on in Tilled Plants (D1 marks)	Living Roots (C3) ) d Soils (C6) d) (LRR A)  Wet		Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant M Frost-Heave H	d Leaves (EAA, and 4BA erns (B10) Vater Table dible on Aer Position (D2 ard (D3) Fest (D5) Dounds (D6) Hummocks	39)  (C2)  rial Image 2)  (LRR A)	ery (C9)	o

Project Site:	Manley Road			City/Cour	nty: Battle Ground/Clark County	Sampling Date:	6/21/17	
Applicant/Owner:	Clark County				State: WA	Sampling Point:	<u>3</u>	
Investigator(s):	Jeff Gray, Kevin O'Brien, Steph	anie Modjesk	<u>i</u>		Section, Township, Rang	ge: 29, 04N, 02E		
Landform (hillslope, te	rrace, etc.): Relict flow chann	<u>el</u>	Loc	al relief (cond	ave, convex, none): concave	Slop	e (%): <u>0</u>	
Subregion (LRR):	<u>A</u>	Lat: 45.8	308296		Long: <u>-122.584889</u>	Datum:	WGS 1984	
Soil Map Unit Name:	Riverwash, cobbly (hydric)				NWI clas	sification: PEM		
Are climatic / hydrolog	ic conditions on the site typical fo	r this time of	year?	Yes 🛛	No 🔲 (If no, explain i	n Remarks.)		
Are Vegetation ☐,	Soil   , or Hydrology	☐, signific	cantly disturbe	d? Are	'Normal Circumstances" present?	? Yes	⊠ No □	]
Are Vegetation ,	Soil 🔲, or Hydrology	☐, natura	lly problemation	c? (If ne	eeded, explain any answers in Re	marks.)		
SUMMARY OF FIN	IDINGS – Attach site map s	howing sa	mplina poin	t locations	. transects. important featu	res. etc.		
Hydrophytic Vegetatio	•	Yes ⊠			, ,			
Hydric Soil Present?		Yes ⊠	No □	Is the Samp		Yes	⊠ No □	]
Wetland Hydrology Pr	esent?	Yes ⊠	No □	within a we	etiano ?			
Remarks: Wetland	data point taken at flag B6. We	tland determ	ined based o	n hydrologic	indicators and abudance of FA	ACW and OBL speci	es. Presence o	of
algal mat	indicates long-term indundati							
copples	at 4" below surface.							
VEGETATION - Us	se scientific names of plant	ts						
Tree Stratum (Plot siz	e: <u>30' radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:			
1. <u>-</u>					Number of Dominant Species	2	(4)	`
2					That Are OBL, FACW, or FAC:	<u>3</u>	(A)	,
3					Total Number of Dominant	3	(B)	`
4					Species Across All Strata:	<u>3</u>	(D)	,
50% =, 20% =			= Total Cov	er	Percent of Dominant Species	100	(A/	/R)
Sapling/Shrub Stratun	n (Plot size: 15' radius)				That Are OBL, FACW, or FAC:	100	(, ,	٥,
1. <u></u>					Prevalence Index worksheet:			
2					Total % Cover of:	Multip	ly by:	
3					OBL species	x1 =		
4					FACW species	x2 =		
5					FAC species	x3 =		
50% =, 20% =			= Total Cov	er	FACU species	x4 =		
Herb Stratum (Plot siz	re: <u>5' radius</u> )				UPL species	x5 =		
1. <u>Juncus bufonius</u>		<u>20</u>	<u>yes</u>	<u>FACW</u>	Column Totals:	(A)	(B)	
2. <u>Eleocharis palustr</u>	<u>is</u>	<u>20</u>	<u>yes</u>	<u>OBL</u>	Prevalence	e Index = B/A =		
3. Rorippa curvisiliqu	<u>ıa</u>	<u>15</u>	<u>yes</u>	<u>OBL</u>	Hydrophytic Vegetation Indic			
4. <u>Stellaria calycanth</u>		<u>15</u>	<u>no</u>	<u>FACW</u>	☐ 1 – Rapid Test for Hydro			
5. <u>Gnaphallium palus</u>	<u>stre</u>	<u>10</u>	<u>no</u>	<u>FACW</u>	□ 2 - Dominance Test is >5	0%		
6. <u>Myosotis laxa</u>		<u>5</u>	<u>no</u>	<u>OBL</u>	☐ 3 - Prevalence Index is ≤	3.0 <sup>1</sup>		
7. Epilobium ciliatum	!	<u>3</u>	<u>no</u>	<u>FACW</u>	4 - Morphological Adapta		rting	
8. <u>Mimulus moschatu</u>		<u>3</u>	<u>no</u>	<u>OBL</u>	data in Remarks or or			
9. <u>Geum macrophylli</u>	<u>um</u>	<u>1</u>	<u>no</u>	<u>FAC</u>	5 - Wetland Non-Vascula	r Plants <sup>1</sup>		
10					☐ Problematic Hydrophytic	Vegetation <sup>1</sup> (Explain)		
11					<sup>1</sup> Indicators of hydric soil and w	etland hydrology musi	<b>+</b>	
50% = <u>46,</u> 20% = <u>18</u>		<u>92</u>	= Total Cov	er	be present, unless disturbed or			
Woody Vine Stratum (	(Plot size: 15' radius)							
1					Hydrophytic			
2						es 🛛	No 🗆	]
50% =, 20% =	<del></del>		= Total Cov	er	Present?			
% Bare Ground in Her	rb Stratum <u>8</u>							
Remarks:	Hydrophytic vegetation indicator p	resent. Wetla	and vegetation	passes Dom	inance Test.			

Depth Matrix			R	edox Featui	res							
nches) Color (moist)	%	Color (r	noist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	<u> </u>		Remarks	S	
<u>0-4</u> <u>10 YR 3/2</u>	<u>100</u>						loam	<u> </u>				
	-							- —				
	-							- —				
			_	<del></del>			-					
ype: C= Concentration, D=De	enletion RM	=Reduced M	 atrix_CS=Cove	ered or Coat	ed Sand G	Grains <sup>2</sup> I o	cation: PI	=Pore Lining,	M=Matrix			
dric Soil Indicators: (Appli	•				ca Garia G	nams. Lo		icators for Pro		Hvdric S	Soils <sup>3</sup> :	
Histosol (A1)	, , , , , , , , , , , , , , , , , , ,		Sandy Re	-				2 cm Muck		,		
Histic Epipedon (A2)			Stripped M					Red Paren		TF2)		
Black Histic (A3)		_			(F1) (exce	ept MLRA 1)		Very Shallo	•		F12)	
Hydrogen Sulfide (A4)				eyed Matrix		,	⊠	Other (Exp			,	
Depleted Below Dark Sur	face (A11)		Depleted I	-	,			` '		,		
Thick Dark Surface (A12)				rk Surface (I	F6)							
Sandy Mucky Mineral (S1	)		Depleted [	oark Surface	∋ (F7)			licators of hydr				
Sandy Gleyed Matrix (S4	)		Redox De	pressions (F	8)			wetland hydrol unless disturbe			ıt,	
estrictive Layer (if present):												
pe: Relict strea	m bed cobbl	<u>es</u>										
pth (inches): 4"					H	lydric Soils Pr	esent?		Yes	$\boxtimes$	No	
emarks: Hydric soil indicat mat indicates lone							obles 4-ind	ches below sur	face. Howe	ever, pre	sence of	algal
mat indicates long	g-term indui						obles 4-ind	ches below sur	face. Howe	ever, pre	sence of	algal
mat indicates long  YDROLOGY  Vetland Hydrology Indicators	g-term indu	ndation and t	nerefore hydric									algal
mat indicates long  YDROLOGY  etland Hydrology Indicators (mary Indicators (minimum of	g-term indu	dation and the	nerefore hydrio	soils were	determined		Seco	ndary Indicato	rs (2 or mo	re require		algal
YDROLOGY etland Hydrology Indicators imary Indicators (minimum of	g-term indu	ndation and t	nerefore hydric	ined Leaves	determined	d to be present.	Seco	ndary Indicator Water-Stained	rs (2 or mo d Leaves (E	re requir		algal
mat indicates long  YDROLOGY  etland Hydrology Indicators imary Indicators (minimum of Surface Water (A1)  High Water Table (A2)	g-term indu	dation and the	nat apply)  Water-Sta  (except M	ined Leaves	determined	d to be present.	Seco:	ndary Indicator Water-Stained (MLRA 1, 2, 4	rs (2 or mo d Leaves (E IA, and 4B	re requir 39)		algal
mat indicates long  YDROLOGY  etland Hydrology Indicators  imary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)	g-term indu	d; check all tl	nat apply)  Water-Sta  (except M  Salt Crust	ined Leaves LRA 1, 2, 4 (B11)	(B9) A, and 4B)	d to be present.	Seco	ndary Indicator Water-Stained (MLRA 1, 2, 4 Drainage Patt	rs (2 or mo d Leaves (E IA, and 4B erns (B10)	re require 39)		algal
mat indicates long  (DROLOGY  etland Hydrology Indicators mary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)	g-term indu	d; check all the	nat apply)  Water-Sta  (except M  Salt Crust  Aquatic In	ined Leaves LRA 1, 2, 4 (B11) vertebrates	(B9) <b>A, and 4B)</b>	d to be present.	Seco	ndary Indicator Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W	rs (2 or mo d Leaves (E IA, and 4B erns (B10) Vater Table	re require 39) )	ed)	algal
mat indicates long  /DROLOGY  etland Hydrology Indicators mary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)	g-term indu	d; check all the	nat apply)  Water-Sta  (except M  Salt Crust  Aquatic In  Hydrogen	ined Leaves LRA 1, 2, 4 (B11) vertebrates Sulfide Odo	(B9) <b>A, and 4B)</b> (B13) r (C1)	d to be present.	Seco	ndary Indicator Water-Stainer (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis	rs (2 or mo d Leaves (B IA, and 4B erns (B10) Vater Table sible on Aei	re requires	ed)	algal
mat indicates long  YDROLOGY  etland Hydrology Indicators  mary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)	g-term indu	d; check all ti	nat apply)  Water-Sta (except M Salt Crust Aquatic In: Hydrogen Oxidized F	ined Leaves LRA 1, 2, 4. (B11) vertebrates Sulfide Odo Rhizosphere	(B9) A, and 4B) (B13) r (C1) s along Liv	d to be present.	Secon □ □ □ □ □ □ □	ndary Indicator Water-Stainer (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F	rs (2 or mo d Leaves (E IA, and 4B erns (B10) Vater Table sible on Aer Position (D2	re requires	ed)	algal
mat indicates long  /DROLOGY  etland Hydrology Indicators mary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)	g-term indu	d; check all the	nat apply)  Water-Sta (except M Salt Crust Aquatic In: Hydrogen Oxidized F Presence	ined Leaves LRA 1, 2, 4 (B11) vertebrates Sulfide Odo Rhizosphere of Reduced	(B9) A, and 4B) (B13) r (C1) s along Liv Iron (C4)	ting Roots (C3)	Seco	ndary Indicator Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit	rs (2 or mod Leaves (EAA, and 4B) erns (B10) Vater Table bible on Ael Position (D2) ard (D3)	re requires	ed)	algal
mat indicates long  YDROLOGY  etland Hydrology Indicators  mary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)	g-term indu	d; check all the	nat apply)  Water-Sta (except M Salt Crust Aquatic In: Hydrogen Oxidized F Presence Recent Iro	ined Leaves LRA 1, 2, 4. (B11) vertebrates Sulfide Odo Rhizosphere	(B9) A, and 4B) (B13) r (C1) s along Liv Iron (C4) in Tilled S	ing Roots (C3)	Secon □ □ □ □ □ □ □	ndary Indicator Water-Stainer (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F	rs (2 or mod Leaves (EIA, and 4B) erns (B10) Vater Table sible on Aei Position (D2 ard (D3) Fest (D5)	re require 39) ) e (C2) rial Image	ed) ery (C9)	algal
mat indicates long  PDROLOGY  Petland Hydrology Indicators imary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)	g-term indur	d; check all the	nat apply)  Water-Sta (except M Salt Crust Aquatic In: Hydrogen Oxidized F Presence Recent Iro Stunted or	ined Leaves LRA 1, 2, 4 (B11) vertebrates Sulfide Odo Rhizosphere of Reduced n Reduction	(B9) A, and 4B) (B13) r (C1) s along Liv Iron (C4) in Tilled S lants (D1) (	ing Roots (C3)	Seco	ndary Indicator Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit	rs (2 or mod Leaves (EIA, and 4B) erns (B10) Vater Table sible on Aer Position (D2 ard (D3) Fest (D5) ounds (D6)	re require 39) (C2) rial Image 2)	ed) ery (C9)	algal
mat indicates long  POROLOGY  Etland Hydrology Indicators  Imary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Ae	s: one require	d; check all the	nat apply)  Water-Sta (except M Salt Crust Aquatic In: Hydrogen Oxidized F Presence Recent Iro Stunted or	ined Leaves LRA 1, 2, 4 (B11) vertebrates Sulfide Odo Rhizosphere of Reduced n Reduction Stresses P	(B9) A, and 4B) (B13) r (C1) s along Liv Iron (C4) in Tilled S lants (D1) (	ing Roots (C3)	Secon □	ndary Indicator Water-Stainer (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant Me	rs (2 or mod Leaves (EIA, and 4B) erns (B10) Vater Table sible on Aer Position (D2 ard (D3) Fest (D5) ounds (D6)	re require 39) (C2) rial Image 2)	ed) ery (C9)	algal
mat indicates long  POROLOGY  Setland Hydrology Indicators  Imary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Ael  Sparsely Vegetated Con	s: one require	d; check all the	nat apply)  Water-Sta (except M Salt Crust Aquatic In: Hydrogen Oxidized F Presence Recent Iro Stunted or	ined Leaves LRA 1, 2, 4 (B11) vertebrates Sulfide Odo Rhizosphere of Reduced n Reduction Stresses P	(B9) A, and 4B) (B13) r (C1) s along Liv Iron (C4) in Tilled S lants (D1) (	ing Roots (C3)	Secon □	ndary Indicator Water-Stainer (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant Me	rs (2 or mod Leaves (EIA, and 4B) erns (B10) Vater Table sible on Aer Position (D2 ard (D3) Fest (D5) ounds (D6)	re require 39) (C2) rial Image 2)	ed) ery (C9)	algal
mat indicates long  YDROLOGY  etland Hydrology Indicators imary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Ael  Sparsely Vegetated Cone  eld Observations:	s: one require	d; check all the	nat apply)  Water-Sta (except M Salt Crust Aquatic In: Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leaves LRA 1, 2, 4 (B11) vertebrates Sulfide Odo Rhizosphere of Reduced n Reduction Stresses P	(B9) A, and 4B) (B13) r (C1) s along Liv Iron (C4) in Tilled S lants (D1) (	ing Roots (C3)	Secon □	ndary Indicator Water-Stainer (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant Me	rs (2 or mod Leaves (EIA, and 4B) erns (B10) Vater Table sible on Aer Position (D2 ard (D3) Fest (D5) ounds (D6)	re require 39) (C2) rial Image 2)	ed) ery (C9)	algal
mat indicates long  YDROLOGY  etland Hydrology Indicators imary Indicators (minimum of Image)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aell  Sparsely Vegetated Coneld Observations:  Inface Water Present?	g-term indur	d; check all the control of the cont	nat apply)  Water-Sta (except M Salt Crust Aquatic In: Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leaves LRA 1, 2, 4 (B11) vertebrates Sulfide Odo Rhizosphere of Reduced n Reduction Stresses P olain in Rem	(B9) A, and 4B) (B13) r (C1) s along Liv Iron (C4) in Tilled S lants (D1) (	ing Roots (C3)	Secon □	ndary Indicator Water-Stainer (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant Me	rs (2 or mod Leaves (EIA, and 4B) erns (B10) Vater Table sible on Aer Position (D2 ard (D3) Fest (D5) ounds (D6)	re require 39) (C2) rial Image 2)	ed) ery (C9)	algai
mat indicates long  YDROLOGY  etland Hydrology Indicators imary Indicators (minimum of a surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aerological Conceld Observations:  urface Water Present?	enterm industrial Imagery cave Surface	d; check all the control of the cont	nat apply)  Water-Sta (except M Salt Crust Aquatic In: Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leaves LRA 1, 2, 4 (B11) vertebrates Sulfide Odo Rhizosphere of Reduced n Reduction Stresses P plain in Rem	(B9) A, and 4B) (B13) r (C1) s along Liv Iron (C4) in Tilled S lants (D1) (	ing Roots (C3) Soils (C6) (LRR A)	Secol	ndary Indicator Water-Stainer (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant Me	rs (2 or mo d Leaves (E IA, and 4B erns (B10) Vater Table Sible on Aer Position (D2 ard (D3) Fest (D5) ounds (D6) Hummocks	re require 39) (C2) rial Image 2)	ed) ery (C9)	
mat indicates long  YDROLOGY  etland Hydrology Indicators imary Indicators (minimum of Image)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aelly Sparsely Vegetated Conell Observations:  Inface Water Present?  Saturation Present?	a: one require  rial Imagery cave Surface  Yes   Yes	d; check all ti	mat apply)  Water-Sta (except M Salt Crust Aquatic In: Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leaves LRA 1, 2, 4 (B11) vertebrates Sulfide Odo Rhizosphere of Reduced in Reduction Stresses P plain in Rem (inches): (inches):	(B9) A, and 4B) (B13) r (C1) s along Liv Iron (C4) i in Tilled S lants (D1) ( arks)	ring Roots (C3) dioils (C6) (LRR A)	Secol	ndary Indicator Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant M Frost-Heave H	rs (2 or mo d Leaves (E IA, and 4B erns (B10) Vater Table Sible on Aer Position (D2 ard (D3) Fest (D5) ounds (D6) Hummocks	re require 39) 2 (C2) rial Image 2) (LRR A	ed) ery (C9)	
mat indicates long  YDROLOGY  etland Hydrology Indicators imary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Ael Sparsely Vegetated Con eld Observations: urface Water Present? ater Table Present? cludes capillary fringe)	a: one require  rial Imagery cave Surface  Yes   Yes	d; check all ti	mat apply)  Water-Sta (except M Salt Crust Aquatic In: Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leaves LRA 1, 2, 4 (B11) vertebrates Sulfide Odo Rhizosphere of Reduced in Reduction Stresses P plain in Rem (inches): (inches):	(B9) A, and 4B) (B13) r (C1) s along Liv Iron (C4) i in Tilled S lants (D1) ( arks)	ring Roots (C3) dioils (C6) (LRR A)	Secol	ndary Indicator Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant M Frost-Heave H	rs (2 or mo d Leaves (E IA, and 4B erns (B10) Vater Table Sible on Aer Position (D2 ard (D3) Fest (D5) ounds (D6) Hummocks	re require 39) 2 (C2) rial Image 2) (LRR A	ed) ery (C9)	

Project Site:	Manley Road			City/Cou	nty: Battle Ground/ County	<u>'Clark</u> S	sampling Date:	6/21/17	<u>7</u>
Applicant/Owner:	Clark County					ite: <u>WA</u> S	ampling Point:	<u>4</u>	
Investigator(s):	Jeff Gray, Kevin O'Brien, Stepha	anie Modjesk	<u>i</u>		Section, Tov	wnship, Range:	29, 04N, 02E		
Landform (hillslope, te	errace, etc.): <u>hillslope</u>		Loc	cal relief (cond	cave, convex, none):	<u>none</u>	Slop	pe (%): <u>0-</u>	<u>2</u>
Subregion (LRR):	<u>A</u>	Lat: 45.8	30833 <u>5</u>		Long: -122.584	<u>845</u>	Datum:	WGS 198	4
Soil Map Unit Name:	Riverwash, cobbly (hydric)					NWI classif	ication: <u>NA</u>		
Are climatic / hydrolog	ic conditions on the site typical fo	r this time of	year?	Yes 🗵	l No □ (If	no, explain in F	Remarks.)		
Are Vegetation	, Soil □, or Hydrology	☐, signific	antly disturbe	ed? Are	"Normal Circumstanc	es" present?	Yes	⊠ No	o 🗆
Are Vegetation	, Soil □, or Hydrology	□, natura	lly problemati	c? (If ne	eeded, explain any ar	nswers in Rem	arks.)		
SUMMARY OF FIN	IDINGS – Attach site map s	howing sai	mpling poir	nt locations	, transects, impo	rtant feature	s, etc.		
Hydrophytic Vegetatio	n Present?	Yes 🗆	No ⊠						
Hydric Soil Present?		Yes 🗆	No ⊠	Is the Sam within a W			Yes	□ No	o 🛛
Wetland Hydrology Pr	esent?	Yes 🗆	No ⊠	within a vv	etiana :				
Remarks: Upland d	ata point located upslope of fla	a B3 near ro	ad embankn	nent. Not all 1	hree wetland indica	itors present.			
- tomano: Opiana a		.g				р. осо			
VEGETATION - U	se scientific names of plant	s							
Tree Stratum (Plot siz		Absolute	Dominant	Indicator	Dominance Test	Worksheet:			
,	<u></u> /	% Cover	Species?	<u>Status</u>					
1					Number of Domina That Are OBL, FAC		<u>0</u>		(A)
2									
3					Total Number of D Species Across All		<u>3</u>		(B)
4 50% =, 20% =			= Total Cov						
Sapling/Shrub Stratur			- Total Cov	CI	Percent of Domina That Are OBL, FAC		<u>0</u>		(A/B)
·	<u>II</u> (FIOL SIZE. <u>13</u> )				Prevalence Index				
1							Multi	nly hy:	
2						% Cover of:	·	ply by:	
3					OBL species		x1 = x2 =		
4					FACW species			15	
5					FAC species	<u>5</u>	x3 =	<u>15</u>	
50% =, 20% =			= Total Cov	er	FACU species	<u>78</u>	x4 =	<u>315</u>	
Herb Stratum (Plot siz	ze: <u>5'</u> )				UPL species	<u>10</u>	x5 =	<u>50</u>	
1. <u>Hieracium triste</u>		<u>25</u>	<u>yes</u>	<u>FACU</u>	Column Totals:	<u>93</u> (A)		<u>380</u> (B	3)
2. <u>Taraxacum officin</u>	<u>ale</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>		Prevalence I	ndex = B/A = <u>4.0</u>		
<ol><li>Erigeron philadelp</li></ol>	<u>hlicus</u>	<u>15</u>	<u>yes</u>	<u>FACU</u>	Hydrophytic Vege	etation Indicat	ors:		
4. <u>Lactuca serriola</u>		<u>10</u>	<u>no</u>	<u>FACU</u>	☐ 1 – Rapid Te	est for Hydroph	ytic Vegetation		
5. <u>Artemisia annua</u>		<u>10</u>	<u>no</u>	<u>UPL</u>	2 - Dominano	ce Test is >50%	6		
6. Agrostis capillaris		<u>5</u>	<u>no</u>	<u>FAC</u>	☐ 3 - Prevalend	ce Index is <3.0	) <sup>1</sup>		
7. <u>Brassica rapa</u>		<u>5</u>	<u>no</u>	<u>FACU</u>	4 - Morpholo	gical Adaptatio	ons <sup>1</sup> (Provide suppo	orting	
8. <u>Cirsium vulgare</u>		<u>3</u>	<u>no</u>	<u>FACU</u>	data in Re	emarks or on a	separate sheet)		
9					5 - Wetland	Non-Vascular F	Plants <sup>1</sup>		
10					☐ Problematic	Hydrophytic Ve	egetation¹ (Explain)	)	
11					1				
50% = <u>46.5</u> , 20% = <u>18</u>	<u>3.6</u>	<u>93</u>	= Total Cov	er	'Indicators of hydri be present, unless		and hydrology mus roblematic.	it .	
Woody Vine Stratum	(Plot size:)					ш			
1									
2					Hydrophytic				<b>57</b>
50% =, 20% =			= Total Cov	er	Vegetation Present?	Yes		No	
% Bare Ground in He					i resent i				
,	No hydrophytic vegetation indicato	ors present.			1				
Remarks:	, ,	h							

0-16 10 YR 3/3		Color (m	ioist) % Type <sup>1</sup>	Loc <sup>2</sup>	Texture			Remark			
	100		<del></del>	<u> </u>	loam	- <del></del>					
				. <u>——</u>							
				. <u>——</u>		- —					
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<del></del>			<del>.</del>			<del></del> .					
			trix, CS=Covered or Coated Sa	nd Grains. Lo		Pore Lining, N		I I al ad a	3 - :1 - 3.		
rdric Soil Indicators: (Applica	DIE TO AII L		·			cators for Pro		Hyaric 8	ooiis :		
Histosol (A1) Histic Epipedon (A2)			Sandy Redox (S5) Stripped Matrix (S6)			2 cm Muck Red Parent		TF2)			
Black Histic (A3)			Loamy Mucky Mineral (F1) (	excent MI RA 1)		Very Shallo	,	,	F12)		
Hydrogen Sulfide (A4)			Loamy Gleyed Matrix (F2)	CACCPI MERCA 1)		Other (Expl		-	1 12)		
Depleted Below Dark Surface	ce (A11)		Depleted Matrix (F3)			Outor (Expi	uni in i ton	nanc)			
·	<i>(</i> ( ( ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (		Redox Dark Surface (F6)								
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)			Depleted Dark Surface (F7)		<sup>3</sup> Indic	cators of hydro	ophytic veg	getation	and		
Sandy Gleyed Matrix (S4)			Redox Depressions (F8)			etland hydrolo nless disturbed			nt,		
estrictive Layer (if present):			. , , ,		ui	THESS disturbed	a or proble	matio.			
pe:											
								_	No		
	itor present	t.		Hydric Soils P	resent?		Yes		NO		
emarks: No hydric soil indica	ntor present	t.		Hydric Soils P	resent?		Yes		NO		
emarks: No hydric soil indica				Hydric Soils P							
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or		t; check all the		Hydric Soils P	Second	ndary Indicator	s (2 or mo	re requir			
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or			Water-Stained Leaves (B9)		Second V	Water-Stained	s (2 or mo Leaves (E	rre requin			
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2)		i; check all tha	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and		Second V	Water-Stained	s (2 or mo Leaves (E <b>A, and 4B</b>	ore requir 39)			
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3)		i; check all that	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11)		Second (	Water-Stained (MLRA 1, 2, 4) Drainage Patte	s (2 or mo Leaves (E <b>A, and 4B</b> erns (B10)	ore requir 39)			
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)		i; check all tha	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13)	i 4B)	Second (	Water-Stained (MLRA 1, 2, 4) Drainage Patte Dry-Season W	s (2 or mo Leaves (E <b>A, and 4B</b> erns (B10) later Table	ore requir 39) 3) e (C2)	ed)		
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)		i; check all tha	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	d 4B)	Second V	Water-Stained (MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi	s (2 or mo Leaves (E <b>A, and 4B</b> erns (B10) 'ater Table ble on Aer	ore requir 39) 3) e (C2) rial Imag	ed)		
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		t; check all tha	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alon	d <b>4B)</b> g Living Roots (C3)	Second (	Water-Stained (MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi Geomorphic P	s (2 or mo Leaves (E <b>A, and 4B</b> erns (B10) ater Table ble on Aer osition (D2	ore requir 39) 3) e (C2) rial Imag	ed)		
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)		I; check all tha	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alon Presence of Reduced Iron (6)	g Living Roots (C3)	Second (	Water-Stained (MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita	s (2 or mo Leaves (E <b>A, and 4B</b> erns (B10) dater Table ble on Aer osition (D2 ard (D3)	ore requir 39) 3) e (C2) rial Imag	ed)		
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YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or   Surface Water (A1)   High Water Table (A2)   Saturation (A3)   Water Marks (B1)   Sediment Deposits (B2)   Drift Deposits (B3)   Algal Mat or Crust (B4)   Iron Deposits (B5)   Surface Soil Cracks (B6)	ne required	t; check all the	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alon Presence of Reduced Iron (C1) Recent Iron Reduction in Till Stunted or Stresses Plants (	g Living Roots (C3) C4) led Soils (C6)	Second V	Water-Stained (MLRA 1, 2, 4, 4) Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	s (2 or mo Leaves (E A, and 4B erns (B10) (ater Table ble on Aer osition (D2 ard (D3) est (D5) ounds (D6)	ore requir 39) 3) e (C2) rial Imag 2)	ery (C9)		
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or   Surface Water (A1)   High Water Table (A2)   Saturation (A3)   Water Marks (B1)   Sediment Deposits (B2)   Drift Deposits (B3)   Algal Mat or Crust (B4)   Iron Deposits (B5)   Surface Soil Cracks (B6)   Inundation Visible on Aerial	ne required	i; check all tha	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alon Presence of Reduced Iron (CRecent Iron Reduction in Till	g Living Roots (C3) C4) led Soils (C6)	Second V	Water-Stained (MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T	s (2 or mo Leaves (E A, and 4B erns (B10) (ater Table ble on Aer osition (D2 ard (D3) est (D5) ounds (D6)	ore requir 39) 3) e (C2) rial Imag 2)	ery (C9)		
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YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concar eld Observations: urface Water Present? Yesturation Present?	I Imagery (I	i; check all that is check all	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alon Presence of Reduced Iron (C1) Recent Iron Reduction in Till Stunted or Stresses Plants (Other (Explain in Remarks)  Depth (inches): Depth (inches):	g Living Roots (C3) C4) led Soils (C6) D1) (LRR A)  Wet	Second V	Water-Stained (MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	s (2 or mo Leaves (E A, and 4B erns (B10) later Table ble on Aer osition (D2 ard (D3) lest (D5) bunds (D6)	ore requir 39) (i) e (C2) rial Imag 2) ) (LRR A	ery (C9)	)	

Project Site:	Manley Road			City/Coun	ty: Battle Ground/Clark County	Sampling Date:	6/21/17	• •
Applicant/Owner:	Clark County				State: WA	Sampling Point:	<u>5</u>	
Investigator(s):	Jeff Gray, Kevin O'Brien, Stepha	nie Modjeski			Section, Township, Ran	ge: 29, 04N, 02E		
Landform (hillslope, te	errace, etc.): Relict flow channe	<u>el</u>	Loc	al relief (conc	ave, convex, none): concave	Slope	e (%): <u>0</u>	
Subregion (LRR):	<u>A</u>	Lat: 45.8	07294		Long: <u>-122.582905</u>	Datum:	WGS 1984	<u>4</u>
Soil Map Unit Name:	Riverwash, cobbly (hydric); Wa	shougal loan	n, 0 to 3% slop	oes (non-hydr	ic) NWI clas	ssification: <u>PFO/PE</u>	<u>-M</u>	
Are climatic / hydrolog	ic conditions on the site typical for	this time of	/ear? Y	∕es ⊠	No	n Remarks.)		
Are Vegetation ☐,	, Soil □, or Hydrology	□, signific	antly disturbe	d? Are "	Normal Circumstances" present	? Yes	⊠ No	<b>□</b>
Are Vegetation ,	, Soil □, or Hydrology	□, natural	ly problemation	? (If ne	eded, explain any answers in Re	emarks.)		
SUMMARY OF FIN	IDINGS – Attach site map sh	nowing san	npling poin	t locations,	transects, important featu	res, etc.		
Hydrophytic Vegetation	n Present?	Yes 🛚	No 🗆		1. 1 4			
Hydric Soil Present?		Yes 🛚	No 🗆	Is the Samp		Yes	⊠ No	<b>□</b>
Wetland Hydrology Pro	esent?	Yes 🛚	No 🗆					
Remarks: Wetland	data point taken at flag C14. All	three wetlar	nd indicators	present.				
VEGETATION - Us	se scientific names of plants	8						
Tree Stratum (Plot siz	e: 30' radius)	Absolute	Dominant Species?	Indicator	Dominance Test Worksheet:			
1. Populus balsamife	era	<u>% Cover</u> 30	<u>Species?</u> <u>yes</u>	Status FAC	Number of Dominant Species			
2. Fraxinus latifolia	<del>_</del>	<u>15</u>	ves	FACW	That Are OBL, FACW, or FAC	<u>5</u>		(A)
3.		_			Total Number of Dominant			
4					Species Across All Strata:	<u>5</u>		(B)
50% = 22.5, 20% = 9		<u>45</u>	= Total Cove	<u></u>	Percent of Dominant Species			
	n (Plot size: 15' radius)	_			That Are OBL, FACW, or FAC	: <u>100%</u>		(A/B)
1. Cornus alba		<u>25</u>	<u>ves</u>	FACW	Prevalence Index worksheet			
2. Rubus armeniacus	S	10	<u>yes</u>	FAC	Total % Cover of:	Multip	ly by:	
3	-	_			OBL species	x1 =		
4.					FACW species	x2 =		
5.					FAC species	x3 =		
50% = <u>17.5,</u> 20% = <u>7</u>		<u>35</u>	= Total Cove	er	FACU species	x4 =		
Herb Stratum (Plot siz	ze: 5' radius)	_			UPL species	x5 =		
1. Galium trifidum	<u></u> ,	<u>55</u>	<u>yes</u>	FACW	Column Totals:	(A)		(B)
Phalaris arundinad	cea	10	no	FACW		e Index = B/A =		. (2)
Myosotis scorpioid		<u>10</u>	no no	FACW	Hydrophytic Vegetation Indi			
4.	<u>100</u>	10	110	171011	☐ 1 – Rapid Test for Hydro			
5.					<ul><li>☑ 2 - Dominance Test is &gt;5</li></ul>			
6.								
·					_	_		
7 8					4 - Morphological Adapta data in Remarks or or		rting	
9					5 - Wetland Non-Vascula			
10.					_			
11.					☐ Problematic Hydrophytic	vegetation (Explain)		
50% = <u>37.5,</u> 20% = <u>15</u>	=	75	= Total Cove	<del></del>	<sup>1</sup> Indicators of hydric soil and w	etland hydrology must		
	_	<u>75</u>	- Total Cove	я	be present, unless disturbed o	r problematic.		
Woody Vine Stratum (	1 101 3126. 10 1aulus)							
1. <u>-</u>					Hydrophytic			
2			- Total Carr			′es ⊠	No	
50% =, 20% =	<del></del>		= Total Cove	1	Present?			
% Bare Ground in Her								
Remarks:	Hydrophytic vegetation indicator pr	resent. Wetla	nd vegetation	passes Domi	nance Test.			

nches) Color (mois	:)	%	Color	(moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	<u> </u>		Remark	s		
<u>0-6</u> <u>10 YR 3/2</u>	!	<u>95</u>	_					<u>loam</u>	<u> </u>					
<u>4-6</u>	_		<u>10Y</u>	R 5/6	<u>5</u>	<u>C</u>	<u>M</u>		_					
<del></del>	_		_											
	_		_											
	_		_					-						
<del></del>	-				-									
	-			_		-								
pe: C= Concentration, D	 Depletio	 n	— Paducad	—— Matrix (	S=Covered or Co	ated Sand	d Grains 21	ocation: PI :	=Pore Lining, N	Λ=Matriy				
dric Soil Indicators: (Ap						atea Garie	a Oranio. L		cators for Pro		Hvdric S	Soils <sup>3</sup> :		
Histosol (A1)	p		o, [		andy Redox (S5)				2 cm Muck		,			
Histic Epipedon (A2)			_	_	ripped Matrix (S6)				Red Parent		TF2)			
Black Histic (A3)					pamy Mucky Miner		(cept MLRA 1)		Very Shallo	,		F12)		
Hydrogen Sulfide (A4)			_	_	pamy Gleyed Matri	. , .	. ,	_	Other (Expl		-	,		
Depleted Below Dark		A11)		_	epleted Matrix (F3)						,			
Thick Dark Surface (A		,		_	edox Dark Surface									
Sandy Mucky Mineral				] De	epleted Dark Surfa	ce (F7)			icators of hydro					
Sandy Gleyed Matrix	S4)		Σ	₫ Re	edox Depressions	(F8)			vetland hydrolo inless disturbed			ıt,		
strictive Layer (if prese	nt):													
e: Relict st	eam bed	cobbles	<u>\$</u>											
								_		V	⋈	No		_
	ator F8-F	Redox de	epression	s. Soils	were restricted at	6 inches b	Hydric Soils F		-bed cobbles.	Yes		NO		
marks: Soils met indic		Redox do	epression	s. Soils	were restricted at	6 inches b	1 -		-bed cobbles.	Yes				
Marks: Soils met indicate of the soils met i	ors:					6 inches b	1 -	e to stream-						
Marks: Soils met indicent of the control of the con	ors:		check all	that ap	ply)		1 -	e to stream-	ndary Indicators	s (2 or mo	re requir			
Marks: Soils met indice  Marks: Soils met indi	ors:		check all	l that app	ply) ater-Stained Leave	es (B9)	selow surface du	Secon	ndary Indicators Water-Stained	s (2 or mo	re requir 39)			
TDROLOGY tland Hydrology Indica mary Indicators (minimum Surface Water (A1) High Water Table (A2	ors:		check all	that app	ply) /ater-Stained Leav xcept MLRA 1, 2,	es (B9)	selow surface du	Secon	ndary Indicators Water-Stained (MLRA 1, 2, 4,	s (2 or moo Leaves (E <b>A, and 4B</b>	re requir 39)			
TDROLOGY  Itland Hydrology Indica mary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3)	ors:		check all	l that app □ W (e: □ Sa	ply) /ater-Stained Leav vxcept MLRA 1, 2, alt Crust (B11)	es (B9) <b>4A, and</b> 4	selow surface du	Secon	ndary Indicators Water-Stained (MLRA 1, 2, 4, Drainage Patte	s (2 or mol Leaves (E <b>A, and 4B</b> ems (B10)	re requir 39)			
"DROLOGY  Itland Hydrology Indica mary Indicators (minimun Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1)	ors: a of one re		check all	that app	ply) ater-Stained Leave xcept MLRA 1, 2, alt Crust (B11) quatic Invertebrate	es (B9) <b>4A, and 4</b> s (B13)	selow surface du	Secon	ndary Indicators Water-Stained ( <b>MLRA 1, 2, 4</b> Drainage Patte Dry-Season W	s (2 or moo Leaves (E <b>A, and 4B</b> erns (B10) ater Table	re requir 39) )	ed)	n	
TDROLOGY tland Hydrology Indica mary Indicators (minimun Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (E	ors: a of one re		check all	that app	ply) later-Stained Leave xcept MLRA 1, 2, alt Crust (B11) quatic Invertebrate ydrogen Sulfide Od	es (B9) <b>4A, and 4</b> s (B13)  dor (C1)	selow surface du	Secon	ndary Indicators Water-Stained ( <b>MLRA 1, 2, 4</b> , Drainage Patte Dry-Season W Saturation Visi	s (2 or moo Leaves (E <b>A, and 4B</b> erns (B10) ater Table ble on Aer	re requir 39) ) e (C2) rial Imag	ed)	)))	
TDROLOGY  Itland Hydrology Indica mary Indicators (minimum Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3)	ors: of one re		check all	that app  (e)  Sa  Ac  Hy	ply) later-Stained Leave xcept MLRA 1, 2, alt Crust (B11) quatic Invertebrate ydrogen Sulfide Oc xidized Rhizosphe	es (B9) <b>4A, and 4</b> s (B13)  dor (C1)  res along l	selow surface due 4B) Living Roots (C3	Secon	ndary Indicators Water-Stained ( <b>MLRA 1, 2, 4</b> , Drainage Patte Dry-Season W Saturation Visi Geomorphic Po	s (2 or mon Leaves (E <b>A, and 4B</b> erns (B10) ater Table ble on Aer osition (D2	re requir 39) ) e (C2) rial Imag	ed)	)))	
TDROLOGY  Itland Hydrology Indica mary Indicators (minimum Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B-	ors: of one re		check all	I that app  (e)  According to the second of	ply) (ater-Stained Leave xcept MLRA 1, 2, alt Crust (B11) quatic Invertebrate ydrogen Sulfide Oc xidized Rhizospheresence of Reduce	es (B9)  4A, and 4  s (B13) dor (C1) res along l d Iron (C4	Jelow surface due  4B)  Living Roots (C3	Secon	ndary Indicators Water-Stained (MLRA 1, 2, 4) Drainage Patte Dry-Season W Saturation Visi Geomorphic Po	s (2 or mor Leaves (E A, and 4B erns (B10) later Table ble on Aer osition (D2 ard (D3)	re requir 39) ) e (C2) rial Imag	ed)	))	
TDROLOGY  Itland Hydrology Indica mary Indicators (minimum Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B Drift Deposits (B3) Algal Mat or Crust (B- Iron Deposits (B5)	ors: of one re )		check all	that app	ply)  ater-Stained Leave  xcept MLRA 1, 2, alt Crust (B11)  quatic Invertebrate  ydrogen Sulfide Oc  xidized Rhizosphe  resence of Reduce  ecent Iron Reduction	es (B9)  4A, and 4  s (B13)  dor (C1)  res along I  d Iron (C4)  on in Tilleo	4B) Living Roots (C3	Secon	ndary Indicators Water-Stained (MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi Geomorphic Po Shallow Aquita	s (2 or mod Leaves (E A, and 4B erns (B10) later Table ble on Aer osition (D2 urd (D3) est (D5)	re requir 39) ) e (C2) rial Image	ed) ery (C9	)))	
TDROLOGY  Itland Hydrology Indica mary Indicators (minimun Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B- Iron Deposits (B5) Surface Soil Cracks (	ors: 1 of one re 2) 2)	equired;	check all	that app (e Sa Ac Hy Re	ply)  ater-Stained Leave  xcept MLRA 1, 2, alt Crust (B11)  quatic Invertebrate  ydrogen Sulfide Oc  xidized Rhizospheresence of Reduce ecent Iron Reduction	es (B9)  4A, and 4  s (B13)  dor (C1)  res along l d Iron (C4  on in Tillec  Plants (D	4B) Living Roots (C3	Secon	ndary Indicators Water-Stained (MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo	s (2 or mon Leaves (E A, and 4B erns (B10) ater Table ble on Aer osition (D2 ard (D3) est (D5) ounds (D6)	re requir 39) ) e (C2) rial Image 2)	ed) ery (C9	)))	
TDROLOGY  Itland Hydrology Indica mary Indicators (minimum Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B Drift Deposits (B3) Algal Mat or Crust (B- Iron Deposits (B5)	ors: of one re o	equired;	check all  [  [  [  [  [  [  [  [  [  [  [  [	that app (e Sa Ac Hy Re	ply)  ater-Stained Leave  xcept MLRA 1, 2, alt Crust (B11)  quatic Invertebrate  ydrogen Sulfide Oc  xidized Rhizosphe  resence of Reduce  ecent Iron Reduction	es (B9)  4A, and 4  s (B13)  dor (C1)  res along l d Iron (C4  on in Tillec  Plants (D	4B) Living Roots (C3	Secon	ndary Indicators Water-Stained (MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi Geomorphic Po Shallow Aquita	s (2 or mon Leaves (E A, and 4B erns (B10) ater Table ble on Aer osition (D2 ard (D3) est (D5) ounds (D6)	re requir 39) ) e (C2) rial Image 2)	ed) ery (C9	)))	
TOROLOGY  International Properties of the Control o	ors: of one re o	equired;	check all  [  [  [  [  [  [  [  [  [  [  [  [	that app (e Sa Ac Hy Re	ply)  ater-Stained Leave  xcept MLRA 1, 2, alt Crust (B11)  quatic Invertebrate  ydrogen Sulfide Oc  xidized Rhizospheresence of Reduce ecent Iron Reduction	es (B9)  4A, and 4  s (B13)  dor (C1)  res along l d Iron (C4  on in Tillec  Plants (D	4B) Living Roots (C3	Secon	ndary Indicators Water-Stained (MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo	s (2 or mon Leaves (E A, and 4B erns (B10) ater Table ble on Aer osition (D2 ard (D3) est (D5) ounds (D6)	re requir 39) ) e (C2) rial Image 2)	ed) ery (C9	)))	
PROLOGY  Interpretation of the property of the	ors: of one re o	equired;	Check all	that app (e Sa Ac Hy Re	ply)  ater-Stained Leave  xcept MLRA 1, 2, alt Crust (B11)  quatic Invertebrate  ydrogen Sulfide Oc  xidized Rhizospheresence of Reduce ecent Iron Reduction	es (B9)  4A, and 4  s (B13)  dor (C1)  res along l d Iron (C4  on in Tillec  Plants (D	4B) Living Roots (C3	Secon	ndary Indicators Water-Stained (MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo	s (2 or mon Leaves (E A, and 4B erns (B10) ater Table ble on Aer osition (D2 ard (D3) est (D5) ounds (D6)	re requir 39) ) e (C2) rial Image 2)	ed) ery (C9	)))	
Marks: Soils met indice  Marks: Soils met indice  Mary Indicators (minimum)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B-  Iron Deposits (B5)  Surface Soil Cracks (  Inundation Visible on  Sparsely Vegetated (Marks)	ors: of one ro ) 2) 4) Aerial Imagencian Soncave S	equired; agery (E Surface	Check all	I that app  (e)  According to the period of	ply) (ater-Stained Leave (acept MLRA 1, 2, alt Crust (B11) (quatic Invertebrate (ydrogen Sulfide Oc (xidized Rhizosphe) (resence of Reduce) (ecent Iron Reduction (tunted or Stresses) (ther (Explain in Re	es (B9)  4A, and 4  s (B13)  dor (C1)  res along l d Iron (C4  on in Tillec  Plants (D	4B) Living Roots (C3	Secon	ndary Indicators Water-Stained (MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo	s (2 or mon Leaves (E A, and 4B erns (B10) ater Table ble on Aer osition (D2 ard (D3) est (D5) ounds (D6)	re requir 39) ) e (C2) rial Image 2)	ed) ery (C9	)))	
Marks: Soils met indice  Marks: Soils met indice  Marks: Soils met indice  Marks: Soils met indice  Marks: Marks (Marks)  Mater Marks (	ors: of one re  2) 2) 4) Aerial Ima	equired; agery (E	check all	that app	ply)  ater-Stained Leave  xcept MLRA 1, 2, alt Crust (B11)  quatic Invertebrate  ydrogen Sulfide Oc  xidized Rhizosphe  resence of Reduce  ecent Iron Reduction  tunted or Stresses  ther (Explain in Re  Depth (inches):	es (B9)  4A, and 4  s (B13)  dor (C1)  res along l d Iron (C4  on in Tillec  Plants (D	4B) Living Roots (C3 4) d Soils (C6) 1) (LRR A)	Secon	ndary Indicators Water-Stained (MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo	s (2 or mon Leaves (E A, and 4B erns (B10) ater Table ble on Aer osition (D2) ard (D3) est (D5) unmocks	re requir 39) ) e (C2) rial Image 2)	ed) ery (C9	No.	
Marks: Soils met indice  Marks: Soils met indice  Marks: Soils met indice  Marks: Soils met indice  Marks: Marks (Marks)  Mater Marks (	Pors: In of one re  1)  2)  4)  Aerial Imagenesis Aerial Imagenesis Yes  Yes  Yes  Yes	agery (E	Check all	that app   (e   Sa   Ad   Hy   O:   St   Ot	ply)  rater-Stained Leave  xcept MLRA 1, 2, alt Crust (B11)  quatic Invertebrate ydrogen Sulfide Oc xidized Rhizospher resence of Reduce ecent Iron Reduction tunted or Stresses ther (Explain in Re  Depth (inches): Depth (inches):	es (B9)  4A, and 4  s (B13)  dor (C1)  res along I  d Iron (C4  on in Tillec  Plants (D'  marks)	4B) Living Roots (C3 4) d Soils (C6) 1) (LRR A)	Secon	ndary Indicators Water-Stained (MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi Geomorphic Postallow Aquita FAC-Neutral Torost-Heave H	s (2 or mon Leaves (E A, and 4B erns (B10) ater Table ble on Aer osition (D2) ard (D3) est (D5) unmocks	re requir (39) (39) (39) (30) (31) (32) (32) (33) (33) (33) (33) (33) (33	ed) ery (C9		

Project Site:	Manley Road			City/Cour	nty: Battle Ground/Clark County	Sampling Date:	6/21/1	<u>17</u>
Applicant/Owner:	Clark County				State: WA	Sampling Point:	<u>6</u>	
Investigator(s):	Jeff Gray, Kevin O'Brien, Steph	anie Modjesk	<u>i</u>		Section, Township, Rar	ige: 29, 04N, 02E		
Landform (hillslope, te	errace, etc.): Relict flow chann	<u>el</u>	Lo	cal relief (cond	cave, convex, none): concave	Slope	e (%): <u>(</u>	<u>0</u>
Subregion (LRR):	<u>A</u>	Lat: 45.8	<u>307346</u>		Long: <u>-122.582798</u>	Datum: \	WGS 19	<u> 184</u>
Soil Map Unit Name:	Riverwash, cobbly (hydric); W	ashougal loar	n, 0-3% slop	es (non-hydric	NWI cla	ssification: <u>NA</u>		
Are climatic / hydrolog	gic conditions on the site typical fo	or this time of	year?	Yes ⊠	No 🔲 (If no, explain	in Remarks.)		
Are Vegetation	, Soil □, or Hydrology	☐, signific	cantly disturb	ed? Are	'Normal Circumstances" present	? Yes		No 🗆
Are Vegetation	, Soil □, or Hydrology	☐, natura	lly problemat	ic? (If ne	eeded, explain any answers in R	emarks.)		
SLIMMARY OF FIN	IDINGS – Attach site man s	howing sa	malina noi	nt locations	transacts important foats	uros oto		
Hydrophytic Vegetatio	IDINGS – Attach site map s	Yes 🗵	• • •	litiocations	, transects, important leatt	ires, etc.		
, , ,	iii Fieseiit!			Is the Sam	pled Area	Yes		No ⊠
Hydric Soil Present?	racant?	Yes		within a We	etland?	res	_ ı	No ⊠
Wetland Hydrology Pr		Yes						
Remarks: Wetland	data point taken upslope at flag	g C14. All thr	ee wetland i	ndicators not	met.			
\/=0=T4TION								i
	se scientific names of plant	Absolute	Dominant	Indicator	<u> </u>			
Tree Stratum (Plot siz	re: <u>30' radius</u> )	% Cover	Species?	Status	Dominance Test Worksheet			
1. <u>Fraxinus latifolia</u>		<u>25</u>	<u>yes</u>	<u>FACW</u>	Number of Dominant Species	<u>2</u>		(A)
2. Acer macrophyllui		<u>20</u>	<u>ves</u>	<u>FACU</u>	That Are OBL, FACW, or FAC	; <del>-</del>		( )
3. <u>Populus balsamife</u>	<u>era</u>	<u>10</u>	<u>no</u>	<u>FAC</u>	Total Number of Dominant	<u>3</u>		(B)
4					Species Across All Strata:	_		( )
50% = <u>27.55</u> , 20% = <u>2</u>	<del></del>	<u>55</u>	= Total Cov	/er	Percent of Dominant Species	. 66%		(A/B)
	n (Plot size: 15' radius)				That Are OBL, FACW, or FAC			
Rubus armeniacu	<u>s</u>	<u>85</u>	<u>yes</u>	<u>FAC</u>	Prevalence Index workshee			
2					Total % Cover of	<del>-</del>	y by:	
3					OBL species	x1 =		_
4					FACW species	x2 =		_
5					FACILITIES	x3 =		_
50% = <u>42.5</u> , 20% = <u>-</u>	" \ \	<u>85</u>	= Total Cov	/er	FACU species	x4 =		_
Herb Stratum (Plot siz	ze: <u>5' radius</u> )				UPL species	x5 =		-
1. <u>-</u>					Column Totals:	_(A)		(B)
2						e Index = B/A =		
3					Hydrophytic Vegetation Indi			
4					1 – Rapid Test for Hydro			
5					2 - Dominance Test is >	50%		
6					3 - Prevalence Index is	<u>&lt;</u> 3.0 <sup>1</sup>		
7					4 - Morphological Adapt		ting	
8					data in Remarks or o			
9					5 - Wetland Non-Vascul	ar Plants <sup>1</sup>		
10					☐ Problematic Hydrophytic	: Vegetation <sup>1</sup> (Explain)		
11					<sup>1</sup> Indicators of hydric soil and v	vetland hydrology must		
50% =, 20% =			= Total Cov	/er	be present, unless disturbed of			
Woody Vine Stratum	(Plot size: 15' radius)							
1. <u>-</u>					Ludranhutia			
2					Hydrophytic Vegetation	∕es ⊠	No	
50% =, 20% =			= Total Cov	/er	Present?	_		_
% Bare Ground in He	rb Stratum 100 (dense cover)							
Remarks:	Hydrophytic vegetation indicator p	oresent. Wetla	and vegetatio	n passes Dom	inance Test.			

inches) Color (moist)	%	Color (m	noist) % Typ	pe <sup>1</sup> Loc <sup>2</sup>	 Texture			Remarks	S	
0-16 10 YR 3/3	100				loam	- <u>-</u>				
		-								
		-								
						· —				
ype: C= Concentration, D=Depl				Sand Grains. <sup>2</sup> L		Pore Lining, N			3	
rdric Soil Indicators: (Application	ole to all L		•			ators for Pro		Hydric S	soils":	
Histosol (A1)			Sandy Redox (S5)			2 cm Muck		TEO\		
Histic Epipedon (A2)			Stripped Matrix (S6)	) ( MI DA 4)		Red Parent	,	•	E40\	
Black Histic (A3)			Loamy Mucky Mineral (F1	, , ,		Very Shallo		•	F12)	
Hydrogen Sulfide (A4) Depleted Below Dark Surfac	o (A11)		Loamy Gleyed Matrix (F2)	)		Other (Expl	ain in Rem	iarks)		
	æ (ATT)		Depleted Matrix (F3)							
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)			Redox Dark Surface (F6) Depleted Dark Surface (F	7)	<sup>3</sup> Indic	cators of hydro	onhytic ved	netation :	and	
			Redox Depressions (F8)	7)	W	etland hydrolo	gy must b	e presen		
Sandy Gleyed Matrix (S4) estrictive Layer (if present):		<u> </u>	Redux Depressions (1 o)		ur	nless disturbed	d or proble	matic.		
pe:										
epth (inches):							V		No	×
	ny indicato	or. Hydric soil	s not present.	Hydric Soils	Present?		Yes			
emarks: Soils did not meet a	ny indicato	or. Hydric soil	s not present.	Hydric Soils	Present?		Yes			
emarks: Soils did not meet a  YDROLOGY etland Hydrology Indicators:		,		Hydric Soils		don ladicator				
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or		l; check all th	at apply)		Secon	dary Indicator	s (2 or mo	re requir		
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1)		,	at apply)  Water-Stained Leaves (B9	9)	Secon	Nater-Stained	s (2 or mo	re requir		
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2)		l; check all th	at apply)  Water-Stained Leaves (Bs	9)	Secono V	Water-Stained	s (2 or mod Leaves (E <b>A, and 4B</b>	re requir 39)		
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or  Surface Water (A1)  High Water Table (A2)  Saturation (A3)		l; check all th	at apply)  Water-Stained Leaves (BS (except MLRA 1, 2, 4A, a Salt Crust (B11)	9) and 4B)	Seconi	Water-Stained MLRA 1, 2, 4	s (2 or mo Leaves (E <b>A, and 4B</b> erns (B10)	re requir 89)		
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)		l; check all th	at apply)  Water-Stained Leaves (BS (except MLRA 1, 2, 4A, a Salt Crust (B11)  Aquatic Invertebrates (B1)	9) and <b>4B)</b>	Seconi	Water-Stained MLRA 1, 2, 4 Drainage Patte Dry-Season W	s (2 or mod Leaves (E <b>A, and 4B</b> erns (B10) dater Table	re requir 39) )	ed)	
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)		I; check all th	at apply)  Water-Stained Leaves (Bs. (except MLRA 1, 2, 4A, a Salt Crust (B11)  Aquatic Invertebrates (B1: Hydrogen Sulfide Odor (C	9) and 4B) 3)	Second (	Water-Stained  MLRA 1, 2, 4,  Drainage Patte  Dry-Season W  Saturation Visi	s (2 or mo Leaves (E <b>A, and 4B</b> erns (B10) dater Table ble on Aer	re requir 39) ) : (C2) rial Imago	ed)	
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		l; check all th	at apply)  Water-Stained Leaves (BS (except MLRA 1, 2, 4A, a Salt Crust (B11)  Aquatic Invertebrates (B1: Hydrogen Sulfide Odor (C Oxidized Rhizospheres al	9) and 4B) 3) 31) ong Living Roots (C:	Second ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	Water-Stained  MLRA 1, 2, 4,  Drainage Patte  Dry-Season W  Saturation Visi  Geomorphic P	s (2 or mon Leaves (E <b>A, and 4B</b> erns (B10) later Table ble on Aer osition (D2	re requir 39) ) : (C2) rial Imago	ed)	
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)		I; check all th	at apply)  Water-Stained Leaves (BS (except MLRA 1, 2, 4A, a Salt Crust (B11)  Aquatic Invertebrates (B1: Hydrogen Sulfide Odor (C Oxidized Rhizospheres al Presence of Reduced Iror	9) and 4B) 3) 31) ong Living Roots (C3)	Second ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	Water-Stained MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita	s (2 or more Leaves (EA, and 4B) erns (B10) dater Table ble on Aerosition (D2 ard (D3)	re requir 39) ) : (C2) rial Imago	ed)	
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)		i; check all th	at apply)  Water-Stained Leaves (Bs. (except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1: Hydrogen Sulfide Odor (O Oxidized Rhizospheres al Presence of Reduced Iror Recent Iron Reduction in	9) and 4B) 3) (1) ong Living Roots (Can (C4) Tilled Soils (C6)	Second   V   (	Water-Stained MLRA 1, 2, 4. Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T	s (2 or more Leaves (EA, and 4B) erns (B10) l'ater Table ble on Aerosition (D2) ard (D3) erst (D5)	re requir 89) ) • (C2) rial Image	ed) ery (C9)	
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or   Surface Water (A1)   High Water Table (A2)   Saturation (A3)   Water Marks (B1)   Sediment Deposits (B2)   Drift Deposits (B3)   Algal Mat or Crust (B4)   Iron Deposits (B5)   Surface Soil Cracks (B6)	ne requirec	l; check all th	at apply)  Water-Stained Leaves (BS (except MLRA 1, 2, 4A, a Salt Crust (B11)  Aquatic Invertebrates (B1: Hydrogen Sulfide Odor (C Oxidized Rhizospheres al Presence of Reduced Iror Recent Iron Reduction in Stunted or Stresses Plant	9) and 4B) 3) c1) ong Living Roots (C3) n (C4) Tilled Soils (C6) s (D1) (LRR A)	Seconi	Water-Stained (MLRA 1, 2, 4, 4) Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	s (2 or mode Leaves (EA, and 4B) and the conference of the confere	re requir 39) ) • (C2) rial Image 2)	ed) ery (C9)	
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or   Surface Water (A1)   High Water Table (A2)   Saturation (A3)   Water Marks (B1)   Sediment Deposits (B2)   Drift Deposits (B3)   Algal Mat or Crust (B4)   Iron Deposits (B5)   Surface Soil Cracks (B6)   Inundation Visible on Aerial	ne required	I; check all th	at apply)  Water-Stained Leaves (Bs. (except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1: Hydrogen Sulfide Odor (O Oxidized Rhizospheres al Presence of Reduced Iror Recent Iron Reduction in	9) and 4B) 3) c1) ong Living Roots (C3) n (C4) Tilled Soils (C6) s (D1) (LRR A)	Seconi	Water-Stained MLRA 1, 2, 4. Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T	s (2 or mode Leaves (EA, and 4B) and the conference of the confere	re requir 39) ) • (C2) rial Image 2)	ed) ery (C9)	
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concar	ne required	I; check all th	at apply)  Water-Stained Leaves (BS (except MLRA 1, 2, 4A, a Salt Crust (B11)  Aquatic Invertebrates (B1: Hydrogen Sulfide Odor (C Oxidized Rhizospheres al Presence of Reduced Iror Recent Iron Reduction in Stunted or Stresses Plant	9) and 4B) 3) c1) ong Living Roots (C3) n (C4) Tilled Soils (C6) s (D1) (LRR A)	Seconi	Water-Stained (MLRA 1, 2, 4, 4) Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	s (2 or mode Leaves (EA, and 4B) and the conference of the confere	re requir 39) ) • (C2) rial Image 2)	ed) ery (C9)	
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concareled Observations:	lmagery (	I; check all th	at apply)  Water-Stained Leaves (BS (except MLRA 1, 2, 4A, a Salt Crust (B11)  Aquatic Invertebrates (B1: Hydrogen Sulfide Odor (C Oxidized Rhizospheres al Presence of Reduced Iron Recent Iron Reduction in Stunted or Stresses Plant Other (Explain in Remarks)	9) and 4B) 3) c1) ong Living Roots (C3) n (C4) Tilled Soils (C6) s (D1) (LRR A)	Seconi	Water-Stained (MLRA 1, 2, 4, 4) Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	s (2 or mode Leaves (EA, and 4B) and the conference of the confere	re requir 39) ) • (C2) rial Image 2)	ed) ery (C9)	
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concareled Observations: Irface Water Present?	Imagery (	I; check all th	at apply)  Water-Stained Leaves (BS) (except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1: Hydrogen Sulfide Odor (O Oxidized Rhizospheres al Presence of Reduced Iror Recent Iron Reduction in Stunted or Stresses Plant Other (Explain in Remarks)	9) and 4B) 3) c1) ong Living Roots (C3) n (C4) Tilled Soils (C6) s (D1) (LRR A)	Seconi	Water-Stained (MLRA 1, 2, 4, 4) Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	s (2 or mode Leaves (EA, and 4B) and the conference of the confere	re requir 39) ) • (C2) rial Image 2)	ed) ery (C9)	
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or ] Surface Water (A1) ] High Water Table (A2) ] Saturation (A3) ] Water Marks (B1) ] Sediment Deposits (B2) ] Drift Deposits (B3) ] Algal Mat or Crust (B4) ] Iron Deposits (B5) ] Surface Soil Cracks (B6) ] Inundation Visible on Aerial ] Sparsely Vegetated Concareled Observations: urface Water Present? Yeaturation Present?	Imagery ( //e Surface	i; check all th	at apply)  Water-Stained Leaves (BS (except MLRA 1, 2, 4A, a Salt Crust (B11)  Aquatic Invertebrates (B1: Hydrogen Sulfide Odor (C Oxidized Rhizospheres al Presence of Reduced Iror Recent Iron Reduction in Stunted or Stresses Plant Other (Explain in Remarks)  Depth (inches):	9) and 4B) 3) c1) ong Living Roots (C: n (C4) Tilled Soils (C6) s (D1) (LRR A) s)	Second () () () () () () () () () () () () ()	Water-Stained (MLRA 1, 2, 4, 4) Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	s (2 or mor Leaves (E A, and 4B erns (B10) later Table ble on Aer osition (D2 ard (D3) lest (D5) bunds (D6)	re requir 39) ) • (C2) rial Image 2)	ed) ery (C9)	L
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concareled Observations: urface Water Present? yeater Table Present? cludes capillary fringe)	Imagery ( //e Surface s	l; check all th	at apply)  Water-Stained Leaves (Bs. (except MLRA 1, 2, 4A, a. Salt Crust (B11)  Aquatic Invertebrates (B1: Hydrogen Sulfide Odor (C. Oxidized Rhizospheres al Presence of Reduced Iror Recent Iron Reduction in Stunted or Stresses Plant Other (Explain in Remarks)  Depth (inches):  Depth (inches):	9) and 4B) 3) c1) ong Living Roots (C3) n (C4) Tilled Soils (C6) s (D1) (LRR A) s)	Second () () () () () () () () () () () () ()	Water-Stained MLRA 1, 2, 4. Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	s (2 or mor Leaves (E A, and 4B erns (B10) later Table ble on Aer osition (D2 ard (D3) lest (D5) bunds (D6)	re requir 39) ) : (C2) rial Image 2) (LRR A (D7)	ed) ery (C9)	
YDROLOGY etland Hydrology Indicators: imary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concareld Observations: urface Water Present?  Yesturation Present?	Imagery ( //e Surface s	l; check all th	at apply)  Water-Stained Leaves (Bs. (except MLRA 1, 2, 4A, a. Salt Crust (B11)  Aquatic Invertebrates (B1: Hydrogen Sulfide Odor (C. Oxidized Rhizospheres al Presence of Reduced Iror Recent Iron Reduction in Stunted or Stresses Plant Other (Explain in Remarks)  Depth (inches):  Depth (inches):	9) and 4B) 3) c1) ong Living Roots (C3) n (C4) Tilled Soils (C6) s (D1) (LRR A) s)	Second () () () () () () () () () () () () ()	Water-Stained MLRA 1, 2, 4. Drainage Patte Dry-Season W Saturation Visi Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	s (2 or mor Leaves (E A, and 4B erns (B10) later Table ble on Aer osition (D2 ard (D3) lest (D5) bunds (D6)	re requir 39) ) : (C2) rial Image 2) (LRR A (D7)	ed) ery (C9)	

Project Site:	Manley Road				City/Cour	nty: <u>Battle Grou</u> County	nd/Clark	Sampling [	Date:	6/21	1/17	
Applicant/Owner:	Clark County						State: WA	Sampling F	oint:	<u>7</u>		
Investigator(s):	Jeff Gray, Kevin O'Brien, Stepha	anie Modjes	<u>ki</u>			Section,	Township, Ran	ge: <u>29, 041</u>	√, 02E			
Landform (hillslope, te	errace, etc.): Relict flow channe	<u>el</u>		Loca	al relief (conc	ave, convex, non	e): <u>concave</u>		Slope	: (%):	<u>0</u>	
Subregion (LRR):	<u>A</u>	Lat: <u>45</u>	.806868			Long: <u>-122.5</u>	5814 <u>60</u>		Datum: V	VGS 1	<u> 1984</u>	
Soil Map Unit Name:	Washougal loam, 0-3% slopes	(non-hydric	<u>:)</u>				NWI clas	sification:	PFO/PS	<u>s</u>		
Are climatic / hydrolog	gic conditions on the site typical for	r this time o	f year?	Y	es 🛚	No 🗆	(If no, explain i	n Remarks.)	)			
Are Vegetation	, Soil □, or Hydrology	☐, signif	icantly dis	sturbec	l? Are "	Normal Circumsta	ances" present?	?	Yes	$\boxtimes$	No	
Are Vegetation	, Soil □, or Hydrology	☐, natur	ally proble	ematic	? (If ne	eded, explain any	y answers in Re	marks.)				
SUMMARY OF FIN	NDINGS – Attach site map sl	howing sa	ampling	point	locations,	transects, im	portant featu	res, etc.				
Hydrophytic Vegetation	n Present?	Yes [	⊠ No									
Hydric Soil Present?		Yes [	⊠ No		Is the Samp within a We				Yes	$\boxtimes$	No	
Wetland Hydrology Pr	esent?	Yes [	⊠ No									
Remarks: Wetland	data point taken approximately	3 feet nort	h of flag l	D4. All	three wetla	nd indicators me	et.					
VEGETATION - U	se scientific names of plant					T						
Tree Stratum (Plot siz	re: 30' radius)	Absolute % Cover	Domin Specie		Indicator Status	Dominance Te	st Worksheet:					
1. Populus balsamife	<u>era</u>	35	yes		FAC	Number of Dom	ninant Species		_			<b>(A)</b>
2. <u>Faxinus latifolia</u>		<u>15</u>	<u>yes</u>		<b>FACW</b>	That Are OBL,	FACW, or FAC		<u>5</u>			(A)
3						Total Number of			<u>5</u>			(B)
4						Species Across	All Strata:		<u>v</u>			(D)
50% = <u>25,</u> 20% = <u>10</u>		<u>50</u>	= Tota	I Cove	r	Percent of Dom			100%			(A/B)
Sapling/Shrub Stratur	<u>m</u> (Plot size: <u>15' radius</u> )					That Are OBL,						
1. <u>Cornus alba</u>		<u>25</u>	<u>yes</u>		<u>FACW</u>	Prevalence Inc						
2. <u>Populus balsamife</u>	<u>∍ra</u>	<u>5</u>	<u>no</u>		<u>FAC</u>		tal % Cover of:		Multiply	y by:		
3						OBL species			x1 =		_	
4 5.						FACW species FAC species			x2 = x3 =		_	
50% = <u>15,</u> 20% = <u>6</u>		30	= Tota	I Covo	<del></del>	FACU species			x4 =	-	_	
Herb Stratum (Plot size	zo: E' radius)	<u>30</u>	- 10ta	COVE	•	UPL species			x5 =		_	
1. Phalaris arundina	·	20	1/00		EACW/	·		(A)	X3 -			۵۱
	<u>Lea</u>	<u>20</u>	<u>yes</u>		FACW	Column Totals:	·	(A)	_		(E	3)
2. <u>Galium trifidum</u>		<u>5</u>	<u>yes</u>		<u>FACW</u>	Hydrophytic V		Index = B/A	· <u>-</u>			
3 4.						Hydrophytic V  ☐ 1 – Rapid	•		tation			
5.							ance Test is >5		lation			
6.												
7							lence Index is <	_	• 4 • • • • • • •			
8.							ological Adapta Remarks or or			ang		
9						☐ 5 - Wetlar	nd Non-Vascula	ar Plants <sup>1</sup>				
10.							itic Hydrophytic		(Evnlain)			
11.						_ Troblema	ilic i iyalopiiyiic	vegetation	(Explain)			
50% = <u>12.5</u> , 20% = <u>5</u>		<u>25</u>	= Tota	I Cove		<sup>1</sup> Indicators of h						
Woody Vine Stratum						be present, unle	ess disturbed o	r problematio	₿.			
1. <u>-</u>	,											
2						Hydrophytic						
50% =, 20% =			= Tota	I Cove	 r	Vegetation	Y	es [		No		
% Bare Ground in He	rb Stratum 75					Present?						
	Hydrophytic vegetation indicator p	resent pas	ses Domir	nance	Test							
Remarks:	,	, , , , , , , , , , , , , , , , , , , ,										

Profile Description: (Describe to the depth needed to document the indicator or confile   Depth   Matrix   Redox Features		Texture Sandy loam Sandy loam Sandy loam	Gravels Gravels	Remarks	3	
Color (moist)	<u>M</u> <u>M</u>	Sandy loam Sandy loam	Gravels	Remarks	5	
0-8         10 YR 3/1         100           8-16         10YR 3/2         85         10YR 4/6         10         D           10YR 4/2         5         C    Fype: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	<u>M</u> <u>M</u>	Sandy loam Sandy loam	Gravels			
8-16 10YR 3/2 85 10YR 4/6 10 D  10YR 4/2 5 C  10YR 4/2 5 C  Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	<u>M</u>		Gravels			
Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Sandy loam	Gravels			
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Grains. <sup>2</sup> Lc					
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	  Grains. <sup>2</sup> Lc					
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Grains. <sup>2</sup> Lc		<u> </u>			
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Grains. <sup>2</sup> Lo					
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	—— Grains. <sup>2</sup> Lo					
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Grains. <sup>2</sup> Lo					
			Lining, M=Matri			
Histosol (A1) Sandy Redox (S5)		Indicator	s for Problemat	ic Hydric S	oils³:	
_			cm Muck (A10)			
Histic Epipedon (A2) Stripped Matrix (S6)			ed Parent Materia			
Black Histic (A3) Loamy Mucky Mineral (F1) (exc	ept MLRA 1)		ery Shallow Dark		<del>-</del> 12)	
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)		☐ Ot	her (Explain in R	emarks)		
Depleted Below Dark Surface (A11)						
Thick Dark Surface (A12)  Redox Dark Surface (F6)		3Indicator	s of hydrophytic	rogotation of	and	
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)			d hydrology mus			
Sandy Gleyed Matrix (S4) Redox Depressions (F8)		unless	disturbed or pro	blematic.		
estrictive Layer (if present):						
/pe: epth (inches):	Hydric Soils P		Yes		No	
HYDROLOGY						
Vetland Hydrology Indicators:		Secondary	Indicators (2 or r	nore require	ed)	
Vetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply)			Indicators (2 or r r-Stained Leaves	-	ed)	
Jetland Hydrology Indicators:       rimary Indicators (minimum of one required; check all that apply)       ☐ Surface Water (A1)     ☑ Water-Stained Leaves (B9)	3)	☐ Wate	•	s (B9)	ed)	
/etland Hydrology Indicators:         rimary Indicators (minimum of one required; check all that apply)         ☐ Surface Water (A1)       ☑ Water-Stained Leaves (B9)         ☑ High Water Table (A2)       (except MLRA 1, 2, 4A, and 4)	3)	☐ Wate	r-Stained Leaves	(B9) <b>4B)</b>	ed)	
/etland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water-Stained Leaves (B9)  (except MLRA 1, 2, 4A, and 4)	3)	☐ Wate (MLR	r-Stained Leaves	(B9) <b>4B)</b> 0)	ed)	
Vetland Hydrology Indicators:       rimary Indicators (minimum of one required; check all that apply)       Surface Water (A1)     Water-Stained Leaves (B9)       High Water Table (A2)     (except MLRA 1, 2, 4A, and 4)       Saturation (A3)     Salt Crust (B11)       Water Marks (B1)     Aquatic Invertebrates (B13)	3)	Wate (MLR	r-Stained Leaves A 1, 2, 4A, and a age Patterns (B1	(B9) <b>4B)</b> 0) ble (C2)		
Wetland Hydrology Indicators:  Inimary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Writer Hydrogen Sulfide Odor (C1)		Wate (MLR Drain Dry-S	r-Stained Leaves A 1, 2, 4A, and a age Patterns (B1 season Water Ta	(B9)  4B)  0) ble (C2) Aerial Image		
Wetland Hydrology Indicators:  Irimary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Wetland Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L	iving Roots (C3		r-Stained Leaves A 1, 2, 4A, and a age Patterns (B1 season Water Ta ation Visible on A	(B9)  4B)  0) ble (C2) Aerial Image		
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       (except MLRA 1, 2, 4A, and 4)         Saturation (A3)       Salt Crust (B11)         Water Marks (B1)       Aquatic Invertebrates (B13)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)         Drift Deposits (B3)       Oxidized Rhizospheres along L         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)	iving Roots (C3	Wate	r-Stained Leaves A 1, 2, 4A, and age Patterns (B1 deason Water Ta attion Visible on A norphic Position (	s (B9) 4 <b>B)</b> 0) ble (C2) Aerial Image		
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       (except MLRA 1, 2, 4A, and 4)         Saturation (A3)       Salt Crust (B11)         Water Marks (B1)       Aquatic Invertebrates (B13)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)         Drift Deposits (B3)       Oxidized Rhizospheres along L         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Recent Iron Reduction in Tilled	iving Roots (C3 Soils (C6)	Wate	r-Stained Leaves A 1, 2, 4A, and 4 age Patterns (B1 season Water Ta attion Visible on A norphic Position ( ow Aquitard (D3)	(B9) 4B) 0) ble (C2) Aerial Image (D2)	ery (C9)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       (except MLRA 1, 2, 4A, and 4)         Saturation (A3)       Salt Crust (B11)         Water Marks (B1)       Aquatic Invertebrates (B13)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)         Drift Deposits (B3)       Oxidized Rhizospheres along L         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Recent Iron Reduction in Tilled         Surface Soil Cracks (B6)       Stunted or Stresses Plants (D1	iving Roots (C3 Soils (C6)	Wate	r-Stained Leaves A 1, 2, 4A, and 4 age Patterns (B1 season Water Ta ation Visible on A norphic Position ( bow Aquitard (D3) Neutral Test (D5	(B9) 4B) 0) ble (C2) Aerial Image (D2) )	ery (C9)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       (except MLRA 1, 2, 4A, and 4)         Saturation (A3)       Salt Crust (B11)         Water Marks (B1)       Aquatic Invertebrates (B13)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)         Drift Deposits (B3)       Oxidized Rhizospheres along L         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Recent Iron Reduction in Tilled         Surface Soil Cracks (B6)       Stunted or Stresses Plants (D1         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)	iving Roots (C3 Soils (C6)	Wate	r-Stained Leaves A 1, 2, 4A, and 4 age Patterns (B1 deason Water Ta attion Visible on A norphic Position ( dow Aquitard (D3) Neutral Test (D5 de Ant Mounds (E	(B9) 4B) 0) ble (C2) Aerial Image (D2) )	ery (C9)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       (except MLRA 1, 2, 4A, and 4B)         Saturation (A3)       Salt Crust (B11)         Water Marks (B1)       Aquatic Invertebrates (B13)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)         Drift Deposits (B3)       Oxidized Rhizospheres along L         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Recent Iron Reduction in Tilled         Surface Soil Cracks (B6)       Stunted or Stresses Plants (D1         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Sparsely Vegetated Concave Surface (B8)	iving Roots (C3 Soils (C6)	Wate	r-Stained Leaves A 1, 2, 4A, and 4 age Patterns (B1 deason Water Ta attion Visible on A norphic Position ( dow Aquitard (D3) Neutral Test (D5 de Ant Mounds (E	(B9) 4B) 0) ble (C2) Aerial Image (D2) )	ery (C9)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         □ Surface Water (A1)       □ Water-Stained Leaves (B9)         □ High Water Table (A2)       (except MLRA 1, 2, 4A, and 4B)         □ Saturation (A3)       □ Salt Crust (B11)         □ Water Marks (B1)       □ Aquatic Invertebrates (B13)         □ Sediment Deposits (B2)       □ Hydrogen Sulfide Odor (C1)         □ Drift Deposits (B3)       □ Oxidized Rhizospheres along L         □ Algal Mat or Crust (B4)       □ Presence of Reduced Iron (C4)         □ Iron Deposits (B5)       □ Recent Iron Reduction in Tilled         □ Surface Soil Cracks (B6)       □ Stunted or Stresses Plants (D1         □ Inundation Visible on Aerial Imagery (B7)       □ Other (Explain in Remarks)         Sparsely Vegetated Concave Surface (B8)	iving Roots (C3 Soils (C6)	Wate	r-Stained Leaves A 1, 2, 4A, and 4 age Patterns (B1 deason Water Ta attion Visible on A norphic Position ( dow Aquitard (D3) Neutral Test (D5 de Ant Mounds (E	(B9) 4B) 0) ble (C2) Aerial Image (D2) )	ery (C9)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       (except MLRA 1, 2, 4A, and 4)         Saturation (A3)       Salt Crust (B11)         Water Marks (B1)       Aquatic Invertebrates (B13)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)         Drift Deposits (B3)       Oxidized Rhizospheres along L         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Recent Iron Reduction in Tilled         Surface Soil Cracks (B6)       Stunted or Stresses Plants (D1         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Sparsely Vegetated Concave Surface (B8)         Field Observations:       Depth (inches):	iving Roots (C3 Soils (C6)	Wate	r-Stained Leaves A 1, 2, 4A, and 4 age Patterns (B1 deason Water Ta attion Visible on A norphic Position ( dow Aquitard (D3) Neutral Test (D5 de Ant Mounds (E	(B9) 4B) 0) ble (C2) Aerial Image (D2) )	ery (C9)	
High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  (except MLRA 1, 2, 4A, and 4B)  Aquatic Invertebrates (B13)  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled  Stunted or Stresses Plants (D1)  Other (Explain in Remarks)  Field Observations:  Surface Water Present?  Yes  No  Depth (inches):	iving Roots (C3 Soils (C6) ) (LRR A)	Wate	r-Stained Leaves A 1, 2, 4A, and 4 age Patterns (B1 Beason Water Ta ation Visible on A norphic Position ( ow Aquitard (D3) Neutral Test (D5 ad Ant Mounds (E -Heave Hummoc	(B9) 4B) 0) ble (C2) Aerial Image (D2) )	ery (C9)	No

Project Site:	Manley Road			City/Cou	nty: Battle Ground/C County	<u>lark</u> Sampl	ling Date:	6/21/17	
Applicant/Owner:	Clark County					e: <u>WA</u> Sampl	ling Point:	<u>8</u>	
Investigator(s):	Jeff Gray, Kevin O'Brien, Stepha	anie Modjeski			Section, Tow	nship, Range: 29	, 04N, 02E		
Landform (hillslope, te	errace, etc.): Relict flow channe	<u>əl</u>	Loc	cal relief (cond	cave, convex, none):	<u>none</u>	Slope	e (%): <u>0</u>	
Subregion (LRR):	<u>A</u>	Lat: 45.8	<u>06815</u>		Long: <u>-122.5814</u>	<u>·60</u>	Datum: \	WGS 1984	
Soil Map Unit Name:	Washougal loam, 0-3% slopes	(non-hydric)				NWI classificatio	n: <u>NA</u>		
Are climatic / hydrolog	ic conditions on the site typical fo	r this time of	/ear?	Yes 🗵	l No □ (If n	io, explain in Rema	irks.)		
Are Vegetation	, Soil □, or Hydrology	□, signific	antly disturbe	ed? Are	"Normal Circumstance	s" present?	Yes	⊠ No	
Are Vegetation	, Soil □, or Hydrology	☐, natural	ly problemati	c? (If ne	eeded, explain any ans	swers in Remarks.	)		
	IDINGS – Attach site map s			t locations	, transects, import	ant features, et	C.		1
Hydrophytic Vegetatio	on Present?	Yes 🗆		Is the Sam	nlad Araa				
Hydric Soil Present?		Yes 🗆		within a W			Yes	☐ No	$\boxtimes$
Wetland Hydrology Pr	resent?	Yes 🗌	No 🛚						
Remarks: Wetland	data point taken upslope at flaç	D4. No wetl	and indicato	rs met.					
VEGETATION – U	se scientific names of plant	S Absolute	Dominant	Indicator	1				
Tree Stratum (Plot siz	re: 30' radius)	% Cover	Species?	Indicator <u>Status</u>	Dominance Test W	/orksheet:			
1. Acer macrophyllui	<u>m</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>	Number of Dominar		<u>1</u>		(A)
2					That Are OBL, FAC	W, or FAC:	<u> </u>		(7 4)
3					Total Number of Do		<u>4</u>		(B)
4					Species Across All	Strata:	<u> -</u>		(2)
50% =, 20% =		<u>25</u>	= Total Cov	er	Percent of Dominan		<u>25%</u>		(A/B)
Sapling/Shrub Stratur	n (Plot size: 15' radius)				That Are OBL, FAC				, ,
1. Rubus armeniacu	<u>s</u>	<u>65</u>	<u>ves</u>	<u>FAC</u>	Prevalence Index v				
2. <u>Salix scouleriana</u>		<u>15</u>	<u>no</u>	<u>FAC</u>	-	6 Cover of:	Multipl	<u>y by:</u>	
3			—	—	OBL species		x1 =		
4			—		FACW species		x2 =		
5					FAC species	<u>80</u>	x3 =	<u>240</u>	
50% = <u>40</u> , 20% = <u>16</u>		<u>80</u>	= Total Cov	er	FACU species	<u>40</u>	x4 =	<u>160</u>	
Herb Stratum (Plot siz					UPL species		x5 =		
1. Echinocystis lobat	_	<u>10</u>	<u>yes</u>	<u>FACU</u>	Column Totals:	<u>120</u> (A)		<u>400</u> (B)	
2. <u>Pteridium aquilinu</u>	<u>ım</u>	<u>5</u>	<u>yes</u>	<u>FACU</u>		Prevalence Index			
3					Hydrophytic Veget				
4					1 – Rapid Tes		'egetation		
5			—		2 - Dominance	e Test is >50%			
6			—		☐ 3 - Prevalence	e Index is <3.01			
7						jical Adaptations <sup>1</sup> (l marks or on a sepa		ting	
8			—			•			
9			<del></del>		_	lon-Vascular Plants			
10			—		☐ Problematic H	lydrophytic Vegeta	tion1 (Explain)		
11					<sup>1</sup> Indicators of hydric	soil and wetland h	vdrology must		
50% = <u>7.5,</u> 20% = <u>3</u>	(District of 451 and 151 a)	<u>15</u>	= Total Cov	er	be present, unless of				
Woody Vine Stratum	(Plot size: 15 radius)								
1. <u>-</u>					Hydrophytic				
2					Vegetation	Yes		No	$\boxtimes$
50% =, 20% =			= Total Cov	eı	Present?				
% Bare Ground in He									
Remarks:	No hydrophytic vegetation indicate	ors present.							

	ription: (Describ		- шори						iiiiii tiie abst	since or inc	···out						
Depth	Matr	ix				F	Redox Feat	tures									
nches)	Color (moist)	_	%	Colo	r (mo	ist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Te	kture			Remark	(S		
<u>0-18</u>	10 YR 3/3		<u>80</u>	_		_				. !	<u>oam</u>	Grave	<u>els</u>				
	10YR 3/4		20	_		-				-			-				
		-		_		_				-			-				
		-		_		_				-			-				
		_		_		_				. <u>-</u>			-				
		_		_		_				-			-				
		_		_		_				· <u>-</u>			_				
		_		_		_							-				
	oncentration, D=D	•				-		ated San	d Grains.	<sup>2</sup> Location		Pore Lining,					
	ndicators: (App	licable t	o all L	_			-					ators for Pr		Hydric	Soils	<b>'</b> :	
Histoso	ol (A1)					Sandy Re	dox (S5)					2 cm Muc	k (A10)				
Histic E	Epipedon (A2)					Stripped I	Matrix (S6)					Red Parer	nt Material	(TF2)			
Black F	Histic (A3)			[		Loamy M	ucky Minera	al (F1) <b>(e</b>	xcept MLRA	1)		Very Shall	low Dark S	Surface (T	ΓF12)		
Hydrog	gen Sulfide (A4)			[		Loamy G	leyed Matri	x (F2)				Other (Exp	olain in Re	marks)			
Deplete	ed Below Dark Su	urface (A	<b>A11</b> )	[		Depleted	Matrix (F3)	)									
Thick D	Dark Surface (A12	2)		[		Redox Da	ark Surface	(F6)			2						
Sandy	Mucky Mineral (S	61)		[		Depleted	Dark Surfa	ice (F7)				cators of hyd etland hydro					
Sandy	Gleyed Matrix (S	4)		[		Redox De	epressions	(F8)				nless disturb			,		
strictive L	ayer (if present)	):															
oe:																	
									1	:I- D	_		Vaa		N	0	Σ
	s): Soils did not me	et any ir	ndicato	r. Hydric	soils	not present	<u>.                                    </u>		Hydric So	iis Preseni	17		Yes				
emarks:	Soils did not me	et any ir	ndicato	r. Hydric	soils	not present	2		Hydric So	iis Preseni	17		Tes				
emarks:	Soils did not me		ndicator	r. Hydric	soils	not present			Hydric So	iis Preseni	17		Tes				
marks:  'DROLO  etland Hyc	Soils did not me	rs:					i.		Hydric So			dary Indicato			red)		
marks:  /DROLO etland Hyc mary Indic	Soils did not me  GY  drology Indicato	rs:		; check a		t apply)	i.	es (B9)	Hydric So		econ	dary Indicato Water-Staine	ors (2 or mo	ore requi	red)		
TDROLO  etland Hyc mary Indic Surfac	Soils did not me  GY  drology Indicato eators (minimum o	rs:		; check a	III that	i apply) Water-Sta					econ	-	ors (2 or mo d Leaves (	ore requi	red)		
Marks:  DROLO etland Hyde mary Indic Surfac High W	GY drology Indicato eators (minimum of	rs:		; check a	III that	i apply) Water-Sta	ained Leave				econ	Water-Staine	ors (2 or mo d Leaves ( <b>4A, and 4</b>	ore requi	red)		
Marks:  /DROLO etland Hyc mary Indic Surfac High W Satura	GY drology Indicato eators (minimum of the Water (A1) Vater Table (A2)	rs:		; check a	II that	t apply) Water-Sta (except N Salt Crus	ained Leave	4A, and		s	econ	Water-Staine	ors (2 or mo d Leaves ( <b>4A, and 4</b> E terns (B10	ore requi (B9) B <b>)</b>	red)		
TDROLO  Petland Hyde  mary Indic  Surfac  High W  Satura  Water	GY drology Indicato sators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1)	rs: of one re		; check a	III that	t apply)  Water-Sta  (except N  Salt Crus  Aquatic Ir	ained Leave <b>/ILRA 1, 2,</b> t (B11) nvertebrates	<b>4A, and</b> s (B13)			econ	Water-Staine MLRA 1, 2, 4 Drainage Pat Dry-Season \	ors (2 or mo d Leaves ( <b>4A, and 4</b> E terns (B10 Water Tabl	ore requii (B9) B) I)		C9)	
"DROLO" etland Hyd mary Indic Surfac High W Satura Water Sedim	GY drology Indicato eators (minimum of Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)	rs: of one re		; check a	III that	t apply)  Water-Sta  (except N  Salt Crus  Aquatic Ir  Hydroger	ained Leave #LRA 1, 2, t (B11) nvertebrates	<b>4A</b> , and s (B13) dor (C1)	4B)		econ ) \ ( ] [ ] [	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season Vi	ors (2 or mo d Leaves ( <b>4A, and 4B</b> tterns (B10 Water Tabl sible on Ae	ore requi (B9) B) )) le (C2) erial Imag		C9)	
Properties of the control of the con	GY drology Indicato eators (minimum of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3)	rs: of one re		; check a	Ill that	t apply) Water-Sta (except N Salt Crus Aquatic Ir Hydroger Oxidized	ained Leave <b>ILRA 1, 2,</b> t (B11) avertebrates a Sulfide Oc Rhizospher	4A, and s (B13) dor (C1) res along	4B)	S 	econ	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season \ Saturation Vi Geomorphic	ors (2 or mo d Leaves ( <b>4A, and 4E</b> terns (B10 Water Tabl sible on Ae Position (D	ore requi (B9) B) )) le (C2) erial Imag		C9)	
YDROLO etland Hyc mary Indic Surfac High W Satura Water Sedim Drift D Algal M	GY drology Indicato eators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)	rs: of one re		; check a	Ill that	t apply)  Water-Sta (except N Salt Crus Aquatic Ir Hydroger Oxidized Presence	ained Leave ILRA 1, 2, t (B11) evertebrates a Sulfide Oc Rhizospher of Reduce	4A, and s (B13) dor (C1) res along	4B) Living Roots 4)	<u>s</u>	econ V ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season \ Saturation Vi Geomorphic Shallow Aqui	ors (2 or model) d Leaves ( <b>4A, and 4E</b> terns (B10 Water Tabl sible on Ae Position (D tard (D3)	ore requi (B9) B) )) le (C2) erial Imag		C9)	
POROLO  Surface High W Satura Water Sedim Drift D Algal M	GY drology Indicato eators (minimum of the Water (A1) Vater Table (A2) ution (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	rs: of one re		; check a	Ill that	water-Sta (except M Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir	ained Leave ILRA 1, 2, t (B11) evertebrates s Sulfide Oc Rhizospher of Reduce	4A, and s (B13) dor (C1) res along ed Iron (C	4B) Living Roots 4) ad Soils (C6)	S 	eccon () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral	ors (2 or model) declared (B10) Water Tables ible on Aeposition (Datard (D3)) Test (D5)	ore requi (B9) B) )) le (C2) erial Imag	gery (C	C9)	
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POROLO Petland Hyd mary Indic Surfac High W Satura Water Sedim Drift D Algal M Iron De Surfac Inunda	GY drology Indicato eators (minimum of e Water (A1) Vater Table (A2) dition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) de Soil Cracks (B6 ation Visible on Ad	rs:  of one re	equired;	; check a	Ill that	water-Sta (except M Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent In Stunted o	ained Leave ILRA 1, 2, t (B11) evertebrates s Sulfide Oc Rhizospher of Reduce	4A, and s (B13) dor (C1) res along d Iron (C on in Tille Plants (C	4B) Living Roots 4) ad Soils (C6)	S 	econ () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral	ors (2 or model) deleaves (44, and 48 terns (B10 Water Table) sible on As (Position (D3) Test (D5) dounds (D6)	ore requii (B9) B) I) de (C2) erial Imag (C2)	gery (C	C9)	
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YDROLO etland Hyc imary Indic   Surfac   High W   Satura   Water   Sedim   Drift De   Algal M   Iron De   Surfac   Inunda   Sparse eld Observ urface Water	GY drology Indicato eators (minimum of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) eation Visible on Are the Vegetated Covations: er Present?	rs: of one re  or one	equired;	s check al		t apply)  Water-State (except Magnetic In Hydroger Oxidized Presence Recent In Stunted to Other (Except In Depti	ained Leave ILRA 1, 2, t (B11) Invertebrates In Sulfide Oct Rhizospher In Reduction In Stresses Inplain in Red In (inches):	4A, and s (B13) dor (C1) res along d Iron (C on in Tille Plants (C	4B) Living Roots 4) ad Soils (C6)	S	econ: () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season \ Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant \ Frost-Heave	ors (2 or module decision of the content of the con	ore requirements of the control of t	Qgery (((		
imary Indic  Surfac  High W  Satura  Water  Sedim  Drift De  Iron De  Inunda  Sparse  eld Observertace Water  atturation Pr	GY drology Indicato eators (minimum of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) eation Visible on Are the Vegetated Covations: er Present?	rs: of one re  s) erial Imancave S	equired;	; check a 37) (B8)	III that	t apply)  Water-State (except Magnetic In Hydroger Oxidized Presence Recent In Stunted to Other (Except In Depti	ained Leave ILRA 1, 2, t (B11) nvertebrates a Sulfide Oc Rhizospher of Reduce con Reduction r Stresses eplain in Rec	4A, and s (B13) dor (C1) res along d Iron (C on in Tille Plants (C	4B) Living Roots 4) ad Soils (C6)	S	econ: () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	ors (2 or module decision of the content of the con	ore requii (B9) B) I) de (C2) erial Imag (C2)	gery (C	No No	
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Project Site:	Manley Road			City/Cou	nty: Battle Ground/Clark Samp	oling Date:	6/21/1	<u>7</u>
Applicant/Owner:	Clark County					oling Point:	9	
Investigator(s):	Jeff Gray, Kevin O'Brien, Stepha	anie Modjesk	<u>i</u>		Section, Township, Range: 29	9, 04N, 02E		
Landform (hillslope, te	errace, etc.): <u>floodplain</u>		L	ocal relief (con-	cave, convex, none): <u>none</u>	Slope	(%): <u>0</u>	<u>1</u>
Subregion (LRR):	<u>A</u>	Lat: 45.8	<u>305691</u>		Long: <u>-122.581340</u>	Datum: W	/GS 198	<u>84</u>
Soil Map Unit Name:	Washougal loam, 0-3% slopes	(non-hydric)			NWI classification	on: <u>PFO/PEN</u>	<u>/</u>	
Are climatic / hydrolog	gic conditions on the site typical fo	r this time of	year?	Yes ⊠	No 🔲 (If no, explain in Rem	arks.)		
Are Vegetation	, Soil □, or Hydrology	☐, signifi	cantly distur	bed? Are	"Normal Circumstances" present?	Yes	⊠ N	No □
Are Vegetation	, Soil □, or Hydrology	☐, natura	lly problema	atic? (If n	eeded, explain any answers in Remarks	.)		
SUMMARY OF FIN	IDINGS - Attach site map s	howing sa	mpling po	int locations	s, transects, important features, e	tc.		
Hydrophytic Vegetatio	n Present?	Yes 🗵	No 🗆		mlad Araa			
Hydric Soil Present?		Yes 🗵	No 🗆	Is the Sam within a W		Yes	⊠ N	4o 🗆
Wetland Hydrology Pr	esent?	Yes 🗵	No [	]				
Remarks: Wetland	data point taken at flag E2. All t	hree wetlan	d indicator	s met.				
VEGETATION - U	se scientific names of plant							
Tree Stratum (Plot siz	:e: 30x15' belt)	Absolute % Cover	Dominant Species?		Dominance Test Worksheet:			
1. Salix sitchensis		<u>5</u>	yes	FACW	Number of Dominant Species			(4)
2. <u>Faxinus latifolia</u>		<u>5</u>	<u>yes</u>	<u>FACW</u>	That Are OBL, FACW, or FAC:	<u>6</u>		(A)
3					Total Number of Dominant			(D)
4					Species Across All Strata:	<u>6</u>		(B)
50% = <u>5</u> , 20% = <u>2</u>		<u>10</u>	= Total Co	over	Percent of Dominant Species	1009/		(A /D)
Sapling/Shrub Stratur	m (Plot size: 15x10' belt)				That Are OBL, FACW, or FAC:	<u>100%</u>		(A/B)
1. Lonicera involucra	<u>ata</u>	<u>53</u>	<u>ves</u>	FAC	Prevalence Index worksheet:			
2. Rubus spectabilis		<u>10</u>	<u>no</u>	FAC	Total % Cover of:	Multiply	by:	
3					OBL species	x1 =		-
4					FACW species	x2 =		-
5					FAC species	x3 =		-
50% = <u>31.5</u> , 20% = <u>12</u>	<u>2.6</u>	<u>63</u>	= Total Co	over	FACU species	x4 =		-
Herb Stratum (Plot siz	re: <u>5' radius</u> )				UPL species	x5 =		-
1. Impatiens capens	<u>is</u>	<u>40</u>	<u>yes</u>	<u>FACW</u>	Column Totals:(A)			_ (B)
2. Glyceria elata		<u>15</u>	<u>yes</u>	<u>FACW</u>	Prevalence Index	= B/A =		
3. Athyrium cyclosor	<u>'um</u>	<u>10</u>	<u>yes</u>	FAC	Hydrophytic Vegetation Indicators:			
4. Solanum dulcama	<u>ıra</u>	<u>5</u>	<u>no</u>	FAC	☐ 1 – Rapid Test for Hydrophytic	√egetation		
5. Phalaris arundina	<u>cea</u>	<u>5</u>	<u>no</u>	<b>FACW</b>	□ 2 - Dominance Test is >50%			
6					☐ 3 - Prevalence Index is ≤3.0 <sup>1</sup>			
7					4 - Morphological Adaptations <sup>1</sup>	(Provide supporti	ing	
8					data in Remarks or on a sep		Ü	
9					5 - Wetland Non-Vascular Plant	s <sup>1</sup>		
10					☐ Problematic Hydrophytic Vegeta	ation <sup>1</sup> (Explain)		
11								
50% = <u>37.5,</u> 20% = <u>15</u>	<u>5</u>	<u>75</u>	= Total Co	over	<sup>1</sup> Indicators of hydric soil and wetland be present, unless disturbed or proble			
Woody Vine Stratum	(Plot size: 15x10' belt)				be present, unless disturbed of proble	mano.		
1. <u>-</u>								
2					Hydrophytic	_		_
50% =, 20% =			= Total Co	over	Vegetation Yes Present?		No	
% Bare Ground in He	rb Stratum 25				i resent:			
	Hydrophytic vegetation indicator p	resent; pass	es Dominan	ce Test.	. <b>I</b>			
Remarks:	, , , ,	,,						
1								

	ription: (Describ	e to the	e depth	neede	d to d	ocument th	e indicato	r or con	firm the abse	nce of indic	ators.)					
Depth	Matri	х				F	Redox Feat	ures								
nches)	Color (moist)		%	Col	or (mo	ist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Textu	ire		Remark	S		
<u>0-12</u>	10YR 4/2		<u>80</u>	<u>7.5</u>	5YR 5/	<u>6</u>	<u>10</u>	<u>C</u>	<u>M</u>	Loa	am mud at	t 12"				
	10YR 3/2		<u>10</u>	-		_										
		_		-		_										
				-		_										
		_		-		-					_ —					
		_		-		_										
		_		-		_										
	<del></del>								—	2						
•	oncentration, D=D	•				-		ated San	d Grains.		PL=Pore Lining,			<b>.</b> 3		
	Indicators: (Appli	icable t	to all L	RRS, ur			-				dicators for Pro		Hydric S	Soils":		
Histos						Sandy Re							(TEO)			
	Epipedon (A2)						Matrix (S6)	-1 / <b>5</b> 4\ <b>/</b>	t MI DA	4) [				·=40\		
	Histic (A3)					•	•	. , .	xcept MLRA	, –	•		-	F12)		
	gen Sulfide (A4)	(A	١.4.4			•	eyed Matrix	( (FZ)			Other (Exp	iain in Rer	narks)			
-	ed Below Dark Su	-	411)				Matrix (F3)	(FC)								
	Dark Surface (A12						irk Surface			<sup>3</sup> lr	ndicators of hydr	onhytic ve	netation	and		
-	Mucky Mineral (S	-					Dark Surfac			"	wetland hydrolo	ogy must b	e preser			
	Gleyed Matrix (S4	<u> </u>			ш	Redox De	pressions (	(го)	1		unless disturbe	d or proble	ematic.			
	Layer (if present)	•														
oe: pth (inche										Is Present?		Yes		No		
marks:	Soils met indicat	tor F3-Γ	Deplete	d Matrix	Hvdr	ic soils pres	sent									
YDROLO	-GY															
	GY drology Indicator	rs:														
etland Hy			equired	; check a	all that	t apply)				Sec	ondary Indicator	rs (2 or mo	ore requir	red)		
etland Hyd imary Indic	drology Indicator		equired	; check :	all that		ined Leave	es (B9)		Sec	ondary Indicator Water-Stainec	-	-	red)		
etland Hyd imary Indic Surfac	drology Indicator cators (minimum o		equired;	; check :		Water-Sta	nined Leave		4B)		•	Leaves (I	B9)	red)		
etland Hyd mary Indic Surfac High V	drology Indicator cators (minimum o ce Water (A1)		equired;	; check :		Water-Sta	ILRA 1, 2,		4B)		Water-Stained	Leaves (I	B9)	red)		
etland Hyd mary Indio Surfac High V Satura	drology Indicator cators (minimum o ce Water (A1) Water Table (A2)		equired	; check :		Water-Sta (except N Salt Crusi	ILRA 1, 2,	4A, and	4B)		Water-Stained	Leaves (I A, and 4E erns (B10)	B9)	red)		
etland Hyd imary Indic Surfac High V Satura Water	drology Indicator cators (minimum o ce Water (A1) Vater Table (A2) ation (A3)		equired;	; check :		Water-Sta (except N Salt Crust Aquatic Ir	ILRA 1, 2, 4 (B11)	<b>4A</b> , and	4B)		Water-Stained (MLRA 1, 2, 4 Drainage Patt	A Leaves (I A, and 4E erns (B10) /ater Table	B9)  (B)  (C2)		9)	
mary Indic Surfac High V Satura Water Sedim	drology Indicator cators (minimum o ce Water (A1) Water Table (A2) ation (A3)		equired,	; check :		Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen	ILRA 1, 2, 4 (B11) vertebrates Sulfide Od	<b>4A</b> , and s (B13) for (C1)	4B) Living Roots	0	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W	A Leaves (In A., and 4E erns (B10)  Vater Table  ible on Ae	B9)  (C2)  (rial Imag		9)	
mary Indic Surfac High V Satura Water Sedim Drift D	drology Indicator cators (minimum o ce Water (A1) Water Table (A2) ation (A3) Marks (B1) nent Deposits (B2)		equired;	; check :		Water-Sta (except N Salt Crust Aquatic Ir Hydrogen Oxidized	ILRA 1, 2, 4 (B11) vertebrates Sulfide Od	4A, and s (B13) for (C1) es along	Living Roots	0	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis	Leaves (I A, and 4E erns (B10) Vater Table ible on Ae Position (D	B9)  (C2)  (rial Imag		9)	
etland Hyd mary Indic Surfac High V Satura Water Sedim Drift D Algal I	drology Indicator cators (minimum of ce Water (A1) Water Table (A2) ation (A3) Marks (B1) ment Deposits (B2)		equired	; check :		Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen Oxidized Presence	ILRA 1, 2, 4 (B11) evertebrates Sulfide Od Rhizospher of Reduced	4A, and s (B13) for (C1) res along d Iron (C	Living Roots	(C3)	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F	A, and 4E erns (B10) /ater Table ible on Ae Position (D3)	B9)  (C2)  (rial Imag		9)	
etland Hyd mary Indic Surfac High V Satura Water Sedim Drift D Algal I Iron D	drology Indicator cators (minimum of ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) ment Deposits (B2) deposits (B3) Mat or Crust (B4)	f one re	equired	; check :		Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ire	ILRA 1, 2, 4 (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction	4A, and s (B13) lor (C1) es along d Iron (Con in Tille	Living Roots	(C3)	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit	d Leaves (I A, and 4E erns (B10) /ater Table ible on Ae Position (D ard (D3)	B9)  (a) (b) (c) (c) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	ery (Cs	9)	
etland Hyd mary Indic Surfac High V Satura Water Sedim Drift D Algal I Iron D	cators (minimum of ce Water (A1)  Water Table (A2)  ation (A3)  Marks (B1)  ment Deposits (B2)  deposits (B3)  Mat or Crust (B4)  deposits (B5)	f one re				Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Iro Stunted o	ILRA 1, 2, 4 (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction	4A, and s (B13) for (C1) es along d Iron (Con in Tille Plants (D	Living Roots 4) ed Soils (C6)	(C3)	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit: FAC-Neutral 1	d Leaves (I AA, and 4E erns (B10) Vater Table ible on Ae Position (D ard (D3) Fest (D5) bounds (D6	B9)  (C2)  (C3)  (C4)  (C5)  (C7)  (C7)  (C8)	ery (Cs	9)	
etland Hydimary Indicipation Surface High V Satura Water Sedim Drift D Algal I I ron D Surface I nunda	cators (minimum of ce Water (A1)  Water Table (A2)  ation (A3)  Marks (B1)  Ment Deposits (B2)  Deposits (B3)  Mat or Crust (B4)  Deposits (B5)  De Soil Cracks (B6	f one re	agery (E	37)		Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Iro Stunted o	ILRA 1, 2, 4 (B11) vertebrates Sulfide Od Rhizospher of Reduced on Reduction	4A, and s (B13) for (C1) es along d Iron (Con in Tille Plants (D	Living Roots 4) ed Soils (C6)	(C3)	Water-Stained (MLRA 1, 2, 4) Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral 1 Raised Ant Mo	d Leaves (I AA, and 4E erns (B10) Vater Table ible on Ae Position (D ard (D3) Fest (D5) bounds (D6	B9)  (C2)  (C3)  (C4)  (C5)  (C7)  (C7)  (C8)	ery (Cs	9)	
etland Hydimary Indice    Surface   High Value   Satura   Water   Sedime   Drift D   Algal I   Iron D   Surface   Spars	cators (minimum of cators (minim	f one re	agery (E	37)		Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Iro Stunted o	ILRA 1, 2, 4 (B11) vertebrates Sulfide Od Rhizospher of Reduced on Reduction	4A, and s (B13) for (C1) es along d Iron (Con in Tille Plants (D	Living Roots 4) ed Soils (C6)	(C3)	Water-Stained (MLRA 1, 2, 4) Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral 1 Raised Ant Mo	d Leaves (I AA, and 4E erns (B10) Vater Table ible on Ae Position (D ard (D3) Fest (D5) bounds (D6	B9)  (C2)  (C3)  (C4)  (C5)  (C7)  (C7)  (C8)	ery (Cs	9)	
etland Hydimary Indical  Surface  High V  Satura  Water  Sedimal  Drift D  I non D  Surface  I sparse  Sparse	cators (minimum of cators (minim	f one re	agery (E	37)		Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Iro Stunted o Other (Ex	ILRA 1, 2, 4 (B11) vertebrates Sulfide Od Rhizospher of Reduced on Reduction	4A, and s (B13) for (C1) es along d Iron (Con in Tille Plants (D	Living Roots 4) ed Soils (C6)	(C3)	Water-Stained (MLRA 1, 2, 4) Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral 1 Raised Ant Mo	d Leaves (I AA, and 4E erns (B10) Vater Table ible on Ae Position (D ard (D3) Fest (D5) bounds (D6	B9)  (C2)  (C3)  (C4)  (C5)  (C7)  (C7)  (C8)	ery (Cs	9)	
etland Hydimary Indice    Surface   High V   Satura   Water   Sedim   Drift D   Algal I   Iron D   Surface   Inunda   Sparse	drology Indicator cators (minimum o ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) ment Deposits (B2) peposits (B3) Mat or Crust (B4) ment Deposits (B5) ment Deposits (B5) ment Deposits (B6) ment D	f one re	agery (E Surface	37) (B8)		Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ILRA 1, 2, 4 (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction r Stresses F	4A, and s (B13) for (C1) es along d Iron (Con in Tille Plants (D	Living Roots 4) ed Soils (C6)	(C3)	Water-Stained (MLRA 1, 2, 4) Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral 1 Raised Ant Mo	d Leaves (I AA, and 4E erns (B10) Vater Table ible on Ae Position (D ard (D3) Fest (D5) bounds (D6	B9)  (C2)  (C3)  (C4)  (C5)  (C7)  (C7)  (C8)	ery (Cs	9)	
retland Hydrimary Indice Surface High V Satura Sedim Hron D Hron	drology Indicator cators (minimum o ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Dee Soil Cracks (B6 ation Visible on Ae Deposits (B5) Deter Present?  Present?	) ) erial Imancave S	agery (Eurface	37) (B8) No		Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Iro Stunted o Other (Ex	ILRA 1, 2, 4 (B11) evertebrates Sulfide Od Rhizospher of Reduced on Reduction or Stresses F plain in Rer	4A, and s (B13) for (C1) es along d Iron (Con in Tille Plants (D marks)	Living Roots 4) ed Soils (C6)	(C3)	Water-Stained (MLRA 1, 2, 4) Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral 1 Raised Ant Mo	d Leaves (I A, and 4E erns (B10) /ater Table ible on Ae Position (D ard (D3) Fest (D5) bunds (D6 Hummocks	B9)  (C2)  (C3)  (C4)  (C5)  (C7)  (C7)  (C8)	ery (Cs	No.	
rimary Indication of the control of	drology Indicator cators (minimum o ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) ment Deposits (B2) peposits (B3) Mat or Crust (B4) ment Deposits (B5) ment Deposits (B5) ment Deposits (B6) ment D	) Perial Imancave S Yes Yes Yes	agery (E surface	37) (B8) No No No		Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ILRA 1, 2, 4 (B11)  IVERTED TAILS SULFIDE TO REDUCE TO R	4A, and s (B13) for (C1) es along d Iron (C- on in Tille Plants (D marks)  8"	Living Roots 4) ed Soils (C6) 01) (LRR A)	(C3)	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant M Frost-Heave H	d Leaves (I A, and 4E erns (B10) /ater Table ible on Ae Position (D ard (D3) Fest (D5) bunds (D6 Hummocks	B9)  i) i) ii) iii) iiiiiiiiiiiiiiiiiiii	ery (Cs		
etland Hydrimary Indical Surface High V Satura Water Sedim Fire D Incom D Inco	drology Indicator cators (minimum o ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Dee Soil Cracks (B6 ation Visible on Ae dely Vegetated Cor vations: Der Present? Present? Present?	) Perial Imancave S Yes Yes Yes	agery (E surface	37) (B8) No No No		Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ILRA 1, 2, 4 (B11)  IVERTED TAILS SULFIDE TO REDUCE TO R	4A, and s (B13) for (C1) es along d Iron (C- on in Tille Plants (D marks)  8" 2	Living Roots 4) ed Soils (C6) 01) (LRR A)	(C3)	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant M Frost-Heave H	d Leaves (I A, and 4E erns (B10) /ater Table ible on Ae Position (D ard (D3) Fest (D5) bunds (D6 Hummocks	B9)  i) i) ii) iii) iiiiiiiiiiiiiiiiiiii	ery (Cs		
etland Hydimary Indice    Surface   High V     Satura     Water     Sedim     Drift D     Algal I     Iron D     Surface     Sparse     Indice Water     attraction Procludes cap	drology Indicator cators (minimum of cators (minimu	f one referred from the referr	agery (E Gurface	37) (B8) No No No No		Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ILRA 1, 2, 4 (B11)  IVERTED TAILS SULFIDE TO REDUCE TO R	4A, and s (B13) for (C1) es along d Iron (C- on in Tille Plants (D marks)  8" 2	Living Roots 4) ed Soils (C6) 01) (LRR A)	(C3)	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant M Frost-Heave H	d Leaves (I A, and 4E erns (B10) /ater Table ible on Ae Position (D ard (D3) Fest (D5) bunds (D6 Hummocks	B9)  i) i) ii) iii) iiiiiiiiiiiiiiiiiiii	ery (Cs		
tland Hydramary Indice Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Id Obser face Water Table uration P cludes cap	drology Indicator cators (minimum o ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) Dee Soil Cracks (B6 ation Visible on Ae dely Vegetated Cor vations: Der Present? Present? Present?	f one referred from the referr	agery (E Gurface	37) (B8) No No No No		Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ILRA 1, 2, 4 (B11)  IVERTED TAILS SULFIDE TO REDUCE TO R	4A, and s (B13) for (C1) es along d Iron (C- on in Tille Plants (D marks)  8" 2	Living Roots 4) ed Soils (C6) 01) (LRR A)	(C3)	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant M Frost-Heave H	d Leaves (I A, and 4E erns (B10) /ater Table ible on Ae Position (D ard (D3) Fest (D5) bunds (D6 Hummocks	B9)  i) i) ii) iii) iiiiiiiiiiiiiiiiiiii	ery (Cs		
tland Hydramary Indice Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars: Id Obser face Water Table urration P Fludes cap	drology Indicator cators (minimum of cators (minimu	f one referred from the referr	agery (E Gurface	37) (B8) No No No No		Water-Sta (except N Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ILRA 1, 2, 4 (B11)  IVERTED TAILS SULFIDE TO REDUCE TO R	4A, and s (B13) for (C1) es along d Iron (C- on in Tille Plants (D marks)  8" 2	Living Roots 4) ed Soils (C6) 01) (LRR A)	(C3)	Water-Stained (MLRA 1, 2, 4 Drainage Patt Dry-Season W Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral T Raised Ant M Frost-Heave H	d Leaves (I A, and 4E erns (B10) /ater Table ible on Ae Position (D ard (D3) Fest (D5) bunds (D6 Hummocks	B9)  i) i) ii) iii) iiiiiiiiiiiiiiiiiiii	ery (Cs		

Project Site:	Manley Road				City/Cour	nty: Battle County	Ground/Clark /	Sampling	Date:	6/21/1	<u>7</u>
Applicant/Owner:	Clark County						State: WA	Sampling	Point:	<u>10</u>	
Investigator(s):	Jeff Gray, Kevin O'E	Brien, Stephanie M	<u>odjeski</u>			Sect	tion, Township, Ra	nge: <u>29, 04</u>	N, 02E		
Landform (hillslope, te	errace, etc.): top o	of river bank		Loc	al relief (cond	ave, convex,	none): <u>none</u>		Slope	e (%): <u>0</u>	•
Subregion (LRR):	<u>A</u>	Lat	: <u>45.8057</u> 0	<u> </u>		Long: -	122.581325		Datum: \)	NGS 198	<u>34</u>
Soil Map Unit Name:	Washougal loam,	0-3% slopes (non-	nydric)				NWI cla	assification:	<u>NA</u>		
Are climatic / hydrolog	ic conditions on the s	site typical for this t	ime of year	? ነ	∕es ⊠	No [	☐ (If no, explain	in Remarks	.)		
Are Vegetation □,	, Soil □, or	Hydrology □,	significantly	y disturbe	d? Are '	'Normal Circu	ımstances" presen	t?	Yes	⊠ N	lo 🗌
Are Vegetation	, Soil □, or	Hydrology □,	naturally pr	oblematio	? (If ne	eeded, explai	n any answers in F	Remarks.)			
SUMMARY OF FIN	IDINGS – Attach	site map showii	ng sampli	ng poin	t locations	, transects,	, important feat	ures, etc.			
Hydrophytic Vegetatio	n Present?	Ye	s 🛛 N	No 🗆							
Hydric Soil Present?		Ye	s 🗆 N	√o ⊠	Is the Samp within a We				Yes	□ N	lo 🛚
Wetland Hydrology Pr	esent?	Ye	s 🗆 N	No 🛛							
Remarks: Upland d	ata point taken nea	r flag E2. No wetla	nd indicat	ors met.	Data point lo	cated on ter	race above flood	plain.			
VEGETATION - Us	se scientific name	es of plants									
Tree Stratum (Plot siz	e: 30x15' belt)	Abso % Co		minant ecies?	Indicator <u>Status</u>	Dominanc	e Test Workshee	t:			
Tsuga heterophyll	' <u>a</u>	<u>40</u>	yes		FACU	Number of	Dominant Species				
2. Alnus rubra		<u>15</u>	yes		FAC		BL, FACW, or FAC		<u>3</u>		(A)
3			_	_		Total Numb	ber of Dominant		_		(5)
4				_			cross All Strata:		<u>5</u>		(B)
50% = <u>27.5,</u> 20% = <u>11</u>	<u>1</u>	<u>55</u>	= 7	otal Cove	er	Percent of	Dominant Species	;	000/		(A (D)
Sapling/Shrub Stratun	n (Plot size: <u>15x10' b</u>	<u>elt</u> )					BL, FACW, or FAC		<u>60%</u>		(A/B)
1. Rubus armeniacu	<u>s</u>	<u>20</u>	<u>yes</u>	<u>s</u>	<u>FAC</u>	Prevalenc	e Index workshee	et:			
2. Acer macrophyllui	<u>m</u>	<u>12</u>	<u>yes</u>	<u>s</u>	<u>FACU</u>		Total % Cover o	<u>f:</u>	Multipl	y by:	
3				_		OBL specie	es	_	x1 =		
4				_		FACW spe	cies <u>4</u>		x2 =	<u>8</u>	
5				_		FAC specie	es <u>53</u>		x3 =	<u>159</u>	
50% = <u>16,</u> 20% = <u>6.4</u>		<u>32</u>	= 7	otal Cove	er	FACU spec	cies <u>52</u>		x4 =	<u>208</u>	
Herb Stratum (Plot siz	re: <u>5' radius</u> )					UPL specie	es <u>6</u>		x5 =	<u>30</u>	
1. <u>Tellima grandiflora</u>	<u>3</u>	<u>18</u>	<u>yes</u>	<u>s</u>	<u>FAC</u>	Column To	otals: <u>115</u> (	A)		<u>405</u> (E	3)
2. Convolvulus arver	<u>nsis</u>	<u>6</u>	no		NL (UPL)		Prevaler	nce Index = E	3/A = <u>3.5</u>		
3. Pyrola sp.		<u>5</u>	no		Ξ	Hydrophyt	tic Vegetation Ind	licators:			
4. Epilobium ciliatum	1	<u>4</u>	no		<u>FACW</u>	☐ 1-R	Rapid Test for Hydr	ophytic Vege	etation		
5				_		□ 2 - D	ominance Test is	>50%			
6				_		□ 3-Pi	revalence Index is	<3.0 <sup>1</sup>			
7						4 M	orphological Adap		vide suppor	tina	
8							ata in Remarks or			9	
9				_		□ 5-W	etland Non-Vascu	lar Plants <sup>1</sup>			
10						☐ Probl	lematic Hydrophyti	c Vegetation	<sup>1</sup> (Explain)		
11			_						(=:: -:::::)		
50% = <u>16.55</u> , 20% = <u>6</u>	<u>3.6</u>	33	= 1	otal Cove	er		of hydric soil and				
Woody Vine Stratum						be present	, unless disturbed	or problemat	uc.		
1. <u>-</u>	-	_									
2			_	_		Hydrophy					
50% =, 20% =			= 7	otal Cove	— <del>—</del> er	Vegetation	ו	Yes	$\boxtimes$	No	
% Bare Ground in He			_			Present?					
	Hydrophytic vegetation	on indicator present	(dominano	e test)		<u> </u>					
Remarks:	ijaiopiiyilo vegelallo	maiodioi presem	, Gorilliano								

0-18 10YR 3/3 80 10YR 3/2 20	Color (mo	Redox Features  Dist) % Type¹ L	.oc² Texture Loam Loam	<del></del>
0-18 10YR 3/3 80	Color (mc		Loam	<del></del>
ype: C= Concentration, D=Depletion, RM=Rec			<u>Loam</u>	<u>no redox</u>
				·
				· —
· · · · · · · · · · · · · · · · · · ·				. <u></u>
	<u> </u>			
			-	· —
			<del></del>	· —
				<del>.</del>
oric Soli indicators: (Applicable to all LRR				Pore Lining, M=Matrix
	_	·		cators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)		Sandy Redox (S5)		2 cm Muck (A10)
Histic Epipedon (A2)		Stripped Matrix (S6)		Red Parent Material (TF2)
Black Histic (A3)		Loamy Mucky Mineral (F1) (except ML		Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Other (Explain in Remarks)
Depleted Below Dark Surface (A11)		Depleted Matrix (F3)		
Thick Dark Surface (A12)		Redox Dark Surface (F6)	<sup>3</sup> India	cators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		Depleted Dark Surface (F7)	W	etland hydrology must be present,
Sandy Gleyed Matrix (S4)		Redox Depressions (F8)	ur	nless disturbed or problematic.
estrictive Layer (if present):				
/pe:			: Soils Present?	Yes □ No D
epth (inches): emarks: Soils did not meet any indicators.				
IYDROLOGY				
Vetland Hydrology Indicators:				
rimary Indicators (minimum of one required; ch	neck all that	t apply)	Secon	dary Indicators (2 or more required)
Surface Water (A1)		Water-Stained Leaves (B9)	v	Water-Stained Leaves (B9)
High Water Table (A2)		(except MLRA 1, 2, 4A, and 4B)	(	(MLRA 1, 2, 4A, and 4B)
Saturation (A3)		Salt Crust (B11)		Drainage Patterns (B10)
☐ Water Marks (B1)		Aquatic Invertebrates (B13)		Dry-Season Water Table (C2)
Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Oxidized Rhizospheres along Living Ro		Geomorphic Position (D2)
Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		Shallow Aquitard (D3)
Iron Deposits (B5)		Recent Iron Reduction in Tilled Soils (C		FAC-Neutral Test (D5)
☐ Surface Soil Cracks (B6)		Stunted or Stresses Plants (D1) (LRR A		Raised Ant Mounds (D6) (LRR A)
		Other (Explain in Remarks)	•	Frost-Heave Hummocks (D7)
Inundation Visible on Aerial Imagery (B7)		(,,		(= . ,
	3)			
Sparsely Vegetated Concave Surface (B8	8)		1	
Sparsely Vegetated Concave Surface (Baseld Observations:		Depth (inches):		
Sparsely Vegetated Concave Surface (Beild Observations: urface Water Present? Yes \( \square\)	No 🛛	Depth (inches):		
Sparsely Vegetated Concave Surface (B8 ield Observations:  Surface Water Present? Yes	No ⊠ No ⊠	Depth (inches):		
Sparsely Vegetated Concave Surface (B8 Field Observations:  Surface Water Present? Yes	No 🛛	· · · · · · · · · · · · · · · · · · ·	Wetland Hydro	ology Present? Yes 🗆 No
Sparsely Vegetated Concave Surface (BEField Observations:  Surface Water Present? Yes	No 🛭	Depth (inches):  Depth (inches):		ology Present? Yes 🗆 No
Sparsely Vegetated Concave Surface (B8 ield Observations:  urface Water Present? Yes	No 🛭	Depth (inches):  Depth (inches):		ology Present? Yes ☐ No

Project Site:	Manley Road			City/Cou	nty: <u>Battle Ground/Clark</u> Sampling D	ate: <u>6/2</u>	<u>21/17</u>	
Applicant/Owner:	Clark County				State: <u>WA</u> Sampling P	oint: <u>11</u>		
Investigator(s):	Jeff Gray, Kevin O'Brien, Stepha	anie Modjesk	<u>i</u>		Section, Township, Range: 29, 04N	<u>, 02E</u>		
Landform (hillslope, te	errace, etc.): <u>Ditch/ hillsope</u>		Lo	cal relief (cond	cave, convex, none): <u>concave</u>	Slope (%)	: <u>0-2</u>	
Subregion (LRR):	<u>A</u>	Lat: 45.7	798488		Long: <u>-122.579142</u>	Datum: WGS	1984	
Soil Map Unit Name:	Dollar loam, 0-5% slopes (non-	-hydric)			NWI classification:	<u>PEM</u>		
Are climatic / hydrolog	gic conditions on the site typical fo	r this time of	year?	Yes ⊠	No ☐ (If no, explain in Remarks.)			
Are Vegetation	, Soil □, or Hydrology	☐, signific	cantly disturbe	ed? Are	"Normal Circumstances" present?	Yes 🛛	No	
Are Vegetation	, Soil □, or Hydrology	☐, natura	ally problemati	c? (If ne	eeded, explain any answers in Remarks.)			
SUMMARY OF FIN	IDINGS – Attach site map s	howing sa	mpling poi	nt locations	, transects, important features, etc.			
Hydrophytic Vegetatio	n Present?	Yes 🗵	No □					
Hydric Soil Present?		Yes 🗵	No □	Is the Sam within a W		Yes 🛛	No	
Wetland Hydrology Pr	esent?	Yes 🗵	No □					
Remarks: Data poir	nt located downslope at flag G3	in roadside	ditch. Acces	s to the wetl	and was limited to the ditch due to barbed	wire fence. A	dl thre	e
	indicators present.							
VEGETATION - U	se scientific names of plant	s						
Tree Stratum (Plot siz	re: 30' radius)	Absolute	Dominant Species?	Indicator	Dominance Test Worksheet:			
1. <u>-</u>		% Cover	Species?	<u>Status</u>	Number of Deminant Species			
2					Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u>		(A)
3					Total Number of Dominant			
4.					Species Across All Strata:	<u>1</u>		(B)
50% =, 20% =			= Total Cov	er	Percent of Dominant Species			
·	m (Plot size: 15' radius)				That Are OBL, FACW, or FAC:	<u>100</u>		(A/B)
1. <u>-</u>					Prevalence Index worksheet:			
2		· <u></u>			Total % Cover of:	Multiply by:	:	
3.					OBL species	x1 =	· 	
4.			<u> </u>		FACW species	x2 =		
5					FAC species	x3 =		
50% =, 20% =			= Total Cov	er	FACU species	x4 =		
Herb Stratum (Plot siz	ze: 5')	· ·			UPL species	x5 =		
Phalaris arundinad	_	<u>68</u>	<u>yes</u>	FACW	Column Totals: (A)	_		В)
Scirpus microcarp		<u>15</u>	no	OBL	Prevalence Index = B/A	_		-,
Equisetum arvens	<del></del>	<u>10</u>	no no	FAC	Hydrophytic Vegetation Indicators:			
Solanum dulcama	<del></del> '	5	no	FAC	☐ 1 – Rapid Test for Hydrophytic Vegeta	ation		
5. Lotus corniculatus		<u>2</u>	no no	FAC	<ul> <li>✓ 2 - Dominance Test is &gt;50%</li> </ul>	20011		
6.	•	=	<u></u>	17.0				
7					4 - Morphological Adaptations <sup>1</sup> (Providata in Remarks or on a separate s			
8						31.001)		
9								
10					☐ Problematic Hydrophytic Vegetation <sup>1</sup>	(Explain)		
11					<sup>1</sup> Indicators of hydric soil and wetland hydrol	loav must		
50% = <u>50</u> , 20% = <u>20</u>	(Dist. s.)	<u>100</u>	= Total Cov	er	be present, unless disturbed or problematic			
Woody Vine Stratum (	(Plot size:)							
1					Hydrophytic			
2					_	⊠ No	0	
50% =, 20% =			= Total Cov	er	Present?			
% Bare Ground in Her	rb Stratum <u>0</u>							
Remarks:	Hydrophytic vegetation indicator p	resent. Pass	es Dominanc	e Test.				

nches) Color (mois	)	%	Color (	moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	<u> </u>			Remark	(S		
<u>0-3</u> <u>10 YR 2/1</u>		100	_	_				Silty loa	<u>am</u>						
<u>3-12</u> <u>10YR 3/1</u>	-	<u>100</u>		_				Silty loa	<u>am</u>	mud at	12"				
	_			_					_						
	_			_					_						
	_			_					-						
	_			_					_						
	_			_					-						
ype: C= Concentration, D:	 Denletio		—— Peduced M	— latriv C	S=Covered or Co	ated San	d Grains 2	ocation: PL	- -Pore	Lining N	/=Matrix				
rdric Soil Indicators: (Ap						atou ouri	a Granio. L				blematic	Hvdric	Soils <sup>3</sup>	:	
Histosol (A1)					ndy Redox (S5)					m Muck		•			
Histic Epipedon (A2)					ipped Matrix (S6)						Material	(TF2)			
Black Histic (A3)				Loa	amy Mucky Miner	al (F1) <b>(e</b> x	ccept MLRA 1)		Ve	ry Shallo	w Dark S	urface (1	F12)		
Hydrogen Sulfide (A4)				Loa	amy Gleyed Matri	x (F2)			Oth	ner (Expl	ain in Rer	marks)			
Depleted Below Dark	Surface (A	<b>411</b> )		De	pleted Matrix (F3)	)									
Thick Dark Surface (A	12)			Red	dox Dark Surface	(F6)									
Sandy Mucky Mineral	(S1)			Der	pleted Dark Surfa	ice (F7)					ophytic ve				
Sandy Gleyed Matrix	S4)			Red	dox Depressions	(F8)					gy must b d or proble		nt,		
strictive Layer (if prese	nt):														
oe:															
													NI.	`	
emarks: Access to the soils determin	ed to be p	present	due to pre	sence of	ditch due to barb f other wetland in due to shallow g	dicators s	uch as abundan	oil indicator						vever	hyc
soils determin roadside ditch YDROLOGY	ed to be property from the	present	due to pre	sence of	f other wetland in	dicators s	ence. No hydric s such as abundan	oil indicator			ample poi	nt location	n, hov	vever	hyd
emarks: Access to the soils determin roadside ditch  YDROLOGY etland Hydrology Indica	ors:	present slope w	due to pre- vetland; mu	sence of	f other wetland in due to shallow g	dicators s	ence. No hydric s such as abundan	oil indicator ce of hydrop	ohytic <sup>,</sup>	vegetatio	ample poii	nt locatio	on, hov	vever	hyc
emarks: Access to the soils determin roadside ditch  YDROLOGY  etland Hydrology Indicaring Indicators (minimun	ors:	present slope w	due to pre- vetland; mu	sence of d at 12"	f other wetland in due to shallow gi	dicators s roundwate	ence. No hydric s such as abundan	oil indicator ce of hydrop	ohytic y	vegetation	ample poii on and sui	nt locatic rface wa	on, hov	vever	hyc
Pemarks: Access to the soils determin roadside ditch  YDROLOGY  etland Hydrology Indicationary Indicators (minimum Indicators	ors:	present slope w	due to pre- vetland; mu	sence of d at 12"  that appl  Wa	f other wetland in due to shallow gi	dicators s roundwate	er water.	Secor	ndary I Water	vegetatic	ample poin on and sur s (2 or mo Leaves (	nt locatic rface wa	on, hov	vever	hyc
YDROLOGY etland Hydrology Indicatimary Indicators (minimun  Surface Water (A1)  High Water Table (A2)	ors:	present slope w	due to prevetland; mu	sence of d at 12"  that appl  Wa  (ex	f other wetland in due to shallow gi	dicators s roundwate	er water.	Secon	ndary I Water ( <b>MLR</b>	Indicators -Stained A 1, 2, 4,	s (2 or mc Leaves (I	nt locatic rface wa pre requi	on, hov	vever	hyc
Marks: Access to the soils determin roadside ditch  /DROLOGY etland Hydrology Indicatmary Indicators (minimun Surface Water (A1) High Water Table (A2 Saturation (A3)	ors:	present slope w	due to prevetland; mu	sence of d at 12"  that appl  Wa  (ex	f other wetland in due to shallow gi	es (B9)	er water.	Secor	ndary I Water ( <b>MLR</b> A	Indicator: -Stained A 1, 2, 4,	s (2 or mo Leaves (I A, and 4E	nt locatic rface wa pre requi B9)	on, hov	vever	hyc
/DROLOGY etland Hydrology Indicat mary Indicators (minimun Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1)	ors: of one re	present slope w	due to prevetland; mu	that appl Wa (ex ] Sal ] Aqu	f other wetland in due to shallow gi	es (B9) 4A, and 4	er water.	Secor	ndary I Water ( <b>MLR</b> A Draina	Indicators -Stained A 1, 2, 4, age Patte eason W	s (2 or mo Leaves (I A, and 4E	ore requi	red)	wever wing t	hyc
YDROLOGY etland Hydrology Indicatimary Indicators (minimum I Surface Water (A1) I High Water Table (A2 I Saturation (A3) I Water Marks (B1) Sediment Deposits (E	ors: of one re	present slope w	check all t	that appl  (ex  Sal  Aqu  Hyd	due to shallow grade to	es (B9) 4A, and 4 s (B13) dor (C1)	er water.	Secon	ndary I Water (MLR) Draina Dry-So Satura	Indicators -Stained A 1, 2, 4, age Patte eason W ation Visi	s (2 or mo Leaves (I A, and 4E erns (B10)	ore requi B9)	red)	wever wing t	hyc
YDROLOGY etland Hydrology Indicationary Indicators (minimum I Surface Water (A1) I High Water Table (A2 I Saturation (A3) Water Marks (B1) Sediment Deposits (B3)	ors: or of one re	present slope w	due to prevetland; mu	that appl Wa (ex ] Sal ] Hyo ] Oxi	due to shallow given to shallow given to shallow given the shallow	es (B9) 4A, and 4 s (B13) dor (C1) res along	er water.  Living Roots (C3	Secon	ndary I Water (MLR. Draina Dry-So Satura Geom	Indicators -Stained A 1, 2, 4, age Patte eason W ation Visi	s (2 or mo Leaves (i A, and 4E erns (B10) ater Table ble on Ae osition (D	ore requi B9)	red)	wever wing t	hyc
YDROLOGY etland Hydrology Indicationary Indicators (minimum I Surface Water (A1) I High Water Table (A2 I Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4)	ors: or of one re	present slope w	to prevetland; mu	that appl  (ex  Aqu  Hyc  Cy  Cy  Cy  Cy  Cy  Cy  Cy  Cy  Cy	due to shallow given the standard in due to shallow given the standard in due to shallow given the standard in	es (B9) 4A, and 4 s (B13) dor (C1) res along	er water.  Living Roots (C3	Secon	mdary I Water (MLR. Draina Dry-So Satura Geom	Indicator: -Stained A 1, 2, 4, age Patte eason W ation Visi	s (2 or mo Leaves (i A, and 4E ems (B10) dater Table ble on Ae osition (D ard (D3)	ore requi B9)	red)	wever wing t	hyc
YDROLOGY etland Hydrology Indicatimary Indicators (minimun   Surface Water (A1)   High Water Table (A2   Saturation (A3)   Water Marks (B1)   Sediment Deposits (B   Drift Deposits (B3)   Algal Mat or Crust (B-1)   Iron Deposits (B5)	ors: or of one re	present slope w	due to prevetland; mu	that appl Wa (ex ] Sal ] Aqu ] Hyc ] Oxi ] Pre ] Rec	due to shallow given to shallow given to shallow given the shallow	es (B9) 4A, and 4 s (B13) dor (C1) res along dd Iron (C4 on in Tilled	er water.  Living Roots (C3 4) d Soils (C6)	Secor	ndary I Water (MLR. Draina Dry-S: Satura Geom Shallo	Indicators -Stained A 1, 2, 4, age Patte eason W ation Visi orphic P ow Aquita Neutral T	s (2 or mo Leaves (i A, and 4E ems (B10) dater Table ble on Ae osition (D ard (D3)	nt location of the control of the co	on, however,	wever wing t	hyc
YDROLOGY etland Hydrology Indication imary Indicators (minimun I Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (	ors: of one re  2)	present slope w	check all t	that appl  (ex  Sal  Aqu  Hyc  Cx  Rec  Stu	dy)  Iter-Stained Leave cept MLRA 1, 2, t Crust (B11) Lustic Invertebrate drogen Sulfide Oc idized Rhizosphe esence of Reduce cent Iron Reduction	es (B9)  4A, and 4  s (B13) dor (C1) res along ad Iron (C4 on in Tilled	er water.  Living Roots (C3 4) d Soils (C6)	Secon	ndary I Water (MLRA Draina Geom Shallo FAC-N	Indicators -Stained A 1, 2, 4, age Patte eason W ation Visi orphic P ow Aquita Neutral T d Ant Mc	s (2 or mo Leaves (i A, and 4E erns (B10) later Table ble on Ae osition (D ard (D3)	ore requi	on, however,	wever wing t	hyc
YDROLOGY etland Hydrology Indicatimary Indicators (minimun)   Surface Water (A1)   High Water Table (A2)   Saturation (A3)   Water Marks (B1)   Sediment Deposits (B3)   Algal Mat or Crust (B4)   Iron Deposits (B5)   Surface Soil Cracks (Inundation Visible on	ors: of one re  Aerial Ima	present slope w equired;	check all t	that appl  (ex  Sal  Aqu  Hyc  Cx  Rec  Stu	dy)  ter-Stained Leave cept MLRA 1, 2, t Crust (B11) uatic Invertebrate drogen Sulfide Oc idized Rhizosphe esence of Reduce cent Iron Reduction	es (B9)  4A, and 4  s (B13) dor (C1) res along ad Iron (C4 on in Tilled	er water.  Living Roots (C3 4) d Soils (C6)	Secon	ndary I Water (MLRA Draina Geom Shallo FAC-N	Indicators -Stained A 1, 2, 4, age Patte eason W ation Visi orphic P ow Aquita Neutral T d Ant Mc	s (2 or mo Leaves (I A, and 4E erns (B10) dater Table ble on Ae osition (D ard (D3) est (D5)	ore requi	on, however,	wever wing t	hyc
YDROLOGY  etland Hydrology Indicationary Indicators (minimum  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (Inundation Visible on Sparsely Vegetated Circles	ors: of one re  Aerial Ima	present slope w equired;	check all t	that appl  (ex  Sal  Aqu  Hyc  Cx  Rec  Stu	dy)  ter-Stained Leave cept MLRA 1, 2, t Crust (B11) uatic Invertebrate drogen Sulfide Oc idized Rhizosphe esence of Reduce cent Iron Reduction	es (B9)  4A, and 4  s (B13) dor (C1) res along ad Iron (C4 on in Tilled	er water.  Living Roots (C3 4) d Soils (C6)	Secon	ndary I Water (MLRA Draina Geom Shallo FAC-N	Indicators -Stained A 1, 2, 4, age Patte eason W ation Visi orphic P ow Aquita Neutral T d Ant Mc	s (2 or mo Leaves (I A, and 4E erns (B10) dater Table ble on Ae osition (D ard (D3) est (D5)	ore requi	on, however,	wever wing t	hyc
PMAN Access to the soils determin roadside ditch soils determin roadside ditch with the soils determined and soils	ors: of one re  Aerial Ima	present slope w equired;	check all t	that appl Wa (ex Aqu Hyc Pre Rec Stu Oth	dy)  ter-Stained Leave cept MLRA 1, 2, t Crust (B11) uatic Invertebrate drogen Sulfide Oc idized Rhizosphe esence of Reduce cent Iron Reduction	es (B9)  4A, and 4  s (B13) dor (C1) res along ad Iron (C4 on in Tilled	er water.  Living Roots (C3 4) d Soils (C6)	Secon	ndary I Water (MLRA Draina Geom Shallo FAC-N	Indicators -Stained A 1, 2, 4, age Patte eason W ation Visi orphic P ow Aquita Neutral T d Ant Mc	s (2 or mo Leaves (I A, and 4E erns (B10) dater Table ble on Ae osition (D ard (D3) est (D5)	ore requi	on, however,	wever wing t	hyc
YDROLOGY etland Hydrology Indications and Indicators (Minimum Indi	ors: or of one re  Aerial Ima oncave S	present slope w equired; agery (E	check all t	that appl Wa (ex Aqu Hyc Pre Rec Stu Oth	due to shallow grade the state of the shallow grade to sh	es (B9)  4A, and 4  s (B13) dor (C1) res along ed Iron (C4 on in Tilled Plants (D marks)	er water.  Living Roots (C3 4) d Soils (C6)	Secon	ndary I Water (MLRA Draina Geom Shallo FAC-N	Indicators -Stained A 1, 2, 4, age Patte eason W ation Visi orphic P ow Aquita Neutral T d Ant Mc	s (2 or mo Leaves (I A, and 4E erns (B10) dater Table ble on Ae osition (D ard (D3) est (D5)	ore requi	on, however,	wever wing t	hyc
POROLOGY  etland Hydrology Indicatimary Indicators (minimun)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (Inundation Visible on	ors: or of one re  2) Aerial Ima	equired;	check all t	that appl Wa (ex Aqu	dy)  Iter-Stained Leave cept MLRA 1, 2, t Crust (B11) Luatic Invertebrate drogen Sulfide Oct didzed Rhizospher esence of Reduce cent Iron Reduction inted or Stresses her (Explain in Re	es (B9)  4A, and 4  s (B13) dor (C1) res along ed Iron (C4 on in Tilled Plants (D marks)	er water.  Living Roots (C34) d Soils (C6) 1) (LRR A)	Secon	ndary I Water (MLR, Draina Dry-S Satura Geom Shallo FAC-N Raisee	Indicators -Stained A 1, 2, 4, age Patte eason W ation Visi orphic P ow Aquita Neutral T d Ant Mo Heave H	s (2 or mo Leaves (i A, and 4E ems (B10) later Table ble on Ae osition (D ard (D3) lest (D5) bunds (D6	ore requi	on, however,	wever wing t	hyco th
YDROLOGY etland Hydrology Indicationary Indicators (minimum Indica	ors: or of one re  Aerial Ima oncave S  Yes Yes Yes	equired;	check all to check	that appl Wa (ex ] Sal ] Aqu ] Pre ] Rec ] Stu ] Oth	dy)  Iter-Stained Leave Cept MLRA 1, 2, It Crust (B11) Luatic Invertebrate drogen Sulfide Oct didized Rhizospher esence of Reduce cent Iron Reduction inted or Stresses her (Explain in Re  Depth (inches): Depth (inches):	es (B9)  4A, and 4 s (B13) dor (C1) res along d Iron (C2 on in Tiller Plants (D marks)	AB)  Living Roots (C34) d Soils (C6) 1) (LRR A)	Secor	ndary I Water (MLR, Draina Dry-S Satura Geom Shallo FAC-N Raisee	Indicators -Stained A 1, 2, 4, age Patte eason W ation Visi orphic P ow Aquita Neutral T d Ant Mo Heave H	s (2 or mo Leaves (i A, and 4E ems (B10) later Table ble on Ae osition (D ard (D3) lest (D5) bunds (D6	ore requi B9)  (C2)  (C2)  (C3)  (C4)  (C4)  (C5)  (C5)  (C6)  (C6)  (C7)  (C6)  (C7)	red)	wever twing t	hyco th

Project Site:	Manley Road						City/Cour		<u>Battie</u> County	<u>Grouna/C</u> V	<u>Jark</u>	Sampling	g Date:	6/21	<u>/17</u>	
Applicant/Owner:	Clark County							_		State	e: <u>WA</u>	Sampling	g Point:	<u>12</u>		
Investigator(s):	Jeff Gray, Kevi	n O'Brien, Stepha	nie Modj	<u>eski</u>					Sec	tion, Tow	nship, Ran	ge: <u>29, 0</u>	4N, 02E			
Landform (hillslope, te	errace, etc.): <u>h</u>	<u>nillslope</u>				Local	I relief (conc	ave, co	onvex,	, none):	none		Slo	pe (%):	<u>0-2</u>	
Subregion (LRR):	<u>A</u>		Lat: 4	45.798	506			Lor	ng: <u>-</u>	122.5791	07		Datum:	WGS 1	984	
Soil Map Unit Name:	Dollar loam, 0	)-5% slopes (non-	hydric)								NWI clas	sification:	<u>NA</u>			
Are climatic / hydrolog	ic conditions on	the site typical for	this time	e of yea	ar?	Υe	es 🛛	No	o l	☐ (If n	o, explain i	n Remark	s.)			
Are Vegetation ⊠,	, Soil ⊠,	or Hydrology	□, sig	nifican	tly distu	rbed'	? Are "	Norma	I Circi	umstance	s" present	?	Yes	$\boxtimes$	No	
Are Vegetation □,	, Soil □,	or Hydrology	□, nat	turally	problem	atic?	(If ne	eded,	explai	in any ans	swers in Re	emarks.)				
SUMMARY OF FIN		ch site map sh	nowing		ling p	oint	locations,	trans	sects	, import	ant featu	res, etc.	•			
Hydrophytic Vegetatio	n Present?		Yes	$\boxtimes$		-	Is the Samp	alad Ar	roa							
Hydric Soil Present?			Yes		No [		within a We						Yes		No	$\boxtimes$
Wetland Hydrology Pr	esent?		Yes		No [	◁										
Remarks: Upland d	ata point locate	d at flag G3. Loc	ation of	samp	le point	alor	ng roadside	shoul	lder a	bove dito	h. Not all	three wet	land indica	ators pro	esent	Į.
VEGETATION – U	se scientific n	ames of plants	Absolute	o [	Oominan	+	Indicator									
Tree Stratum (Plot siz	e: <u>30' radius</u> )		% Cove		Species?		Status	Dom	ninanc	ce Test W	orksheet:					
1				-							nt Species		<u>1</u>			(A)
2				-				That	Are C	DBL, FAC	W, or FAC	:	<del>-</del>			(, ,)
3				-						ber of Do			<u>1</u>			(B)
4				-				Spec	cies A	cross All	Strata:		-			(-)
50% =, 20% =				=	: Total C	over	•				t Species	_	<u>100</u>			(A/B)
Sapling/Shrub Stratun	<u>n</u> (Plot size: <u>15' r</u>	adius)									W, or FAC					
1				-				Prev	alenc		worksheet					
2				-							6 Cover of:			ply by:		
3				_					speci				x1 =		_	
4				-					W spe				x2 =		_	
5				-					speci				x3 =	-	_	
50% =, 20% =				=	: Total C	over	•		U spe				x4 =		_	
Herb Stratum (Plot siz	ze: <u>5' radius</u> )							UPL	speci	es			x5 =		_	
1. <u>Agrostis capillaris</u>			<u>70</u>	<u>Y</u>	<u>es</u>		<u>FAC</u>	Colu	mn To			(A)			(E	3)
2. <u>Juncus bufonius</u>			<u>15</u>	<u>n</u>	10		<u>FACW</u>				Prevalence		B/A =			
3. <u>Trifolium pratense</u>			<u>8</u>	<u>n</u>	10		FACU			_	tation Indi					
4. <u>Lotus corniculatus</u>	i		<u>5</u>		<u>10</u>		FAC			-	t for Hydro		getation			
5. <u>Holcus lanatus</u>			<u>2</u>	<u>n</u>	<u>10</u>		<u>FAC</u>		2 - D	ominance	e Test is >	50%				
6				-					3 - P	revalence	e Index is <	≤3.0¹				
7				_							ical Adapta marks or or		ovide supp	orting		
8				-									ile sileet)			
9				-							on-Vascula		_			
10				_				Ш	Prob	lematic H	lydrophytic	Vegetatio	n¹ (Explain	)		
11				_				1India	cators	of hydric	soil and w	etland hvo	drology mus	st		
50% = <u>50</u> , 20% = <u>20</u>			<u>100</u>	=	: Total C	over	•				disturbed o					
Woody Vine Stratum (	(Piot size: <u>15' rac</u>	ius)														
1. <u>-</u>				_				Hvdr	rophy	rtic						
2				_	<u> </u>			_	etatio		Υ	'es	$\boxtimes$	No		
50% =, 20% =				=	: Total C	over	-	Pres	ent?							
% Bare Ground in He																
Remarks:	Hydrophytic vege	etation indicator pr	esent.													

Depth Matrix	(			Redox Fea	itures		_					
nches) Color (moist)	%	Colo	r (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Textur	<u></u>		Remarks	3	
=		_										
		_				-						
		_										
		_										
		_										
		_										
<u> </u>		_										
ype: C= Concentration, D=De	epletion, RN	=Reduced	Matrix, C	S=Covered or Co	oated Sand	d Grains. <sup>2</sup> Lo	cation: Pl	 L=Pore Lining, M	1=Matrix			
ydric Soil Indicators: (Appli	cable to all	LRRs, unl	ess othe	wise noted.)				licators for Prol		Hydric S	oils³:	
Histosol (A1)		[	☐ Sa	ndy Redox (S5)				2 cm Muck (	(A10)			
Histic Epipedon (A2)		1	☐ Str	ipped Matrix (S6)	)			Red Parent	Material (	TF2)		
Black Histic (A3)		[	] Lo	amy Mucky Mine	ral (F1) <b>(ex</b>	(cept MLRA 1)		Very Shallov	w Dark Su	ırface (Tl	<del>-</del> 12)	
] Hydrogen Sulfide (A4)		[	] Loa	amy Gleyed Matr	rix (F2)			Other (Expla	ain in Rem	narks)		
Depleted Below Dark Sui	face (A11)	[	☐ De	pleted Matrix (F3	3)							
Thick Dark Surface (A12)		[	☐ Re	dox Dark Surface	e (F6)		2					
Sandy Mucky Mineral (S	)			pleted Dark Surfa	ace (F7)			dicators of hydro wetland hydrolog				
Sandy Gleyed Matrix (S4	)	[	☐ Re	dox Depressions	(F8)			unless disturbed				
estrictive Layer (if present):												
pe:						Hydric Soils P			Yes		No	×
lepth (inches):  demarks:  No soil profile ava	ailable due t	o concrete	at surface	e. Hydric soil indid	cators not r	met. Veg growing	through o	cracks in concre	te.			
	ailable due f	o concrete	at surface	e. Hydric soil indid	cators not r	met. Veg growing	through o	cracks in concre	te.			
emarks: No soil profile avantes: No soil profi	s:				cators not r	met. Veg growing						
emarks: No soil profile availing the soil pr	s:	ed; check al	I that app	ly)		met. Veg growinę	Seco	ondary Indicators	s (2 or moi		ed)	
YDROLOGY //etland Hydrology Indicator: rimary Indicators (minimum of	s:	ed; check al	I that app □ Wa	ly) hter-Stained Leav	ves (B9)		Seco		s (2 or moi		ed)	
YDROLOGY  Vetland Hydrology Indicator: rimary Indicators (minimum of Surface Water (A1) High Water Table (A2)	s:	ed; check al	I that app □ Wa	ly) Iter-Stained Leav cept MLRA 1, 2	ves (B9)		Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4,4	s (2 or moi Leaves (B A, and 4B	39)	ed)	
YDROLOGY  [etland Hydrology Indicator: rimary Indicators (minimum of ] Surface Water (A1) ] High Water Table (A2) ] Saturation (A3)	s:	ed; check al	l that app □ Wa (ex	ly) Iter-Stained Leav cept MLRA 1, 2 t Crust (B11)	ves (B9) , <b>4A</b> , and 4		Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4 <i>f</i> Drainage Patte	s (2 or moo Leaves (E <b>A, and 4B</b> rns (B10)	39) <b>)</b>	ed)	
YDROLOGY  Yetland Hydrology Indicators rimary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)	s:	ed; check al	I that app □ Wa (ex	ly) ter-Stained Leav <b>cept MLRA 1, 2</b> t Crust (B11) uatic Invertebrate	ves (B9) , <b>4A, and 4</b> es (B13)		Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4# Drainage Patte Dry-Season Wa	s (2 or mon Leaves (B A, and 4B rns (B10) ater Table	39) )	,	
YDROLOGY  Tetland Hydrology Indicators (minimum of a surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)	s:	ed; check al	I that app  Wa (ex	ly) hter-Stained Leav cept MLRA 1, 2, t Crust (B11) uatic Invertebrate drogen Sulfide O	ves (B9) , <b>4A, and 4</b> es (B13) edor (C1)	<b>4B</b> )	Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4,4 Drainage Patte Dry-Season Water-Season Water-Sea	s (2 or mon Leaves (B A, and 4B, rns (B10) ater Table ole on Aer	(C2)	,	
YDROLOGY  Tetland Hydrology Indicator:  Timary Indicators (minimum of a surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)	s:	ed; check al	I that app  Wa (ex  Sa  Aq  Hy	ly) hter-Stained Leav cept MLRA 1, 2, t Crust (B11) uatic Invertebrate drogen Sulfide O idized Rhizosphe	ves (B9)  , 4A, and 4  es (B13)  dor (C1)  eres along l	<b>IB)</b> Living Roots (C3	Seco	ondary Indicators Water-Stained (MLRA 1, 2, 44 Drainage Patte Dry-Season Water Saturation Visit	s (2 or mor Leaves (B A, and 4B rns (B10) ater Table ble on Aer osition (D2	(C2)	,	
YDROLOGY  Vetland Hydrology Indicator: rimary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	s:	ed; check al	I that app Wa (ex	ly)  ter-Stained Leav  cept MLRA 1, 2,  t Crust (B11)  uatic Invertebrate  drogen Sulfide O  idized Rhizosphe esence of Reduce	ves (B9)  , 4A, and 4  es (B13)  dor (C1)  eres along led Iron (C4	IB) Living Roots (C3	Seco	ondary Indicators Water-Stained (MLRA 1, 2, 44 Drainage Patte Dry-Season Water Saturation Visit Geomorphic Potential Shallow Aquita	s (2 or mon Leaves (E A, and 4B rns (B10) ater Table ole on Aer osition (D2 rd (D3)	(C2)	,	
YDROLOGY  Yetland Hydrology Indicators rimary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)	s: one require	ed; check al	I that app  Wa (ex Aq Aq Hy) Ox Re	ly)  ter-Stained Leav  cept MLRA 1, 2,  t Crust (B11)  uatic Invertebrate drogen Sulfide O  idized Rhizosphe esence of Reduce cent Iron Reduct	ves (B9)  , 4A, and 4  es (B13)  dor (C1) eres along I ed Iron (C4 ion in Tilleo	Living Roots (C3	Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4A) Drainage Patte Dry-Season Wasturation Visit Geomorphic Poshallow Aquita FAC-Neutral Te	s (2 or moo Leaves (E A, and 4B rns (B10) ater Table ble on Aer bosition (D2 rd (D3) est (D5)	(C2) ial Image	ery (C9)	
YDROLOGY  Yetland Hydrology Indicators rimary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)	s: one require	ed; check al	I that app Wa (ex Sa Aq Hy Cy Re Stu	ly)  Iter-Stained Leav  cept MLRA 1, 2, 1  t Crust (B11)  Juatic Invertebrate drogen Sulfide O idized Rhizosphe esence of Reduce cent Iron Reductionted or Stresses	ves (B9)  , 4A, and 4  es (B13)  edor (C1)  eres along I  ed Iron (C4  ion in Tilleo  s Plants (D1	Living Roots (C3	Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Water Saturation Visit Geomorphic Potential Shallow Aquita FAC-Neutral Te Raised Ant Mo	s (2 or mor Leaves (E A, and 4B, rns (B10) ater Table ble on Aer osition (D2 rd (D3) est (D5) unds (D6)	(C2) ial Image (LRR A	ery (C9)	
YDROLOGY  Tetland Hydrology Indicators frimary Indicators (minimum of Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Ae	s: one require	ed; check al	I that app Wa (ex Sa Aq Hy Cy Re Stu	ly)  ter-Stained Leav  cept MLRA 1, 2,  t Crust (B11)  uatic Invertebrate drogen Sulfide O  idized Rhizosphe esence of Reduce cent Iron Reduct	ves (B9)  , 4A, and 4  es (B13)  edor (C1)  eres along I  ed Iron (C4  ion in Tilleo  s Plants (D1	Living Roots (C3	Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4A) Drainage Patte Dry-Season Wasturation Visit Geomorphic Poshallow Aquita FAC-Neutral Te	s (2 or mor Leaves (E A, and 4B, rns (B10) ater Table ble on Aer osition (D2 rd (D3) est (D5) unds (D6)	(C2) ial Image (LRR A	ery (C9)	
YDROLOGY  Vetland Hydrology Indicator: rimary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Ae Sparsely Vegetated Con	s: one require	ed; check al	I that app Wa (ex Sa Aq Hy Cy Re Stu	ly)  Iter-Stained Leav  cept MLRA 1, 2, 1  t Crust (B11)  Juatic Invertebrate drogen Sulfide O idized Rhizosphe esence of Reduce cent Iron Reductionted or Stresses	ves (B9)  , 4A, and 4  es (B13)  edor (C1)  eres along I  ed Iron (C4  ion in Tilleo  s Plants (D1	Living Roots (C3	Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Water Saturation Visit Geomorphic Potential Shallow Aquita FAC-Neutral Te Raised Ant Mo	s (2 or mor Leaves (E A, and 4B, rns (B10) ater Table ble on Aer osition (D2 rd (D3) est (D5) unds (D6)	(C2) ial Image (LRR A	ery (C9)	
YDROLOGY  Vetland Hydrology Indicator: rimary Indicators (minimum of a surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Ae  Sparsely Vegetated Coneld Observations:	s: one require	ed; check al	I that app Wa (ex	ly)  ter-Stained Leav  cept MLRA 1, 2,  t Crust (B11)  uatic Invertebrate  drogen Sulfide O  idized Rhizosphe esence of Reduce cent Iron Reduct inted or Stresses her (Explain in Re	ves (B9)  , 4A, and 4  es (B13)  dor (C1)  eres along I  ed Iron (C4  ion in Tilled  Plants (D1  emarks)	Living Roots (C3	Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Water Saturation Visit Geomorphic Potential Shallow Aquita FAC-Neutral Te Raised Ant Mo	s (2 or mor Leaves (E A, and 4B, rns (B10) ater Table ble on Aer osition (D2 rd (D3) est (D5) unds (D6)	(C2) ial Image (LRR A	ery (C9)	
YDROLOGY  Vetland Hydrology Indicator: rimary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Ae Sparsely Vegetated Con leid Observations: urface Water Present?	s:  one require  rial Imagery cave Surface	ed; check al	I that app  Wa (ex Pre DX Pre DX	ly)  Iter-Stained Leav  cept MLRA 1, 2,  t Crust (B11)  Luatic Invertebrate  drogen Sulfide O  idized Rhizosphe  esence of Reduce  cent Iron Reduct  inted or Stresses  her (Explain in Re	ves (B9)  , 4A, and 4  es (B13)  edor (C1) eres along I ed Iron (C4 ion in Tilleo e Plants (D1 emarks)	Living Roots (C3	Secc	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Water Saturation Visit Geomorphic Potential Shallow Aquita FAC-Neutral Te Raised Ant Mo	s (2 or mor Leaves (E A, and 4B, rns (B10) ater Table ble on Aer osition (D2 rd (D3) est (D5) unds (D6)	(C2) ial Image (LRR A	ery (C9)	
YDROLOGY  //etland Hydrology Indicator: rimary Indicators (minimum of a surface Water (A1)    High Water Table (A2)   Saturation (A3)   Water Marks (B1)   Sediment Deposits (B2)   Drift Deposits (B3)   Algal Mat or Crust (B4)   Iron Deposits (B5)   Surface Soil Cracks (B6)   Inundation Visible on Ae Sparsely Vegetated Contect (B4)   Iron Deposits (B5)   Surface Soil Cracks (B6)   Inundation Visible on Ae Sparsely Vegetated Contect (B4)   Iron Deposits (B5)   Surface Water Present?	s: one require	ed; check al	I that app Wa (ex	ly)  ter-Stained Leav  cept MLRA 1, 2,  t Crust (B11)  uatic Invertebrate  drogen Sulfide O  idized Rhizosphe esence of Reduce cent Iron Reduct inted or Stresses her (Explain in Re	ves (B9)  , 4A, and 4  es (B13)  dor (C1) eres along I ed Iron (C4 ion in Tilleo s Plants (D1 emarks)	Living Roots (C3	Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Water Saturation Visit Geomorphic Potential Shallow Aquita FAC-Neutral Te Raised Ant Mo	s (2 or mor Leaves (E A, and 4B, rns (B10) ater Table ble on Aer position (D2 rd (D3) est (D5) unds (D6)	(C2) ial Image (LRR A	ery (C9)	0
YDROLOGY  Vetland Hydrology Indicator: rimary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Ae Sparsely Vegetated Continuing	one require rial Imagery cave Surface Yes  Yes  Yes  Yes  Yes	ed; check al (B7) te (B8) No No No	I that app Wa (ex	ly)  Iter-Stained Leav  cept MLRA 1, 2,  t Crust (B11)  Luatic Invertebrate  drogen Sulfide O  idized Rhizosphe  esence of Reduce  cent Iron Reduct  inted or Stresses  ner (Explain in Re  Depth (inches):  Depth (inches):	ves (B9)  , 4A, and 4  es (B13)  edor (C1)  eres along I  ed Iron (C4  ion in Tillec  B Plants (D1  emarks)	Living Roots (C3 d) d Soils (C6) 1) (LRR A)	Seco	ondary Indicators Water-Stained (MLRA 1, 2, 44 Drainage Patte Dry-Season W: Saturation Visit Geomorphic Po Shallow Aquita FAC-Neutral Te Raised Ant Mo Frost-Heave He	s (2 or mor Leaves (E A, and 4B, rns (B10) ater Table ble on Aer position (D2 rd (D3) est (D5) unds (D6)	(C2) (C2) (ial Image 2) (LRR A	ery (C9)	0
YDROLOGY  Vetland Hydrology Indicators  Timary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Ae  Sparsely Vegetated Conceld Observations:  urface Water Present?  vater Table Present?  aturation Present?  caturation Present?	one require rial Imagery cave Surface Yes  Yes  Yes  Yes  Yes	ed; check al (B7) te (B8) No No No	I that app Wa (ex	ly)  Iter-Stained Leav  cept MLRA 1, 2,  t Crust (B11)  Luatic Invertebrate  drogen Sulfide O  idized Rhizosphe  esence of Reduce  cent Iron Reduct  inted or Stresses  ner (Explain in Re  Depth (inches):  Depth (inches):	ves (B9)  , 4A, and 4  es (B13)  edor (C1)  eres along I  ed Iron (C4  ion in Tillec  B Plants (D1  emarks)	Living Roots (C3 d) d Soils (C6) 1) (LRR A)	Seco	ondary Indicators Water-Stained (MLRA 1, 2, 44 Drainage Patte Dry-Season W: Saturation Visit Geomorphic Po Shallow Aquita FAC-Neutral Te Raised Ant Mo Frost-Heave He	s (2 or mor Leaves (E A, and 4B, rns (B10) ater Table ble on Aer position (D2 rd (D3) est (D5) unds (D6)	(C2) (C2) (ial Image 2) (LRR A	ery (C9)	0

Project Site:	Manley Road			City/Cour	nty: Battle Ground/Clark	Sampling Date:	6/22	2/17	
Applicant/Owner:	Clark County			,	County State: WA	Sampling Point:	13		
Investigator(s):	Jeff Gray, Kevin O'Brien, Stepha	nie Modieski			Section, Township, Ra	· -			
Landform (hillslope, to	•		Loca	al relief (conc	ave, convex, none): none	-	= Slope (%):	0-2	
Subregion (LRR):	<u>A</u>	Lat: 45.7		(	Long: -122.578991		m: WGS		
Soil Map Unit Name:	Hockinson loam, moderately w			on-hydric)	<u> </u>	assification: PEI			
·	gic conditions on the site typical fo			es 🏻	No 🔲 (If no, explai	n in Remarks.)			
Are Vegetation ⊠			antly disturbed		Normal Circumstances" prese	,	′es ⊠	No	
Are Vegetation	, Soil □, or Hydrology	☐, natural	ly problematic	? (If ne	eded, explain any answers in	Remarks.)			
SUMMARY OF FIN	IDINGS – Attach site map sl	nowing san	npling point	locations	transects, important fea	tures, etc.			
Hydrophytic Vegetation	on Present?	Yes 🛛	No 🗆						
Hydric Soil Present?		Yes 🛚	No 🗆	Is the Samp		Y	′es ⊠	No	
Wetland Hydrology Pr	resent?	Yes 🛛	No 🗆						
Remarks: Wetland	data point taken approximately	5 feet south	of flag H17 in	wet meado	w. All three wetland indicato	rs met.			
			_						
VEGETATION - U	se scientific names of plant	s							
Tree Stratum (Plot siz	ze: <u>30' radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Workshee	et:			
1		70 00101		<u>Ctatao</u>	Number of Dominant Specie	es -			
2					That Are OBL, FACW, or FA				(A)
3					Total Number of Dominant				(D)
4					Species Across All Strata:	<u>3</u>			(B)
50% =, 20% =			= Total Cover	r	Percent of Dominant Specie	S	00		(A /D)
Sapling/Shrub Stratur	m (Plot size: 15' radius)				That Are OBL, FACW, or FA	.C: 10	<u>00</u>		(A/B)
1					Prevalence Index workshe	et:			
2					Total % Cover of	of: M	lultiply by:		
3					OBL species	_ x′	1 =		
4					FACW species	_ x2	2 =	_	
5					FAC species	_ x3	3 =		
50% =, 20% =			= Total Cover	r	FACU species	_ X <sup>2</sup>	4 =		
Herb Stratum (Plot size	ze: <u>5' radius</u> )				UPL species	_ xt	5 =		
1. Holcus lanatus		<u>35</u>	<u>yes</u>	FAC	Column Totals:	(A)		(F	В)
2. Lotus corniculatus	<u> </u>	<u>25</u>	<u>yes</u>	FAC	Prevaler	nce Index = B/A =			
3. Agrostis capillaris		<u>20</u>	<u>yes</u>	FAC	Hydrophytic Vegetation In	dicators:			
4. Rumex crispus		<u>10</u>	<u>no</u>	<u>FAC</u>	☐ 1 – Rapid Test for Hyd	rophytic Vegetation			
5. Anthoxanthum od	<u>loratum</u>	<u>10</u>	<u>no</u>	<u>FACU</u>	□ 2 - Dominance Test is	>50%			
6					3 - Prevalence Index is	s <u>&lt;</u> 3.0¹			
7					4 - Morphological Adap				
8					data in Remarks or	on a separate sheet	t)		
9					5 - Wetland Non-Vasc	ular Plants <sup>1</sup>			
10					☐ Problematic Hydrophy	tic Vegetation <sup>1</sup> (Expl	lain)		
11					<sup>1</sup> Indicators of hydric soil and	wotland hydrology i	munt		
50% = <u>50</u> , 20% = <u>20</u>		<u>100</u>	= Total Cover	r	be present, unless disturbed		iiust		
Woody Vine Stratum	(Plot size: 15' radius)								
1. <u>-</u>					Hydrophytic				
2					Hydrophytic Vegetation	Yes 🖂	No		
50% =, 20% =			= Total Cover	r	Present?		- 10		_
% Bare Ground in He	rb Stratum <u>0</u>								
Remarks:	Hydrophytic vegetation present; pa	assess Domir	nance Test.						

SOIL Sampling Point: 13 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) (inches) % Color (moist) % Type<sup>1</sup> Remarks 10YR 3/2 86 10YR 4/6 8 <u>C</u> PL Oxidized root channels 0-18 loam 10YR 4/2 6 D M redox features to surface 18-22+ 10YR 4/2 88 10YR 5/6 C loam <sup>2</sup>Location: PL=Pore Lining, M=Matrix <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) П  $\Box$ Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3)  $\boxtimes$ Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes  $\boxtimes$ Depth (inches): No Remarks: Hydric soils present. Meets criteria for indicator F6-Redox Dark Surface. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Saturation (A3) П Salt Crust (B11) П Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) X Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Stunted or Stresses Plants (D1) (LRR A) П Surface Soil Cracks (B6) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No  $\boxtimes$ Depth (inches): Yes  $\boxtimes$ Water Table Present? No Depth (inches): Saturation Present? Wetland Hydrology Present? Yes  $\boxtimes$ No Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Dry to 22". Hydrology presumed present due to oxidized rhizospheres along living roots of grasses in field. Other hydrology indicators present in other Remarks: sampled areas within wetland; surface water and saturation present in vegetated ditch within wetland boundary.

Project Site:	Manley Road			City/Cour	nty: Battle Ground/Clark County	Sampling Date:	6/21/1	<u>17</u>
Applicant/Owner:	Clark County				State: WA	Sampling Point:	<u>14</u>	
Investigator(s):	Jeff Gray, Kevin O'Brien, Stepha	anie Modjesk	<u>i</u>		Section, Township, Rar	ige: 29, 04N, 02E		
Landform (hillslope, te	errace, etc.): <u>hillslope</u>		Loc	cal relief (cond	cave, convex, none): none	Slop	e (%): 2	<u>2</u>
Subregion (LRR):	<u>A</u>	Lat: 45.7	799045		Long: -122.579011	Datum:	WGS 19	184
Soil Map Unit Name:	Hockinson loam, moderately w	vell drained, (	)-8% slopes (ı	non-hydric)	NWI clas	ssification: <u>NA</u>		
Are climatic / hydrolog	gic conditions on the site typical fo	r this time of	year?	Yes 🛛	No 🔲 (If no, explain	in Remarks.)		
Are Vegetation	, Soil □, or Hydrology	☐, signific	cantly disturbe	ed? Are	'Normal Circumstances" present	? Yes	<b>1</b>	No 🗆
Are Vegetation	, Soil □, or Hydrology	☐, natura	lly problemati	c? (If ne	eeded, explain any answers in R	emarks.)		
SUMMARY OF FIN	IDINGS – Attach site map s	howing sa	mpling poir	nt locations	, transects, important featu	ıres, etc.		-
Hydrophytic Vegetation	n Present?	Yes 🗵	No □	Is the Sam	nlad Araa			
Hydric Soil Present?		Yes		within a We		Yes	□ N	No 🛛
Wetland Hydrology Pr	resent?	Yes 🗆	No ⊠					
	lata point taken 10 feet east of t	lag H17 nea	r roadside di	tch on upland	d berm between wet meadow a	and ditch. Not all thre	e wetlan	id
indicator	's met.							
VEGETATION - U	se scientific names of plant		Dominant	Indicator	<u></u>			
Tree Stratum (Plot siz	re: 30' radius)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet	:		
1. <u>-</u>					Number of Dominant Species	<u>2</u>		(A)
2					That Are OBL, FACW, or FAC	: =		(7.1)
3					Total Number of Dominant	<u>2</u>		(B)
4					Species Across All Strata:	=		(=)
50% =, 20% =			= Total Cov	er	Percent of Dominant Species	. <u>100</u>		(A/B)
Sapling/Shrub Stratur	<u>n</u> (Plot size: <u>15' radius</u> )				That Are OBL, FACW, or FAC	·		
1. <u>-</u>					Prevalence Index workshee			
2					Total % Cover of	<u>-</u>	ily by:	
3			_		OBL species	x1 =		-
4					FACW species	x2 =		=
5					FAC species	x3 =		-
50% =, 20% =			= Total Cov	er	FACU species	x4 =		-
Herb Stratum (Plot siz	<del></del>				UPL species	x5 =		-
1. Anthoxanthum od	<u>oratum</u>	<u>45</u>	<u>yes</u>	<u>FACW</u>	Column Totals:	_ (A)		(B)
2. <u>Agrostis capillaris</u>		<u>25</u>	<u>yes</u>	<u>FAC</u>	Prevalenc	e Index = B/A =		
3. Lotus corniculatus	<u>i</u>	<u>8</u>	<u>no</u>	<u>FAC</u>	Hydrophytic Vegetation Indi			
4. Rubus ursinus		<u>6</u>	<u>no</u>	<u>FACU</u>	1 – Rapid Test for Hydro			
5. <u>Holcus lanatus</u>		<u>5</u>	<u>no</u>	<u>FAC</u>	2 - Dominance Test is >	50%		
6					3 - Prevalence Index is	<u>&lt;</u> 3.0 <sup>1</sup>		
7					4 - Morphological Adapt	ations <sup>1</sup> (Provide suppo	rting	
8					data in Remarks or o			
9			_		5 - Wetland Non-Vascul	ar Plants'		
10					☐ Problematic Hydrophytic	: Vegetation <sup>1</sup> (Explain)		
11					<sup>1</sup> Indicators of hydric soil and v	vetland hydrology mus	ŧ	
50% = <u>46.5</u> , 20% = <u>18</u>		<u>93</u>	= Total Cov	er	be present, unless disturbed of			
Woody Vine Stratum	(Plot size: 15' radius)							
1. <u>-</u>					Hydrophytic			
2						∕es ⊠	No	
50% =, 20% =			= Total Cov	er	Present?			
% Bare Ground in He	rb Stratum <u>7</u>							
Remarks:	Vegetation passess Dominance T	est; hydrophy	ytic vegetation	n indicator pre	sent.			

rofile Desci											Sampling	701111. <u>14</u>			
	ription: (Describe	e to the	depth	needed	d to d	ocument	the indicato	or or conf	irm the abse	nce of indica	ators.)				
Depth	Matri	x					Redox Feat	ures							
inches)	Color (moist)	9	%	Cold	or (mo	ist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Textur	re		Remarks	3	
<u>0-7</u>	10YR 3/2	1	00	_						loar	m No redo	x feature	<u>s</u>		
<u>7-16</u>	10YR 3/2	<u>1</u>	00	_		,				loar	m No redo	x feature	<u>s</u>		
<u>16-22</u>	10YR 3/2	<u>8</u>	<u> 37</u>	10	YR 4/	<u>6</u>	<u>8</u>	<u>C</u>	<u>M</u>	loar	<u> </u>				
				<u>10</u>	YR 4/2	<u>2</u>	<u>5</u>	<u>D</u>	<u>M</u>	loar	<u> </u>				
				_		,									
				_											
				_											
				_											
ype: C= Co	ncentration, D=D	epletion	, RM=F	Reduced	d Matr	ix, CS=Co	vered or Co	ated Sand	d Grains.	<sup>2</sup> Location: Pl	L=Pore Lining, M	1=Matrix			
dric Soil I	ndicators: (Appli	cable to	o all Li	RRs, un	less	otherwise	noted.)			Ind	licators for Prob	olematic	Hydric S	oils³:	
Histoso	l (A1)					Sandy R	Redox (S5)				2 cm Muck (	(A10)			
Histic E	pipedon (A2)					Stripped	Matrix (S6)				Red Parent	Material (	TF2)		
Black H	listic (A3)					Loamy N	Mucky Miner	al (F1) <b>(e</b> x	ccept MLRA 1	I) 🗆	Very Shallov	w Dark Sเ	urface (TF	=12)	
Hydrog	en Sulfide (A4)					Loamy C	Gleyed Matri	x (F2)			Other (Expla	ain in Ren	narks)		
Deplete	ed Below Dark Su	rface (A	.11)			Depleted	d Matrix (F3)	)							
Thick D	ark Surface (A12	)				Redox D	ark Surface	(F6)							
Sandy I	Mucky Mineral (S	1)				Depleted	d Dark Surfa	ce (F7)			dicators of hydro				
Sandy	Gleyed Matrix (S4	.)				Redox D	epressions	(F8)			wetland hydrolog unless disturbed			ι,	
estrictive L	ayer (if present):	:													
pe:															
epth (inches	s):								Hydric Soil	s Present?		Yes		No	
					ndicat	ors not me	et due to red	ox feature	es occuring too	o deep within	sui piulie.				
	GY				ndical	ors not me	et due to red	ox feature	s occuring too	o deep within	son prome.				
YDROLO(	GY Irology Indicator	s:			ndicat	ors not me	et due to red	ox feature	s occuring too	o deep within	son prome.				
YDROLO0							et due to red	ox feature	s occuring too		ondary Indicators	s (2 or mo	re require	ed)	
YDROLOG etland Hyd rimary Indica	rology Indicator					i apply)	et due to red		s occuring too			-		ed)	
YDROLOG etland Hyd imary Indica ] Surface	Irology Indicator ators (minimum of				all that	t apply) Water-S		es (B9)		Seco	ondary Indicators	Leaves (E	39)	ed)	
YDROLOG etland Hyd imary Indica ] Surface ] High W	Irology Indicator ators (minimum of e Water (A1)				all that	t apply) Water-S	tained Leavo	es (B9)		Seco	ondary Indicators Water-Stained	Leaves (E A, and 4B	39)	ed)	
YDROLOG etland Hyd imary Indica   Surface   High W   Saturat	rology Indicator ators (minimum of e Water (A1) /ater Table (A2)				all that	apply) Water-S (except Salt Cru:	tained Leavo	es (B9) <b>4A, and</b> 4		Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4A	Leaves (E A, and 4B rns (B10)	39) •)	ed)	
YDROLOG etland Hyd imary Indica ] Surface ] High W ] Saturat ] Water	Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3)				all that	t apply) Water-S (except Salt Cru-	tained Leav MLRA 1, 2, st (B11)	es (B9) <b>4A, and 4</b> s (B13)		Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4A) Drainage Patte	Leaves (EA, and 4B) rns (B10) ater Table	39) )	·	
YDROLOG etland Hyd imary Indica    Surface   High W   Saturat   Water     Sedime	Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1)				all that	apply) Water-S (except Salt Cru Aquatic Hydroge	tained Leave MLRA 1, 2, st (B11) Invertebrate en Sulfide Od	es (B9) <b>4A, and 4</b> s (B13)  dor (C1)		Seco	ondary Indicators Water-Stained ( <b>MLRA 1, 2, 4</b> A Drainage Patte Dry-Season Wa	Leaves (EA, and 4B) rns (B10) ater Table on Aer	39) (C2) (C2) (C3)	·	
YDROLOG etland Hyd imary Indica   Surface   High W   Satural   Water     Sedime   Drift De	rology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)				all that	apply) Water-S (except Salt Cru: Aquatic Hydroge Oxidizec	tained Leave MLRA 1, 2, st (B11) Invertebrate en Sulfide Od	es (B9) <b>4A, and 4</b> s (B13)  dor (C1)  res along	<b>4B)</b> Living Roots (	Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Wa	Leaves (EA, and 4B) rns (B10) ater Table ble on Ael	39) (C2) (C2) (C3)	·	
YDROLOG etland Hyd imary Indica  Surface High W Saturat Water Sedime Drift De	Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)					apply) Water-S (except Salt Cru- Aquatic Hydroge Oxidizec Presenc	tained Leave MLRA 1, 2, st (B11) Invertebrate en Sulfide Oc	es (B9)  4A, and 4  s (B13) dor (C1) res along d Iron (C4	4B) Living Roots (	Secc	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po	Leaves (EAA, and 4B rns (B10) ater Table ble on Aer osition (D2 rd (D3)	39) (C2) (C2) (C3)	·	
YDROLOG etland Hyd imary Indica  Surface High W Saturar Water Sedime Drift De	Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4)	f one red			lithat	apply) Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I	tained Leave MLRA 1, 2, st (B11) Invertebrate en Sulfide Od d Rhizosphel e of Reduce	es (B9)  4A, and 4  s (B13)  dor (C1)  res along  d Iron (C4  on in Tilled	AB) Living Roots (	Seco	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitar	Leaves (EAA, and 4B) rns (B10) ater Table on Aer osition (D2) rd (D3) est (D5)	39)  (C2)  (C3)  (C3)	ery (C9)	
YDROLOG etland Hyd imary Indica   Surface   High W   Saturar   Water     Sedime   Drift De   Algal M   Iron De	Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	f one rec	quired;	check a	I that	apply) Water-S (except Salt Cru Aquatic Hydroge Oxidizec Presenc Recent I Stunted	tained Leave MLRA 1, 2, st (B11) Invertebrate en Sulfide Od d Rhizosphe e of Reduce ron Reduction	es (B9)  4A, and 4  s (B13) dor (C1) res along d Iron (C4 on in Tilleo	AB) Living Roots (	Seccion	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitat FAC-Neutral Te Raised Ant Mot	Leaves (EA, and 4B) rns (B10) ater Table ble on Aerosition (D2) rd (D3) est (D5) unds (D6)	(C2) rial Image (2) (LRR A)	ery (C9)	
YDROLOG etland Hyd imary Indica    Surface   High W   Satural   Water     Sedime   Drift De   Algal M   Iron De   Surface   Inunda	rology Indicator ators (minimum or e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6)	f one red	quired;	check a	I that	apply) Water-S (except Salt Cru Aquatic Hydroge Oxidizec Presenc Recent I Stunted	tained Leave MLRA 1, 2, st (B11) Invertebrate en Sulfide Oc d Rhizosphe e of Reduce	es (B9)  4A, and 4  s (B13) dor (C1) res along d Iron (C4 on in Tilleo	AB) Living Roots (	Secc	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitan FAC-Neutral Te	Leaves (EA, and 4B) rns (B10) ater Table ble on Aerosition (D2) rd (D3) est (D5) unds (D6)	(C2) rial Image (2) (LRR A)	ery (C9)	
YDROLOG fetland Hyd rimary Indica Graph Surface Graph Saturat Graph Sedime Graph Se	Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae	f one red	quired;	check a	I that	apply) Water-S (except Salt Cru Aquatic Hydroge Oxidizec Presenc Recent I Stunted	tained Leave MLRA 1, 2, st (B11) Invertebrate en Sulfide Od d Rhizosphe e of Reduce ron Reduction	es (B9)  4A, and 4  s (B13) dor (C1) res along d Iron (C4 on in Tilleo	AB) Living Roots (	Secc	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitat FAC-Neutral Te Raised Ant Mot	Leaves (EA, and 4B) rns (B10) ater Table ble on Aerosition (D2) rd (D3) est (D5) unds (D6)	(C2) rial Image (2) (LRR A)	ery (C9)	
YDROLOG  Tetland Hyd  Timary Indicat  Surface  High W  Saturat  Sedime  Algal M  Iron De  Surface  Inunda  Sparse  Tetla Observ	Irology Indicator ators (minimum or e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae ely Vegetated Con vations:	f one red ) rial Ima cave Su	quired; gery (E urface (	check a	lithat	apply) Water-S (except Salt Cru- Aquatic Hydroge Oxidizec Presenc Recent I Stunted Other (E	tained Leave MLRA 1, 2, st (B11) Invertebrate en Sulfide Od d Rhizospher e of Reduce ron Reduction or Stresses explain in Re	es (B9)  4A, and 4  s (B13) dor (C1) res along d Iron (C4 on in Tilleo	AB) Living Roots (	Secc	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitat FAC-Neutral Te Raised Ant Mot	Leaves (EA, and 4B) rns (B10) ater Table ble on Aerosition (D2) rd (D3) est (D5) unds (D6)	(C2) rial Image (2) (LRR A)	ery (C9)	
Surface	Irology Indicator ators (minimum or e Water (A1)  /ater Table (A2) tion (A3)  Marks (B1) ent Deposits (B2) eposits (B3)  /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae ely Vegetated Con rations: er Present?	one red rial Imag cave Su Yes	quired;	check a 37) (B8)	is in the state of	apply) Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	tained Leave MLRA 1, 2, st (B11) Invertebrate en Sulfide Oc d Rhizosphe e of Reduce fron Reduction or Stresses explain in Re	es (B9)  4A, and 4  s (B13) dor (C1) res along d Iron (C4 on in Tilleo	AB) Living Roots (	Secc	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitat FAC-Neutral Te Raised Ant Mot	Leaves (EA, and 4B) rns (B10) ater Table ble on Aerosition (D2) rd (D3) est (D5) unds (D6)	(C2) rial Image (2) (LRR A)	ery (C9)	
Surface	rology Indicator ators (minimum or e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae ely Vegetated Con rations: er Present? Present?	one red one red rial Imag cave Su Yes Yes	quired;	check a  37) (B8)  No No		apply) Water-S (except Salt Cru- Aquatic Hydroge Oxidizec Presenc Recent I Stunted Other (E	tained Leave MLRA 1, 2, st (B11) Invertebrate en Sulfide Oc d Rhizosphe e of Reduce ron Reduction or Stresses explain in Re eth (inches):	es (B9)  4A, and 4  s (B13) dor (C1) res along d Iron (C4 on in Tilleo	Living Roots (Li) d Soils (C6) 1) (LRR A)	Secc	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mot Frost-Heave Hu	Leaves (E A, and 4B rns (B10) ater Table ble on Aei position (D2 rd (D3) est (D5) unds (D6) ummocks	39)  (C2)  (C2)  (a)  (LRR A)  (D7)	(C9)	
Surface	Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae ely Vegetated Con rations: er Present? Present?	one red rial Imag cave Su Yes	quired;	check a 37) (B8)	is in the state of	apply) Water-S (except Salt Cru- Aquatic Hydroge Oxidizec Presenc Recent I Stunted Other (E	tained Leave MLRA 1, 2, st (B11) Invertebrate en Sulfide Oc d Rhizosphe e of Reduce fron Reduction or Stresses explain in Re	es (B9)  4A, and 4  s (B13) dor (C1) res along d Iron (C4 on in Tilleo	Living Roots (Li) d Soils (C6) 1) (LRR A)	Secc	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitat FAC-Neutral Te Raised Ant Mot	Leaves (E A, and 4B rns (B10) ater Table ble on Aei position (D2 rd (D3) est (D5) unds (D6) ummocks	(C2) rial Image (2) (LRR A)	(C9)	No
IYDROLOG Vetland Hyd rimary Indica Surface High W Satural Sedime Drift De Surface Inunda Sparse Vater Vater Vater Table Faturation Prencludes capi	Irology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae ely Vegetated Con rations: er Present? Present?	one red rial Imac cave Su Yes Yes Yes	gery (E	check a 37) (B8) No No No	all that	apply) Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	tained Leave MLRA 1, 2, st (B11) Invertebrate en Sulfide Oc d Rhizosphe e of Reduce fron Reduction or Stresses explain in Re oth (inches): oth (inches):	es (B9)  4A, and 4  s (B13)  dor (C1)  res along d Iron (C4  on in Tiller  Plants (D  marks)	Living Roots (L) d Soils (C6) 1) (LRR A)	Second C3)	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mot Frost-Heave Hu	Leaves (E A, and 4B rns (B10) ater Table ble on Aei position (D2 rd (D3) est (D5) unds (D6) ummocks	39)  (C2)  (C2)  (a)  (LRR A)  (D7)	(C9)	
IYDROLOG  /etland Hyd rimary Indica  Surface High W Saturar Sedime Drift De Surface Inunda Sparse  ield Observ urface Water /ater Table Faturation Prencludes capi	Irology Indicator ators (minimum of e Water (A1)  /ater Table (A2) tion (A3)  Marks (B1) ent Deposits (B2) eposits (B3)  /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae ely Vegetated Con //ations: er Present?  Present? esent? elilary fringe)	one red rial Imac cave Su Yes Yes Yes	gery (E	check a 37) (B8) No No No	all that	apply) Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E	tained Leave MLRA 1, 2, st (B11) Invertebrate en Sulfide Oc d Rhizosphe e of Reduce fron Reduction or Stresses explain in Re oth (inches): oth (inches):	es (B9)  4A, and 4  s (B13)  dor (C1)  res along d Iron (C4  on in Tiller  Plants (D  marks)	Living Roots (L) d Soils (C6) 1) (LRR A)	Second C3)	ondary Indicators Water-Stained (MLRA 1, 2, 4A Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mot Frost-Heave Hu	Leaves (E A, and 4B rns (B10) ater Table ble on Aei position (D2 rd (D3) est (D5) unds (D6) ummocks	39)  (C2)  (C2)  (a)  (LRR A)  (D7)	(C9)	

Project Site:	Manley Road			City/Cour	nty: Battle Ground/Clark County	Sampling Date:	6/21/17	<u>7</u>
Applicant/Owner:	Clark County				State: WA	Sampling Point:	<u>15</u>	
Investigator(s):	Jeff Gray, Kevin O'Brien, Stepha	anie Modjesk	<u>i</u>		Section, Township, Ran	ge: <u>29, 04N, 02E</u>		
Landform (hillslope, te	errace, etc.): Roadside ditch		Loca	al relief (conc	ave, convex, none): concave	Slop	oe (%): 2	
Subregion (LRR):	<u>A</u>	Lat: 45.7	799549		Long: -122.578941	Datum:	WGS 198	<u> 34</u>
Soil Map Unit Name:	Dollar loam, 0-5% slopes (non	-hydric); Gee	silt loam, 8-20	% slopes (no	n-hydric) NWI clas	ssification: PEM		
Are climatic / hydrolog	gic conditions on the site typical fo	r this time of	year? Y	′es ⊠	No	in Remarks.)		
Are Vegetation	, Soil □, or Hydrology	☐, signific	cantly disturbed	d? Are "	Normal Circumstances" present	? Yes	⊠ No	o 🗆
Are Vegetation	, Soil □, or Hydrology	☐, natura	lly problematic	? (If ne	eded, explain any answers in R	emarks.)		
SUMMARY OF FIN	IDINGS – Attach site map s	howing sa	mpling poin	t locations,	transects, important featu	ıres, etc.		
Hydrophytic Vegetation	n Present?	Yes 🗵	No □		.11. 4			
Hydric Soil Present?		Yes 🗵	No □	Is the Samp		Yes	⊠ No	• <b></b>
Wetland Hydrology Pr	resent?	Yes 🗵	No 🗆					
Remarks: Wetland	data point taken in center of dit	ch near flag	I4. All three v	vetland indic	ators met.			
VEGETATION - U	se scientific names of plant	s						
Tree Stratum (Plot siz	re: <u>-</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:			
1. <u>-</u>		70 00101	<u></u>	<u> </u>	Number of Dominant Species			
2					That Are OBL, FACW, or FAC	: <u>1</u>		(A)
3					Total Number of Dominant			
4					Species Across All Strata:	<u>1</u>		(B)
50% =, 20% =			= Total Cove	er	Percent of Dominant Species			(A (D)
Sapling/Shrub Stratur	<u>n</u> (Plot size: <u>-</u> )				That Are OBL, FACW, or FAC	: -	-	(A/B)
1. <u>-</u>					Prevalence Index worksheet	:		
2					Total % Cover of:	Multip	oly by:	
3					OBL species	x1 =		
4					FACW species	x2 =		
5					FAC species	x3 =		
50% =, 20% =			= Total Cove	er	FACU species	x4 =		
Herb Stratum (Plot siz	ze: <u>5'</u> )				UPL species	x5 =		
1. Phalaris arundina	<u>cea</u>	<u>100</u>	<u>yes</u>	<u>FACW</u>	Column Totals:	_(A)		(B)
2					Prevalence	e Index = B/A =		
3					Hydrophytic Vegetation Indi	cators:		
4					□ 1 – Rapid Test for Hydro	phytic Vegetation		
5					□ 2 - Dominance Test is > 1	50%		
6					3 - Prevalence Index is	<u>≤</u> 3.0¹		
7					4 - Morphological Adapta	ations <sup>1</sup> (Provide suppo	orting	
8					data in Remarks or o		J	
9					5 - Wetland Non-Vascula	ar Plants <sup>1</sup>		
10					☐ Problematic Hydrophytic	: Vegetation <sup>1</sup> (Explain)	)	
11								
50% =, 20% =		<u>100</u>	= Total Cove	er	<sup>1</sup> Indicators of hydric soil and w be present, unless disturbed of		t	
Woody Vine Stratum	(Plot size:)				so process, assess a stanzou o	. problemate.		
1								
2					Hydrophytic	/oo 57	NI.	
50% =, 20% =			= Total Cove	er	Vegetation Y Present?	′es ⊠	No	
% Bare Ground in He	rb Stratum <u>0</u>							
Remarks:	Hydrophytic vegetation present; p	assess Domi	nance Test.		1			
. tomano.	·							

Depth	Matr	ix				Redox Feat	ures								
ches)	Color (moist)		%	Color (n	noist)	%	Type <sup>1</sup>	Loc²	— Texture	<b>1</b>	F	Remarks	:		
0-16	10YR 3/2		75 75	10YR	<u> </u>	<u>15</u>	<u>D</u>	<u>M</u>	Loam			remane	,		
<u> </u>	<u></u>		<u> </u>	10YR		<u>10</u>	<u>C</u>	M	20011	<u> </u>					
						_	_	_							
					_										
					_										
					_										
		_			_										
		_			_										
pe: C= C	oncentration, D=D	Depletion	n, RM=F	Reduced Ma	trix, CS=C	overed or Co	ated Sand	Grains. <sup>2</sup>	Location: PL:	=Pore Lining, M=	=Matrix				
dric Soil	Indicators: (App	licable 1	o all Li	RRs, unles:	otherwis	e noted.)			Indi	cators for Prob	lematic H	lydric S	oils³:		
Histos	ol (A1)				Sandy	Redox (S5)				2 cm Muck (A	A10)				
Histic I	Epipedon (A2)				Strippe	d Matrix (S6)				Red Parent N	/laterial (T	ΓF2)			
Black I	Histic (A3)				Loamy	Mucky Minera	al (F1) <b>(ex</b> o	cept MLRA 1)		Very Shallow	Dark Sur	rface (TF	<del>-</del> 12)		
Hydro	gen Sulfide (A4)				Loamy	Gleyed Matrix	(F2)			Other (Explai	in in Rema	arks)			
Deplet	ed Below Dark S	urface (A	<b>A11</b> )		Deplete	ed Matrix (F3)									
Thick I	Dark Surface (A1	2)		$\boxtimes$	Redox	Dark Surface	(F6)								
Sandy	Mucky Mineral (S	S1)			Deplete	ed Dark Surfa	ce (F7)			icators of hydrop vetland hydrolog					
Sandy	Gleyed Matrix (S	4)			Redox	Depressions (	(F8)			nless disturbed			ι,		
strictive I	Layer (if present	):													
e:															
									Drocont?		Yes	$\boxtimes$	No		
epth (inche emarks:	es): Hydric soils pres	sent. Me	ets crite	eria for indic	ator F6-Re	edox dark surf	ace.	Hydric Soils	Fiesenti						<u>_</u>
marks:	Hydric soils pres	sent. Me	ets crite	eria for indic	ator F6-Re	edox dark surf	ace.	Hydric Soils	Fresent						<u></u>
marks:	Hydric soils pres		ets crite	eria for indic	ator F6-Re	edox dark surf	ace.	Hydric Soils	riesenti						
marks:  'DROLO etland Hye	Hydric soils pres	rs:				edox dark surf	ace.	Hydric Soils		ndary Indicators	(2 or more	e require	ed)		
marks:  'DROLO etland Hye mary Indic	Hydric soils pres	rs:		check all th	at apply)			Hydric Soils	Secon	ndary Indicators	-	-	ed)		
TDROLO tland Hye mary Indic	Hydric soils pres	rs:			at apply) Water-	Stained Leave	es (B9)		Secon	Water-Stained L	eaves (B	9)	ed)		
TDROLO  Itland Hy  mary India  Surface  High V	Hydric soils pres	rs:		check all th	at apply) Water- (excep	Stained Leave t MLRA 1, 2,	es (B9)		Secon	Water-Stained L	eaves (Bs	9)	ed)		
TOROLO tland Hy mary Indio Surfac High V	Hydric soils pres	rs:		check all th	at apply) Water- (excep	Stained Leave t MLRA 1, 2, ust (B11)	es (B9) <b>4A, and 4</b> I		Secor	Water-Stained L (MLRA 1, 2, 4A, Drainage Patter	eaves (B9, and 4B)	9)	ed)		
TDROLO tland Hy mary Indic Surfac High V Satura Water	Hydric soils pres	rs: of one re		check all tr	at apply) Water- (excep Salt Cr Aquatio	Stained Leave t MLRA 1, 2, ust (B11) c Invertebrates	es (B9) <b>4A, and 4l</b> s (B13)		Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat	eaves (Bs , and 4B) ns (B10) ter Table	9) (C2)			
TDROLO tland Hydray India Surfac High V Satura Water Sedim	Hydric soils pres	rs: of one re		check all tr	at apply)  Water- (excep Salt Cr Aquatio	Stained Leave t MLRA 1, 2, ust (B11) c Invertebrates en Sulfide Od	es (B9) <b>4A, and 4</b> I s (B13) lor (C1)	В)	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl	eaves (Bendament), and 4B) and (B10) and (B10) are Table and Aerican Aerican (B10) and (B10) are the term of the t	9) (C2) ial Image			
TOROLO tland Hy mary Indic Surfac High V Satura Water Sedim Drift D	Hydric soils pres	rs: of one re		check all tr	at apply) Water- (excep Salt Cr Aquatic Hydrog Oxidize	Stained Leave t MLRA 1, 2, ust (B11) c Invertebrates en Sulfide Od	es (B9) <b>4A, and 4B</b> s (B13)  lor (C1)  res along L	B)	Secor	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos	eaves (Beand 4B), and 4B) and (B10) ter Table le on Aeric sition (D2)	9) (C2) ial Image			
TDROLO tland Hymary Indice Surface High V Satura Water Sedim Drift D	Hydric soils pres	rs: of one re		check all tr	at apply) Water- (excep Salt Cr Aquatic Hydrog Oxidize Presen	Stained Leave t MLRA 1, 2, ust (B11) c Invertebrates ten Sulfide Od ed Rhizospher ce of Reduce	es (B9) <b>4A, and 4</b> s (B13)  lor (C1)  res along L  d Iron (C4)	B) iving Roots (C	Secor	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro	Leaves (Bis, and 4B) ans (B10) ter Table le on Aeristition (D2) dd (D3)	9) (C2) ial Image			
TDROLO tland Hye mary Indic Surfac High V Satura Water Sedim Drift D Algal I	Hydric soils pres	rs: of one re		check all tr	at apply) Water- (excep Salt Cr Aquatio Hydrog Oxidize Presen Recent	Stained Leave  t MLRA 1, 2, ust (B11) c Invertebrates en Sulfide Od ed Rhizospher ce of Reducee	es (B9)  4A, and 4i  s (B13)  lor (C1)  res along L  d Iron (C4)  on in Tilled	B) iving Roots (C	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos	Leaves (Bis, and 4B) ns (B10) ter Table de on Aeris sition (D2) d (D3) st (D5)	9) (C2) ial Image	ery (C9)		
TDROLO tland Hydray India Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac	Hydric soils pres	rs: of one re	equired;	check all tr	at apply)  Water- (excep Salt Cr Aquatio Hydrog Oxidize Presen Recent	Stained Leave t MLRA 1, 2, ust (B11) c Invertebrates ten Sulfide Od ed Rhizospher ce of Reduce	es (B9)  4A, and 4I  s (B13)  lor (C1)  res along L  d Iron (C4)  on in Tilled  Plants (D1)	B) iving Roots (C	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	eaves (Bs, and 4B) ns (B10) ter Table le on Aeric sition (D2) d (D3) st (D5) nds (D6)	9) (C2) ial Image	ery (C9)		
TOROLO ttland Hydramary India Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda	Hydric soils pres	rs: of one re )  array of the second of the	equired;	check all tr	at apply)  Water- (excep Salt Cr Aquatio Hydrog Oxidize Presen Recent	Stained Leave  t MLRA 1, 2, ust (B11) c Invertebrates en Sulfide Od ed Rhizospher ce of Reducee firon Reduction	es (B9)  4A, and 4I  s (B13)  lor (C1)  res along L  d Iron (C4)  on in Tilled  Plants (D1)	B) iving Roots (C	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mou	eaves (Bs, and 4B) ns (B10) ter Table le on Aeric sition (D2) d (D3) st (D5) nds (D6)	9) (C2) ial Image	ery (C9)		
TDROLO tland Hy mary Indic Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac Inunda	Hydric soils pres	rs: of one re )  array of the second of the	equired;	check all tr	at apply)  Water- (excep Salt Cr Aquatio Hydrog Oxidize Presen Recent	Stained Leave  t MLRA 1, 2, ust (B11) c Invertebrates en Sulfide Od ed Rhizospher ce of Reducee firon Reduction	es (B9)  4A, and 4I  s (B13)  lor (C1)  res along L  d Iron (C4)  on in Tilled  Plants (D1)	B) iving Roots (C	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mou	eaves (Bs, and 4B) ns (B10) ter Table le on Aeric sition (D2) d (D3) st (D5) nds (D6)	9) (C2) ial Image	ery (C9)		
Marks:  Marks:	Hydric soils pres	rs: of one re )  array of the second of the	equired;	check all tr	at apply) Water- (excep Salt Cr Aquatic Hydrog Oxidize Presen Recent Stunter Other (	Stained Leave  t MLRA 1, 2, ust (B11) c Invertebrates en Sulfide Od ed Rhizospher ce of Reducee firon Reduction	es (B9)  4A, and 4I  s (B13)  lor (C1)  res along L  d Iron (C4)  on in Tilled  Plants (D1)	B) iving Roots (C	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mou	eaves (Bs, and 4B) ns (B10) ter Table le on Aeric sition (D2) d (D3) st (D5) nds (D6)	9) (C2) ial Image	ery (C9)		
Marks:  Marks:  Marks:  Marks:  Mary India  Surfac  High V  Satura  Water  Sedim  Drift D  Algal I  Iron D  Surfac  Inunda  Spars  Id Obser  rface Water	Hydric soils pres	rs: of one re )  6) erial Ima	equired; agery (E urface	check all tr	at apply)  Water- (excep Salt Cr Aquatio Hydrog Oxidize Presen Recent Stunted Other (	Stained Leave t MLRA 1, 2, ust (B11) c Invertebrates ten Sulfide Od ed Rhizospher ce of Reduces Iron Reduction d or Stresses Explain in Rei	es (B9)  4A, and 4I  s (B13)  lor (C1)  res along L  d Iron (C4)  on in Tilled  Plants (D1)	B) iving Roots (C	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mou	eaves (Bs, and 4B) ns (B10) ter Table le on Aeric sition (D2) d (D3) st (D5) nds (D6)	9) (C2) ial Image	ery (C9)		
Marks:  Marks:  Marks:  Marks:  Marks:  Mary India  Surfac  High V  Satura  Water  Sedim  Drift D  Algal I  Iron D  Surfac  Inunda  Spars  Mater  Prince Wat  Algal I  Algal I	Hydric soils pres	rs: of one re ) 6) erial Imancave S	equired;	check all tr	at apply) Water- (excep Salt Cr Aquatit Hydrog Oxidize Presen Recent Stunter Other (	Stained Leave  t MLRA 1, 2, ust (B11) c Invertebrates en Sulfide Od ed Rhizospher ce of Reduced Iron Reduction d or Stresses Explain in Res	es (B9)  4A, and 4i  s (B13)  lor (C1)  es along L  d Iron (C4)  on in Tilled  Plants (D1)  marks)	B) iving Roots (C Soils (C6) ) (LRR A)	Secor	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mou	eaves (Bi , and 4B) ns (B10) ter Table le on Aerid d (D3) st (D5) nds (D6) mmocks (	9) (C2) ial Image	(C9)	No	
Marks:  Marks:  Marks:  Marks:  Mary India  Surface  High V  Satura  Water  Sedim  Drift D  Algal I  Iron D  Surface  Inunda  Spars  Id Obser  rface Wat  ater Table  turation P  cludes cap	Hydric soils pres  OGY  drology Indicato cators (minimum of ce Water (A1)  Nater Table (A2) ation (A3)  Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on A ely Vegetated Co vations: er Present? Present? resent?	rs: of one re  ) erial Ima ncave S  Yes Yes Yes	equired;	check all tr	at apply)  Water- (excep Salt Cr Aquatio Hydrog Oxidize Presen Recent Stunter Other (	Stained Leave  t MLRA 1, 2, ust (B11) c Invertebrates en Sulfide Od ed Rhizospher ce of Reducee c Iron Reduction d or Stresses Explain in Rea epth (inches): epth (inches):	es (B9)  4A, and 4I  s (B13)  lor (C1)  res along L  d Iron (C4)  on in Tilled  Plants (D1)  marks)  8"  2"	iving Roots (C Soils (C6) ) (LRR A)	Secor	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season War Saturation Visibl Geomorphic Pos Shallow Aquitare FAC-Neutral Tes Raised Ant Mou Frost-Heave Hun	eaves (Bi , and 4B) ns (B10) ter Table le on Aerid d (D3) st (D5) nds (D6) mmocks (	9) (C2) (ial Image () (LRR A)	(C9)		<u>_</u>
TDROLO tland Hymary Indic Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Id Obser face Wat iter Table turation P	Hydric soils pres	rs: of one re  ) erial Ima ncave S  Yes Yes Yes	equired;	check all tr	at apply)  Water- (excep Salt Cr Aquatio Hydrog Oxidize Presen Recent Stunter Other (	Stained Leave  t MLRA 1, 2, ust (B11) c Invertebrates en Sulfide Od ed Rhizospher ce of Reducee c Iron Reduction d or Stresses Explain in Rei epth (inches): epth (inches):	es (B9)  4A, and 4I  s (B13)  lor (C1)  res along L  d Iron (C4)  on in Tilled  Plants (D1)  marks)  8"  2"	iving Roots (C Soils (C6) ) (LRR A)	Secor	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season War Saturation Visibl Geomorphic Pos Shallow Aquitare FAC-Neutral Tes Raised Ant Mou Frost-Heave Hun	eaves (Bi , and 4B) ns (B10) ter Table le on Aerid d (D3) st (D5) nds (D6) mmocks (	9) (C2) (ial Image () (LRR A)	(C9)		

Project Site:	Manley Road			City/Cour	nty: Battle Ground/Clark County	Sampling Date:	6/21/17	, -
Applicant/Owner:	Clark County				State: WA	Sampling Point:	<u>16</u>	
Investigator(s):	Jeff Gray, Kevin O'Brien, Steph	anie Modjesk	<u>i</u>		Section, Township, Rar	ige: 29, 04N, 02E		
Landform (hillslope, te	errace, etc.): Roadway		Loc	al relief (conc	ave, convex, none): none	Slop	e (%): <u>0</u>	
Subregion (LRR):	<u>A</u>	Lat: 45.7	799552		Long: -122.578890	Datum:	WGS 198	<u>4</u>
Soil Map Unit Name:	Dollar loam, 0-5% slopes (non	-hydric); Gee	silt loam, 8-20	0% slopes (no	n-hydric) NWI cla	ssification: <u>NA</u>		
Are climatic / hydrolog	ic conditions on the site typical fo	or this time of	year?	res ⊠	No	in Remarks.)		
Are Vegetation	, Soil □, or Hydrology	☐, signific	cantly disturbe	d? Are "	Normal Circumstances" present	? Yes	⊠ No	o 🗆
Are Vegetation	, Soil □, or Hydrology	□, natura	lly problemation	? (If ne	eded, explain any answers in R	emarks.)		
SUMMARY OF FIN	IDINGS – Attach site map s	howing sa	mpling poin	t locations,	transects, important featu	ıres, etc.		
Hydrophytic Vegetatio	n Present?	Yes 🗆	No ⊠					
Hydric Soil Present?		Yes 🗆	No ⊠	Is the Samp		Yes	⊠ No	<b>D</b>
Wetland Hydrology Pr	resent?	Yes 🗆	No ⊠	within a vve	etianu i			
Remarks: Upland d	lata point taken on roadway ad	iacent to flac	ı I4 outside of	roadside dit	ch. No wetland indicators me			
- tomano: Opiana a	po	,	,					
VEGETATION – U	se scientific names of plan	ts						
Tree Stratum (Plot siz	•	Absolute	Dominant	Indicator	Dominance Test Worksheet	:		
	<u></u> ,	% Cover	Species?	<u>Status</u>				
1 2					Number of Dominant Species That Are OBL, FACW, or FAC		-	(A)
3								
4					Total Number of Dominant Species Across All Strata:		=	(B)
50% =, 20% =			= Total Cove					
Sapling/Shrub Stratun			10101 0011	٥,	Percent of Dominant Species That Are OBL, FACW, or FAC	:	-	(A/B)
1	<u>n</u> (1 101 0120. <u>10 )</u>				Prevalence Index workshee			
2					Total % Cover of		ly by:	
3					OBL species	x1 =	<u>19 15 y .</u>	
4.					FACW species	x2 =		
5.					FAC species	x3 =		
50% =, 20% =			= Total Cove		FACU species	x4 =		
Herb Stratum (Plot siz			- Total Gove	<b>5</b> 1	UPL species	x5 =		
	ze. <u>5 )</u>							(D)
1					Column Totals:	_ (A)		(B)
2						e Index = B/A =		
3					Hydrophytic Vegetation Indi			
4					1 – Rapid Test for Hydro			
5					2 - Dominance Test is >			
6					3 - Prevalence Index is	<u>&lt;</u> 3.0'		
7					4 - Morphological Adapt data in Remarks or o		rting	
8								
9					5 - Wetland Non-Vascul			
10					☐ Problematic Hydrophytic	: Vegetation¹ (Explain)		
11					<sup>1</sup> Indicators of hydric soil and v	vetland hydrology must	r	
50% =, 20% =			= Total Cove	er	be present, unless disturbed of			
Woody Vine Stratum	(Plot size:)							
1					Hydronhytic			
2					Hydrophytic Vegetation	res □	No	
50% =, 20% =	<del></del>		= Total Cove	er	Present?	_	-	_
% Bare Ground in He	rb Stratum 100							
Remarks:	No vegetation present. No indicat	ors met.						

Depth	Matri	x	-			Redox Features							
nches)	Color (moist)		%	Colo	r (mo		e <sup>1</sup> Loc <sup>2</sup>	 Textu	re	Rem	arks		
<u>-</u>		- <u></u>			1 (1110	70 136		- 10/10		110111	unto		
							_						
	<u> </u>							<u> </u>					
				_			_						
				_				<u> </u>					
				_				<u> </u>					
		_		_				_					
pe: C= Co	oncentration, D=D	epletion	, RM=F	Reduced	Matr	ix, CS=Covered or Coated S	Sand Grains.	<sup>2</sup> Location: P	PL=Pore Lining, M=N	Matrix			
dric Soil	Indicators: (Appl	icable to	o all Li	RRs, unl	less (	otherwise noted.)		Inc	dicators for Proble	matic Hydr	ic Soils	s³:	
Histos	ol (A1)			[		Sandy Redox (S5)			2 cm Muck (A1	10)			
Histic I	Epipedon (A2)			[		Stripped Matrix (S6)			Red Parent Ma	aterial (TF2)			
Black I	Histic (A3)			[		Loamy Mucky Mineral (F1)	) (except MLRA	.1) 🗆	Very Shallow D	Dark Surface	(TF12	!)	
Hydrog	gen Sulfide (A4)					Loamy Gleyed Matrix (F2)			Other (Explain	in Remarks	)		
Deplet	ed Below Dark Su	rface (A	.11)			Depleted Matrix (F3)							
	Dark Surface (A12	-				Redox Dark Surface (F6)		3, .	Part of the decide	P			
-	Mucky Mineral (S	-				Depleted Dark Surface (F7	7)	in	idicators of hydroph wetland hydrology				
	Gleyed Matrix (S4	-				Redox Depressions (F8)	-		unless disturbed or	r problemation	D		
	_ayer (if present)	:											
e:								ils Present?		Yes		No	Σ
oth (inche	<u> </u>						,						_
emarks:	Sample point is o	on roadv	vay, no	soils av	ailabl	e. Top of ditch prism is road	way edge.						
emarks:		on roadv	vay, no	o soils av	ailabl	e. Top of ditch prism is road	way edge.						
/DROLO			vay, no	o soils av	ailabl	e. Top of ditch prism is road	way edge.						
/DROLO	GY	·s:					way edge.	Sec	ondary Indicators (2	or more rec	quired)		
<b>/DROLO</b> etland Hyd mary Indic	GY drology Indicator	·s:		check a				Sec	ondary Indicators (2 Water-Stained Le		quired)		
<b>DROLO</b> tland Hye mary Indic	<b>GY</b> drology Indicator cators (minimum o	·s:		check a	II that	t apply)	))			aves (B9)	quired)		
<b>TDROLO Itland Hyu</b> mary Indic  Surfac  High V	GY drology Indicator cators (minimum o	·s:		check a	II that	apply) Water-Stained Leaves (B9	))		Water-Stained Lea	aves (B9) and 4B)	quired)		
'DROLO tland Hyo mary Indio Surfac High V	GY drology Indicator cators (minimum o ce Water (A1) Vater Table (A2)	·s:		check a	II that	t apply)  Water-Stained Leaves (B9 (except MLRA 1, 2, 4A, a	v) nd 4B)		Water-Stained Lea (MLRA 1, 2, 4A, a	aves (B9) and 4B) s (B10)			
DROLO tland Hyd mary Indic Surfac High V Satura Water	GY drology Indicator cators (minimum o ce Water (A1) Vater Table (A2) ation (A3)	's: f one red		check a	II that	t apply)  Water-Stained Leaves (B9  (except MLRA 1, 2, 4A, all Salt Crust (B11)	0) nd 4B)		Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns	aves (B9) and 4B) s (B10) er Table (C2)	)	(C9)	
TDROLO tland Hyd mary Indic Surfac High V Satura Water Sedim	GY drology Indicator cators (minimum o ce Water (A1) Vater Table (A2) ation (A3) Marks (B1)	's: f one red		check a	II that	t apply)  Water-Stained Leaves (B9 (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13)	nd <b>4B)</b>	0	Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate	aves (B9) and 4B) s (B10) r Table (C2) on Aerial In	)	(C9)	
TDROLO Itland Hyw mary Indic Surfac High V Satura Water Sedim Drift D	GY drology Indicator cators (minimum o ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) ent Deposits (B2)	's: f one red		check a	III that	t apply)  Water-Stained Leaves (B9 (except MLRA 1, 2, 4A, and Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C	nd 4B)  3) 1) ong Living Roots	0	Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Intion (D2)	)	(C9)	
YDROLO etland Hyd mary Indio Surfac High V Satura Water Sedim Drift D	drology Indicator cators (minimum of the Water (A1) Vater Table (A2) ation (A3) Marks (B1) thent Deposits (B2) deposits (B3)	's: f one red		check a	II that	water-Stained Leaves (B9 (except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Oxidized Rhizospheres alc	nd 4B) 3) 1) ong Living Roots (C4)		Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit	aves (B9) and 4B) s (B10) r Table (C2) on Aerial In tion (D2) (D3)	)	(C9)	
YDROLO  Itland Hyu  mary Indio  Surface  High V  Satura  Water  Sedim  Drift D  Algal I	drology Indicator cators (minimum of the Water (A1) Vater Table (A2) ation (A3) Marks (B1) thent Deposits (B2) deposits (B3) Mat or Crust (B4)	r <b>s:</b> f one red		check a	II that	water-Stained Leaves (B9 (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (Condized Rhizospheres and Presence of Reduced Iron	nd 4B)  3) 1) ong Living Roots (C4) Filled Soils (C6)	(C3)	Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard	aves (B9) and 4B) s (B10) or Table (C2) on Aerial Intion (D2) (D3) (D5)	) nagery	(C9)	
"DROLO stland Hyd mary Indic Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac	GY drology Indicator cators (minimum of ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) ment Deposits (B2) reposits (B3) Mat or Crust (B4) reposits (B5)	rs: f one red	quired;	check a	III that	water-Stained Leaves (B9 (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C) Oxidized Rhizospheres also Presence of Reduced Iron Recent Iron Reduction in T	nd 4B)  1)  ng Living Roots (C4)  Filled Soils (C6) (C1) (LRR A)	(C3)	Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test	aves (B9) and 4B) s (B10) or Table (C2) on Aerial Intion (D2) (D3) (D5) ds (D6) (LRI	nagery	(C9)	
Mary Indice Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda	drology Indicator cators (minimum o ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) cent Deposits (B2) deposits (B3) Wat or Crust (B4) deposits (B5) de Soil Cracks (B6	rs: f one red	quired;	check a	II that	water-Stained Leaves (B9 (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C) Oxidized Rhizospheres also Presence of Reduced Iron Recent Iron Reduction in T Stunted or Stresses Plants	nd 4B)  1)  ng Living Roots (C4)  Filled Soils (C6) (C1) (LRR A)	(C3)	Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound	aves (B9) and 4B) s (B10) or Table (C2) on Aerial Intion (D2) (D3) (D5) ds (D6) (LRI	nagery	(C9)	
Properties of the second of th	drology Indicator cators (minimum of ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) dent Deposits (B2) deposits (B3) Mat or Crust (B4) deposits (B5) de Soil Cracks (B6 ation Visible on Ae dely Vegetated Cor vations:	rs: f one red  perial Imagencave Su	quired; gery (E	check a	II that	water-Stained Leaves (B9 (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (Convidized Rhizospheres and Presence of Reduced Iron Recent Iron Reduction in Tour Stunted or Stresses Plants Other (Explain in Remarks)	nd 4B)  1)  ng Living Roots (C4)  Filled Soils (C6) (C1) (LRR A)	(C3)	Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound	aves (B9) and 4B) s (B10) or Table (C2) on Aerial Intion (D2) (D3) (D5) ds (D6) (LRI	nagery	(C9)	
YDROLO etland Hyd mary Indic Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars eld Obser	drology Indicator cators (minimum of ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) ment Deposits (B2) ment Deposits (B3) Mat or Crust (B4) ment Deposits (B5) ment Deposits (B6)	f one red  orial Imagencave Su	quired;	check a	II that	water-Stained Leaves (B9 (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C) Oxidized Rhizospheres also Presence of Reduced Iron Recent Iron Reduction in T Stunted or Stresses Plants Other (Explain in Remarks)	nd 4B)  1)  ng Living Roots (C4)  Filled Soils (C6) (C1) (LRR A)	(C3)	Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound	aves (B9) and 4B) s (B10) or Table (C2) on Aerial Intion (D2) (D3) (D5) ds (D6) (LRI	nagery	(C9)	
POROLO etland Hyd mary Indic Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars eld Obser rface Water	drology Indicator cators (minimum of the Water (A1) Water Table (A2) ation (A3) Marks (B1) thent Deposits (B2) theposits (B3) Mat or Crust (B4) theposits (B5) the Soil Cracks (B6 ation Visible on Ae thely Vegetated Corvations: the Present?	rs: f one red  perial Imagencave Su	quired; gery (E	check a	II that	water-Stained Leaves (B9 (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (Convidized Rhizospheres and Presence of Reduced Iron Recent Iron Reduction in Tour Stunted or Stresses Plants Other (Explain in Remarks)	nd 4B)  1)  ng Living Roots (C4)  Filled Soils (C6) (C1) (LRR A)	(C3)	Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound	aves (B9) and 4B) s (B10) or Table (C2) on Aerial Intion (D2) (D3) (D5) ds (D6) (LRI	nagery	(C9)	
YDROLO etland Hyd imary Indic Surfac High V Satura Water Sedim Drift D I Algal I Iron D Surfac I Inunda Spars eld Observator Table atturation Picludes cap	drology Indicator cators (minimum of the Water (A1) Water Table (A2) ation (A3) Marks (B1) ment Deposits (B2) ment Deposits (B3) Mat or Crust (B4) ment Deposits (B5) ment Deposits (B5) ment Deposits (B6)	f one red  orial Imagencave Surves  Yes  Yes	gery (E	check a		water-Stained Leaves (B9 (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C) Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in T Stunted or Stresses Plants Other (Explain in Remarks)  Depth (inches):  Depth (inches):  Depth (inches):	nd 4B)  1) ong Living Roots (C4) Filled Soils (C6) (C1) (LRR A) (C3)	(C3)	Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound	aves (B9) and 4B) s (B10) or Table (C2) on Aerial Intion (D2) (D3) (D5) ds (D6) (LRI	nagery		
PROLO etland Hyd mary Indic Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars eld Observ rface Water ater Table turation Picludes cap	drology Indicator cators (minimum of the Water (A1) Water Table (A2) ation (A3) Marks (B1) ment Deposits (B2) ment Deposits (B3) Mat or Crust (B4) ment Deposits (B5) ment Deposits (B5) ment Deposits (B6)	f one red  orial Imagencave Surves  Yes  Yes	gery (E	check a		water-Stained Leaves (B9 (except MLRA 1, 2, 4A, at Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (CO) Oxidized Rhizospheres alor Presence of Reduced Iron Recent Iron Reduction in To Stunted or Stresses Plants Other (Explain in Remarks Depth (inches):	nd 4B)  1) ong Living Roots (C4) Filled Soils (C6) (C1) (LRR A) (C3)	(C3)	Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) and 4B) s (B10) or Table (C2) on Aerial Intion (D2) (D3) (D5) ds (D6) (LRI mocks (D7)	nagery		
PROLO etland Hyd mary Indic Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars eld Observ rface Water ater Table turation Picludes cap	drology Indicator cators (minimum of the Water (A1) Water Table (A2) ation (A3) Marks (B1) ment Deposits (B2) ment Deposits (B3) Mat or Crust (B4) ment Deposits (B5) ment Deposits (B5) ment Deposits (B6)	f one red  orial Imagencave Surves  Yes  Yes	gery (E	check a		water-Stained Leaves (B9 (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C) Oxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in T Stunted or Stresses Plants Other (Explain in Remarks)  Depth (inches):  Depth (inches):  Depth (inches):	nd 4B)  1) ong Living Roots (C4) Filled Soils (C6) (C1) (LRR A) (C3)	(C3)	Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) and 4B) s (B10) or Table (C2) on Aerial Intion (D2) (D3) (D5) ds (D6) (LRI mocks (D7)	nagery		

Project Site:	Manley Road			City/Coun	ty: Battle Ground/C	<u>Slark</u> S	Sampling Date:	6/22	2/17	
Applicant/Owner:	Clark County					e: <u>WA</u> S	Sampling Point:	<u>17</u>		
Investigator(s):	Jeff Gray, Kevin O'Brien, Stepha	nie Modjeski			Section, Tow	nship, Range	29, 04N, 02E			
Landform (hillslope, ter	rrace, etc.): <u>Hillslope terrace</u>		Loca	I relief (conca	ave, convex, none):	concave	Sle	ope (%):	<u>0</u>	
Subregion (LRR):	<u>A</u>	Lat: 45.79	9881 <u>5</u>		Long: -122.5784	<u>71</u>	Datum	: WGS 1	1984	
Soil Map Unit Name:	Dollar loam, 0-5% slopes (non-l 8%slopes (non-hydric)	hydric); Hock	inson loam, m	oderately we	Il drained, 0-	NWI classif	ication: PFO			
Are climatic / hvdrologi	ic conditions on the site typical for	this time of v	ear? Y	es 🛛	No ☐ (If n	o, explain in F	Remarks.)			
Are Vegetation □,	_		antly disturbed		Normal Circumstance		Yes	s 🛛	No	
Are Vegetation □,			ly problematic		eded, explain any ans	•				
			• •	•			,			
SUMMARY OF FIN	DINGS - Attach site map sh	owing san	npling point	locations,	transects, import	ant feature	s, etc.			
Hydrophytic Vegetation	n Present?	Yes 🛛	No 🗆		· ·					
Hydric Soil Present?		Yes 🛚	No 🗆	Is the Samp within a We			Yes	s 🛛	No	
Wetland Hydrology Pre	esent?	Yes 🛚	No 🗆	within a vve	uanu :					
Remarks: Wetland	data point taken approximately	15 feet south	n of flag J2. P	FO wetland	with hummocks. All	three wetlan	d indicators me	t.		
romano.	ata point takon approximatory	10 1001 0041	. o. nag 02. i	. O woulding	With Hammooko. All	tinoo wotian	a maioatoro mo	-		
VEGETATION - Us	se scientific names of plants	6								
Tree Stratum (Plot size	e: 30' radius)	Absolute	Dominant Species?	Indicator	Dominance Test W	orksheet:				
1. Fraxinus latifolia	<del></del>	<u>% Cover</u> 70	Species? yes	Status FACW	Number of Dominar	ot Chaoina				
2					That Are OBL, FAC		<u>4</u>			(A)
3					Total Number of Do	minant				
4					Species Across All S		<u>4</u>			(B)
50% =, 20% = _		<u>70</u>	= Total Cover	r	Percent of Dominan	t Species				
Sapling/Shrub Stratum	ı (Plot size: <u>15' radius</u> )				That Are OBL, FAC		<u>100</u>	!		(A/B)
1. Fraxinus latifolia		<u>20</u>	<u>ves</u>	<u>FACW</u>	Prevalence Index v	worksheet:				
2. Rosa nutkana		<u>12</u>	<u>yes</u>	<u>FAC</u>	Total %	Cover of:	<u>Mul</u>	Itiply by:		
3					OBL species		x1 =	=		
4					FACW species		x2 =	=		
5					FAC species		x3 =	<u> </u>	_	
50% = <u>16</u> , 20% = <u>6.4</u>		<u>32</u>	= Total Cover	r	FACU species		x4 =	=	_	
Herb Stratum (Plot size	e: <u>5' radius</u> )				UPL species		x5 =	=		
1. Carex obnupta		<u>35</u>	<u>ves</u>	<u>OBL</u>	Column Totals:	(A	١)		(B	3)
2					F	Prevalence In	dex = B/A =	_		
3					Hydrophytic Veget	ation Indicat	ors:			
4					☐ 1 – Rapid Tes	t for Hydroph	ytic Vegetation			
5					□ 2 - Dominance	e Test is >50%	%			
6					☐ 3 - Prevalence	e Index is <3.0	o <sup>1</sup>			
7					- 4 - Morpholoa	ical Adaptatio	ons <sup>1</sup> (Provide sup	portina		
8							separate sheet)			
9					5 - Wetland N	on-Vascular F	Plants <sup>1</sup>			
10					☐ Problematic H	lydrophytic Ve	egetation¹ (Explai	n)		
11					4					
50% =, 20% = _		<u>35</u>	= Total Cover	r	<sup>1</sup> Indicators of hydric be present, unless of			ust		
Woody Vine Stratum (	Plot size: 15' radius)				bo procent, amous c	alotalboa of p	robiomatio.			
1				[						
2					Hydrophytic	V		NI-		
50% =, 20% = _			= Total Cover	r	Vegetation Present?	Yes		No		
% Bare Ground in Her	b Stratum <u>65</u>				-					
Remarks:	Bare ground is mud. Hydrophytic v	egetation ind	icators met; pa	asses Domina	ance Test.					

	ription: (Describ		aopt		i to do						1015.)				
Depth	Matri	ix				Redox	Features	3							
inches)	Color (moist)		%	Colo	or (mois	st) %	· -	ype <sup>1</sup>	Loc <sup>2</sup>	Texture	<u> </u>	Re	marks		
<u>0-18</u>	10YR 4/2	8	<u>88</u>	7.5	YR 4/4	<u>10</u>		<u>C</u>	<u>M</u>	<u>loan</u>	<u> </u>				
		_		<u>10`</u>	YR 5/6	<u>2</u>		<u>C</u>	<u>M</u>						
		_		_			_								
		_		_			_								
		_		_			_								
		_		-			_	_							
		_		_			_								
				–			_			·					
•	•	-				x, CS=Covered o		Sand	Grains.		=Pore Lining, M=M		-l-:- 0	_:1_3.	
		icable t	o ali Li			therwise noted.	-				icators for Probler	-	aric S	olis":	
Histosol						Sandy Redox (S					2 cm Muck (A10	-	2)		
_	pipedon (A2)					Stripped Matrix		1) (222	ant MLDA 4		Red Parent Mat			(4.0)	
_	listic (A3)					Loamy Mucky M	-		ept wilka 1		Very Shallow D			12)	
	en Sulfide (A4)	urfann (A	.11\			Loamy Gleyed N	•	2)			Other (Explain i	ın Reman	KS)		
-	ed Below Dark Su		(11)			Depleted Matrix		`							
	ark Surface (A12 Mucky Mineral (S	,				Redox Dark Sur	-	-		<sup>3</sup> Inc	licators of hydrophy	tic veget:	ation a	nd	
	`	,				Depleted Dark S				\	wetland hydrology r	nust be p	resent		
	Gleyed Matrix (S				ш	Redox Depressi	10115 (F6)			l	unless disturbed or	problema	atic.		
	ayer (if present)	•													
/pe:											,	Yes	$\boxtimes$	No	_
epth (inches	s): Hydric soils pres	ent, med	ets indi	icator F3	3-Deple	eted Matrix.			Hydric Soils	Present?					
Depth (inches Remarks:	Hydric soils pres	ent, med	ets indi	icator F3	-Deple	eted Matrix.			Hydric Soils	Present?					
epth (inches emarks:	Hydric soils pres		ets indi	icator F3	-Deple	eted Matrix.			Hydric Soils	Present?					
epth (inches emarks: SYDROLOG /etland Hyd	Hydric soils pres	rs:							Hydric Soils		ndary Indicators (2				
epth (inches emarks: YDROLOG /etland Hydrimary Indica	Hydric soils pres	rs:					_eaves (L	39)	Hydric Soils	Seco		or more r	require		
YDROLOG Vetland Hydrimary Indica Surface High W	Hydric soils pres  GY  rology Indicator ators (minimum o	rs:			all that	apply) Water-Stained L (except MLRA	1, 2, 4A,			Seco	ndary Indicators (2 Water-Stained Lea (MLRA 1, 2, 4A, a	or more r aves (B9) nd 4B)	require		
epth (inches emarks: EYDROLOG /etland Hydrimary Indica Surface High W	GY rology Indicator ators (minimum o	rs:			all that	apply) Water-Stained L	1, 2, 4A,			Seco	ndary Indicators (2 Water-Stained Lea	or more r aves (B9) nd 4B)	require		
YDROLOG  Vetland Hydirimary Indica  Surface  High W  Saturat	GY rology Indicator ators (minimum of the Water (A1) //ater Table (A2)	rs:			all that	apply) Water-Stained L (except MLRA	<b>1, 2, 4A</b> ,	and 4E		Seco	ndary Indicators (2 Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water	or more raves (B9) nd 4B) (B10) Table (C	require	d)	
YDROLOG Vetland Hydrimary Indica High W Saturat Water I Sedime	GY rology Indicator ators (minimum o e Water (A1) //ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)	rs: of one re			all that	apply) Water-Stained L (except MLRA Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid	<b>1, 2, 4A</b> , ) orates (B de Odor (	and 4E 13) C1)	3)	Seco	ndary Indicators (2 Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible (2)	or more raves (B9) nd 4B) (B10) Table (Con Aerial	require	d)	
YDROLOG  Vetland Hyderimary Indicat  High W  Saturat  Water II  Sedime  Drift De	Hydric soils pres  GY  rology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3)  Marks (B1) ent Deposits (B2) eposits (B3)	rs: of one re			all that	apply) Water-Stained L (except MLRA Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos	1, 2, 4A, ) prates (B de Odor (	and 48 13) C1) along Li	3) iving Roots (0	Seco	ndary Indicators (2 Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi	or more raves (B9) nd 4B) (B10) Table (Con Aerial on (D2)	require	d)	
YDROLOG  Vetland Hydical Surface High W Saturat Water I Sedime Drift De	GY rology Indicator ators (minimum o e Water (A1) //ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)	rs: of one re			that that the control of the control	apply) Water-Stained L (except MLRA Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid	1, 2, 4A, ) prates (B de Odor (	and 48 13) C1) along Li	3) iving Roots (0	Seco	ndary Indicators (2 Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible (2)	or more raves (B9) nd 4B) (B10) Table (Con Aerial on (D2)	require	d)	
epth (inches emarks:    YDROLOG	Hydric soils pres  GY  rology Indicator ators (minimum of the Water (A1) //ater Table (A2) tion (A3) Marks (B1) tent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5)	rs: of one re			all that	apply) Water-Stained L (except MLRA Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Presence of Rei Recent Iron Rec	1, 2, 4A, ) prates (B de Odor ( spheres a duced Iro duction ir	and 4E  13)  C1)  along Li  on (C4)  Tilled	3) iving Roots (C	Seco	ndary Indicators (2 Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test	or more raves (B9) nd 4B) (B10) Table (Coon Aerial ion (D2) D3) (D5)	require (22) Image	d)	
PYDROLOG  Vetland Hydrimary Indica  Surface  High W  Saturat  Sedime  Drift De  Algal M  Iron De  Surface	Hydric soils pres  GY  rology Indicator ators (minimum of e Water (A1) //ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5) e Soil Cracks (B6)	rs:  of one re	quired;	check a	lill that:	apply) Water-Stained L (except MLRA Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Presence of Re Recent Iron Rec Stunted or Stres	1, 2, 4A, ) prates (B de Odor ( spheres a duced Iro duction ir	and 4E  13)  C1)  along Li  on (C4)  a Tilled  atts (D1)	3) iving Roots (C	Seco	ndary Indicators (2 Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible ( Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test ( Raised Ant Mound	or more raves (B9) nd 4B) (B10) Table (Con Aerial on (D2) D3) (D5)	require (22) Image	d)	
YDROLOG Vetland Hydrimary Indica High W Saturat Sedime Drift De Algal M Iron De Surface Inundat	Hydric soils pres  GY  rology Indicator ators (minimum of a Water (A1) /ater Table (A2) /tion (A3)  Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) a Soil Cracks (B6 tion Visible on A6	rs:  If one re	quired;	check a	all that	apply) Water-Stained L (except MLRA Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Presence of Rei Recent Iron Rec	1, 2, 4A, ) prates (B de Odor ( spheres a duced Iro duction ir	and 4E  13)  C1)  along Li  on (C4)  a Tilled  atts (D1)	3) iving Roots (C	Seco	ndary Indicators (2 Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test	or more raves (B9) nd 4B) (B10) Table (Con Aerial on (D2) D3) (D5)	require (22) Image	d)	
IYDROLOG Vetland Hydrimary Indica High W Saturat Water I Sedime Drift De Algal M Iron De Surface	rology Indicator ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6 tion Visible on Ae	rs:  If one re	quired;	check a	lill that:	apply) Water-Stained L (except MLRA Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Presence of Re Recent Iron Rec Stunted or Stres	1, 2, 4A, ) prates (B de Odor ( spheres a duced Iro duction ir	and 4E  13)  C1)  along Li  on (C4)  a Tilled  atts (D1)	3) iving Roots (C	Seco	ndary Indicators (2 Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible ( Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test ( Raised Ant Mound	or more raves (B9) nd 4B) (B10) Table (Con Aerial on (D2) D3) (D5)	require (22) Image	d)	
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INTERPOLOCIES  INTERP	Hydric soils pres  GY  rology Indicator ators (minimum of the Water (A1) //ater Table (A2) //dion (A3)  Marks (B1) //ent Deposits (B2) //eposits (B3) //fat or Crust (B4) //eposits (B5) //e Soil Cracks (B6 //etion Visible on Ae //ely Vegetated Cor //etions: r Present?	rs: of one re of one re of one re of one re	quired;	37) (B8)	all that	apply) Water-Stained L (except MLRA Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Presence of Ret Recent Iron Ret Stunted or Stres Other (Explain in	1, 2, 4A, ) orates (B de Odor ( spheres a duced Iro duction ir sses Plar n Remar	and 4E  13)  C1)  along Li  on (C4)  Tilled  hts (D1)  ks)	3) iving Roots (C	Seco	ndary Indicators (2 Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible ( Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test ( Raised Ant Mound	or more raves (B9) nd 4B) (B10) Table (Con Aerial on (D2) D3) (D5)	require (22) Image	d)	
IVDROLOG Vetland Hydrimary Indica Surface High W Saturat Sedime Drift De Surface Inundat Sparse ield Observ.	Hydric soils pres  GY  rology Indicator ators (minimum of water (A1) /ater Table (A2) /ater Table (A2) /ater Table (B3)  Marks (B1) /ater Toposits (B3) /ater Toposits (B4) /ater Table (A2) /ater Tab	rs: of one re	quired; gery (E urface	37) (B8)	iiii that i	apply)  Water-Stained L (except MLRA Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Presence of Rei Recent Iron Rec Stunted or Stres Other (Explain in	1, 2, 4A, ) orates (B de Odor ( spheres a duced Iro duction ir sses Plar n Remar	and 4E  13)  C1)  along Li  on (C4)  a Tilled  atts (D1)	3) iving Roots (C	Seco	ndary Indicators (2 Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible ( Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test ( Raised Ant Mound	or more raves (B9) nd 4B) (B10) Table (Con Aerial on (D2) D3) (D5)	require (22) Image	d)	
HYDROLOG Wetland Hydro Surface High W Saturat Surface High W Saturat Sedime Iron De Surface Inundat Sparse Water Table F Saturation Pre Includes capi	Hydric soils pres  GY  rology Indicator ators (minimum of the Water (A1) //ater Table (A2) tion (A3)  Marks (B1) tent Deposits (B2) tent Deposits (B3) flat or Crust (B4) tent Of Crust (B4) tent Of Crust (B6) ton Visible on Active Vegetated Corr ations: r Present? tent? tent.	rs: of one re	quired;	37) (B8) No No No	all that:	apply) Water-Stained L (except MLRA Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Rec Stunted or Stres Other (Explain in Depth (inch Depth (inch	1, 2, 4A, ) prates (B de Odor ( spheres a duced Irr duction ir sses Plar n Remar  nes): ne	and 48 13) C1) along Li on (C4) n Tilled nts (D1) ks)	iving Roots (C Soils (C6) ) (LRR A)	Seco	ndary Indicators (2 Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible ( Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test ( Raised Ant Mound	or more raves (B9) nd 4B) (B10) Table (Con Aerial ion (D2) D3) (D5) is (D6) (Li mocks (D7)	require (22) Image	d)	
HYDROLOG Wetland Hydro Surface High W Saturat Surface High W Saturat Sedime Iron De Surface Inundat Sparse Field Observ. Surface Water Vater Table F Saturation Preincludes capi	Hydric soils pres  GY  rology Indicator ators (minimum of the Water (A1) //ater Table (A2) tion (A3)  Marks (B1) tent Deposits (B2) tent Deposits (B3) flat or Crust (B4) tent Of Crust (B4) tent Of Crust (B6) ton Visible on Active Vegetated Corr ations: r Present? tent? tent.	rs: of one re	quired;	37) (B8) No No No	all that:	apply) Water-Stained L (except MLRA Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Rec Stunted or Stres Other (Explain in	1, 2, 4A, ) prates (B de Odor ( spheres a duced Irr duction ir sses Plar n Remar  nes): ne	and 48 13) C1) along Li on (C4) n Tilled nts (D1) ks)	iving Roots (C Soils (C6) ) (LRR A)	Seco	ndary Indicators (2 Water-Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard ( FAC-Neutral Test Raised Ant Mound Frost-Heave Humr	or more raves (B9) nd 4B) (B10) Table (Con Aerial ion (D2) D3) (D5) is (D6) (Li mocks (D7)	require (22) Image	d) ry (C9)	

Project Site:	Manley Road			City/Coun	nty: Battle Ground/0	<u>Clark</u> S	ampling Date	:	6/22/17	
Applicant/Owner:	Clark County					te: <u>WA</u> Sa	ampling Point	t:	<u>18</u>	
Investigator(s):	Jeff Gray, Kevin O'Brien, Stepha	nie Modjeski			Section, Tow	vnship, Range:	29, 04N, 02	<u>2E</u>		
Landform (hillslope, ter	rrace, etc.): <u>Terrace on slope</u>		Loca	al relief (conc	ave, convex, none):	<u>none</u>		Slope	(%): <u>0</u>	
Subregion (LRR):	<u>A</u>	Lat: 45.79	98917		Long: -122.5784	<u>430</u>	Dat	um: W	'GS 1984	
Soil Map Unit Name:	Dollar loam, 0-5% slopes (non-l slopes (non-hydric)	nydric); Hock	inson loam, m	oderately we	ell drained, 0-8%	NWI classifi	ication: <u>N</u>	<u>A</u>		
Are climatic / hydrologi	ic conditions on the site typical for	this time of y	ear? Y	es 🛚	No ☐ (If r	no, explain in R	≀emarks.)			
Are Vegetation $\square$ ,	Soil ☐, or Hydrology	☐, signification ☐	antly disturbed	l? Are "	Normal Circumstance	es" present?		Yes	⊠ No	
Are Vegetation $\square$ ,	Soil ☐, or Hydrology	☐, naturall	ly problematic	? (If ne	eded, explain any an	swers in Rema	arks.)			
SUMMARY OF FIN	DINGS – Attach site map sh	owing san	npling point	locations,	transects, impor	tant feature:	s, etc.			
Hydrophytic Vegetation	n Present?	Yes 🗆	No 🛛							
Hydric Soil Present?		Yes 🗆	No 🛛	Is the Samp within a We				Yes	□ No	$\boxtimes$
Wetland Hydrology Pre	esent?	Yes 🗆	No 🛛		Alama I					
Remarks: Upland da	ata point taken approximately 1	5 feet north	of flag J2. No	t all three w	etland indicators pr	esent.				
·			J		•					
VEGETATION - Us	se scientific names of plants	<b>S</b>								
Tree Stratum (Plot size	e: <u>30'</u> )	Absolute	Dominant Species?	Indicator Status	Dominance Test V	Norksheet:				
1. Acer macrophyllun	n	<u>% Cover</u> <u>55</u>	Species? yes	FACU	Number of Domina	int Species				
2. Alnus rubra	=	10	no	FAC	That Are OBL, FAC		2	<u>2</u>		(A)
3.		_			Total Number of Do	nminant				
4					Species Across All			<u>5</u>		(B)
50% = <u>32.5</u> , 20% = <u>13</u>	1	<u>65</u>	= Total Cove	r	Percent of Dominar	nt Species				
Sapling/Shrub Stratum	<u>ı</u> (Plot size: <u>15'</u> )				That Are OBL, FAC		:	<u>40</u>		(A/B)
1. Corylus cornuta		<u>20</u>	<u>ves</u>	<u>FACU</u>	Prevalence Index	worksheet:				
2. Acer circinatum		<u>12</u>	<u>yes</u>	FAC	Total 9	% Cover of:	ſ	Multiply	by:	
3					OBL species		:	x1 =		
4					FACW species		:	x2 =		
5					FAC species	<u>71</u>	:	x3 =	<u>213</u>	
50% = <u>16,</u> 20% = <u>6.4</u>		<u>32</u>	= Total Cove	r	FACU species	<u>95</u>	;	x4 =	<u>380</u>	
Herb Stratum (Plot siz	e: <u>5'</u> )				UPL species		;	x5 =		
1. Polystichum munit	<u>um</u>	<u>15</u>	<u>yes</u>	<u>FACU</u>	Column Totals:	<u>166</u> (A)			<u>593</u> (B)	
2. Hydrophyllum tenu	<u>iipes</u>	<u>15</u>	<u>yes</u>	FAC		Prevalence II	ndex = B/A =	<u>3.5</u>		
3. Maianthemum dila	<u>tatum</u>	<u>12</u>	<u>no</u>	FAC	Hydrophytic Vege	tation Indicat	ors:			
4. Streptopus amplex	<u> </u>	<u>12</u>	<u>no</u>	<u>FAC</u>	☐ 1 – Rapid Tes	st for Hydrophy	ytic Vegetatio	n		
5. <u>Claytonia sibirica</u>		<u>10</u>	<u>no</u>	<u>FAC</u>	2 - Dominano	ce Test is >50%	6			
6. <u>Pteridium aquilinui</u>	<u>n</u>	<u>5</u>		<u>FACU</u>	☐ 3 - Prevalenc	e Index is <3.0	)1			
7					4 - Morpholog	gical Adaptation	ns¹ (Provide s	supporti	ng	
8					data in Re	emarks or on a	separate she	et)	_	
9					☐ 5 - Wetland N	Non-Vascular P	Plants <sup>1</sup>			
10					☐ Problematic F	Hydrophytic Ve	egetation <sup>1</sup> (Ex	plain)		
11					1					
50% = <u>34.5</u> , 20% = <u>13</u>	ı <u>.8</u>	<u>69</u>	= Total Cove	r	<sup>1</sup> Indicators of hydric be present, unless			must		
Woody Vine Stratum (	Plot size:)									
1						·	·		·	
2					Hydrophytic Vegetation	Yes			No	⋈
50% =, 20% = _			= Total Cove	r	Present?	ies			NO	
% Bare Ground in Her	b Stratum 31									
Remarks:	Hydrophytic vegetation indicator no	ot met.								

OIL		- 4- 41	-141-						£! 41	<b>6</b> !		\					
	iption: (Describ		depth	needed	d to d				ifirm the abs	ence of inc	licato	ors.)					
Depth	Matri		<u> </u>				Redox Feat	- 1	2					D			
nches)	Color (moist)	- —	<u>%</u>	Cold	or (mo	oist)	<u> </u>	Type'	Loc <sup>2</sup>		ture		J	Remark	KS		
<u>0-18</u>	10YR 3/2	1	00	_		-	<del></del>			- !	<u>oam</u>	no red	dox feature	<u>:S</u>			
		_	<del></del>	_		-							=				
		_		_		-			-				=				
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				_		-	<del></del>						-				
		_		_		-							=				
		_		_		-							=				
 /pe: C= Co	ncentration, D=D	epletion	 ı. RM=l	- Reduced	d Matr	ix. CS=Co	vered or Co	ated Sar	nd Grains.	<sup>2</sup> Location	: PL=	Pore Lining,	M=Matrix				
•	ndicators: (Appl	-				-						ators for Pr		Hydric	Soils <sup>3</sup>	:	
Histoso							edox (S5)					2 cm Muc	k (A10)	•			
Histic E	pipedon (A2)					Stripped	Matrix (S6)					Red Parei	nt Material	(TF2)			
Black H	istic (A3)					Loamy M	lucky Miner	al (F1) <b>(e</b>	except MLRA	1)		Very Shal	low Dark S	urface (	ΓF12)		
Hydroge	en Sulfide (A4)					Loamy G	Bleyed Matrix	x (F2)				Other (Ex	olain in Re	marks)			
Deplete	d Below Dark Su	ırface (A	(11)			Depleted	Matrix (F3)	١									
] Thick D	ark Surface (A12	2)				Redox D	ark Surface	(F6)									
] Sandy l	Mucky Mineral (S	1)				Depleted	l Dark Surfa	ce (F7)				cators of hyd					
] Sandy (	Gleyed Matrix (Se	4)				Redox D	epressions	(F8)				etland hydro nless disturb			nt,		
estrictive L	ayer (if present)	:											•				
ype:																	
										ile Drocon	2		Yes		No	)	$\boxtimes$
	s): Hydric soil indica	ators not	t met.						Hydric So	iis Freseiii							
Remarks:	Hydric soil indica	ators not	i met.						Hydric So	iis Freseiii	. f						
emarks:	Hydric soil indica		t met.						Hydric So	iis Freseiii							
emarks:  YDROLOG  Vetland Hyd	Hydric soil indica	rs:		check a	all that	t apply)			Hydric So			dary Indicato		ore requi	red)		
YDROLO0 (etland Hyd	Hydric soil indica	rs:		check a	all that	,	tained Leave	es (B9)	Hydric So		econ	dary Indicato Water-Staine	ors (2 or mo		red)		
YDROLOG etland Hyd imary Indica	Hydric soil indica  GY  rology Indicator ators (minimum c	rs:		check a		Water-St	tained Leave MLRA 1, 2,				econ	-	ors (2 or mo d Leaves (	(B9)	red)		
YDROLOG etland Hyd rimary Indica Surface	Hydric soil indica  GY  rology Indicator ators (minimum c	rs:		check a		Water-St	MLRA 1, 2,				econ	Water-Staine	ors (2 or mo d Leaves ( 4 <b>A, and</b> 4 <b>E</b>	(B9)	red)		
YDROLOG fetland Hyd rimary Indica Surface High W Saturat	GY rology Indicator ators (minimum c w Water (A1) //ater Table (A2)	rs:		check a		Water-St (except Salt Crus	MLRA 1, 2,	4A, and		s	econ	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season	ors (2 or mo d Leaves ( <b>4A, and 4</b> E terns (B10 Water Tabl	(B9) <b>3)</b> ) e (C2)			
YDROLOG (etland Hyd rimary Indica ] Surface ] High W ] Saturat ] Water I	Hydric soil indica GY rology Indicator ators (minimum c e Water (A1) 'ater Table (A2) ion (A3)	rs: of one re		check a		Water-St (except Salt Crus Aquatic I	MLRA 1, 2, st (B11)	<b>4A, and</b> s (B13)		s	econ	Water-Staine MLRA 1, 2, Drainage Pat	ors (2 or mo d Leaves ( <b>4A, and 4</b> E terns (B10 Water Tabl	(B9) <b>3)</b> ) e (C2)		¢9)	
YDROLOO /etland Hyd rimary Indica   Surface   High W   Saturat   Water I   Sedime   Drift De	Hydric soil indica  GY  rology Indicator ators (minimum c a Water (A1) rater Table (A2) rion (A3) Marks (B1) ent Deposits (B2) aposits (B3)	rs: of one re		check a		Water-Si (except Salt Crus Aquatic I Hydroge Oxidized	MLRA 1, 2, st (B11) Invertebrates in Sulfide Oc Rhizospher	4A, and s (B13) dor (C1) res along	4B)		econ ) ) ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic	ors (2 or mo d Leaves ( <b>4A, and 4E</b> terns (B10 Water Tabl sible on Ae Position (D	B9)  3) ) e (C2) erial Imag		C9)	
IYDROLOG Vetland Hyd rimary Indica Surface High W Saturat Water I Sedime Drift De	Hydric soil indica GY rology Indicator ators (minimum of a Water (A1) later Table (A2) cion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)	rs: of one re		check a		Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence	MLRA 1, 2, st (B11) invertebrates n Sulfide Od Rhizospher e of Reduce	4A, and s (B13) dor (C1) res along d Iron (C	4B) g Living Roots	S 	econ) \ ( ) [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui	ors (2 or mo d Leaves ( <b>4A, and 4E</b> terns (B10 Water Tabl sible on As Position (D tard (D3)	B9)  3) ) e (C2) erial Imag		C9)	
IYDROLOG Vetland Hyd rimary Indica Surface High W Saturat Water I Sedime Drift De	Hydric soil indica GY rology Indicator ators (minimum of the Water (A1) (ater Table (A2) tion (A3) Marks (B1) tent Deposits (B2) peposits (B3) lat or Crust (B4) peposits (B5)	rs: of one re		check a		Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent In	MLRA 1, 2, st (B11) Invertebrates in Sulfide Oc Rhizospher e of Reduce	4A, and s (B13) dor (C1) res along d Iron (C	4B)  g Living Roots (4) ed Soils (C6)	S 	econ. ) \ ( ) [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral	ors (2 or model) declared (B10) Water Tables ible on Aeposition (Datard (D3)) Test (D5)	(B9) (B9)	gery (C	C9)	
IYDROLOG Vetland Hyd rimary Indica Surface High W Saturat Sedime Drift De Algal M Iron De	Hydric soil indical  GY  rology Indicator ators (minimum of Water (A1) fater Table (A2) fion (A3) Marks (B1) ent Deposits (B2) eposits (B3) fat or Crust (B4) eposits (B5) e Soil Cracks (B6)	rs:  of one re	quired;			Water-St (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted	MLRA 1, 2, st (B11) Invertebrates in Sulfide Oc Rhizospher e of Reduce ron Reduction	AA, and s (B13) dor (C1) res along d Iron (Con in Tille Plants (E	4B) g Living Roots	S	econ () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	ors (2 or model) deleaves (44, and 48 terns (B10 Water Table) sible on As (Position (D3) Test (D5) dounds (D6)	B9)  (B9)  (B9)  (B9)  (B9)  (C2)  (C2)  (C2)  (C3)  (C3)  (C4)  (C4)  (C4)	gery (C	C9)	
YDROLOG /etland Hyd rimary Indica   Surface   High W   Saturat   Water I   Sedime   Drift De   Algal M   Iron De   Surface   Inunda	Hydric soil indica	rs: If one re	quired;	37)		Water-St (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted	MLRA 1, 2, st (B11) Invertebrates in Sulfide Oc Rhizospher e of Reduce	AA, and s (B13) dor (C1) res along d Iron (Con in Tille Plants (E	4B)  g Living Roots (4) ed Soils (C6)	S C C C C C C C C C C C C C C C C C C C	econ () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral	ors (2 or model) deleaves (44, and 48 terns (B10 Water Table) sible on As (Position (D3) Test (D5) dounds (D6)	B9)  (B9)  (B9)  (B9)  (B9)  (C2)  (C2)  (C2)  (C3)  (C3)  (C4)  (C4)  (C4)	gery (C	C9)	
HYDROLOO Wetland Hyd Irimary Indica Surface High W Satural Sedime Drift De Algal M Iron De Surface	rology Indicator ators (minimum of a Water (A1) rater Table (A2) rion (A3) Marks (B1) ent Deposits (B2) reposits (B3) lat or Crust (B4) reposits (B5) reposits (B5) reposits (B5) reposits (B6) reposits (B6)	rs: If one re	quired;	37)		Water-St (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted	MLRA 1, 2, st (B11) Invertebrates in Sulfide Oc Rhizospher e of Reduce ron Reduction	AA, and s (B13) dor (C1) res along d Iron (Con in Tille Plants (E	4B)  g Living Roots (4) ed Soils (C6)	S	econ () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	ors (2 or model) deleaves (44, and 48 terns (B10 Water Table) sible on As (Position (D3) Test (D5) dounds (D6)	B9)  (B9)  (B9)  (B9)  (B9)  (C2)  (C2)  (C2)  (C3)  (C3)  (C4)  (C4)  (C4)	gery (C	C9)	
WDROLOG Vetland Hyd rimary Indica Surface High W Saturat Sedime Drift De Algal M Iron De Surface	Hydric soil indica  GY  rology Indicator ators (minimum of a Water (A1) rater Table (A2) rion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on A6 ly Vegetated Con ations:	rs: of one re	quired; gery (E urface	37) (B8)		Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted of	MLRA 1, 2, st (B11) invertebrates in Sulfide Oc Rhizospher e of Reduce ron Reduction or Stresses xplain in Res	AA, and s (B13) dor (C1) res along d Iron (Con in Tille Plants (E	4B)  g Living Roots (4) ed Soils (C6)	S	econ () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	ors (2 or model) deleaves (44, and 48 terns (B10 Water Table) sible on As (Position (D3) Test (D5) dounds (D6)	B9)  (B9)  (B9)  (B9)  (B9)  (C2)  (C2)  (C2)  (C3)  (C3)  (C4)  (C4)  (C4)	gery (C	C9)	
HYDROLOG Vetland Hyd Verimary Indicate High W Saturat Water I Sedime Drift De High W Iron De High W Iron De Hinunda Sparsee ield Observ	Hydric soil indical  GY  rology Indicator ators (minimum of the Water (A1) dater Table (A2) dion (A3)  Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on A6 ly Vegetated Corations: r Present?	rs: of one re of one re of one re of one re	quired; gery (E	37) (B8) No		Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted (Other (E.	MLRA 1, 2, st (B11) invertebrates in Sulfide Oci Rhizospher e of Reduce ron Reduction Stresses xplain in Resetth (inches):	AA, and s (B13) dor (C1) res along d Iron (Con in Tille Plants (E	4B)  g Living Roots (4) ed Soils (C6)	S 	econ () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	ors (2 or model) deleaves (44, and 48 terns (B10 Water Table) sible on As (Position (D3) Test (D5) dounds (D6)	B9)  (B9)  (B9)  (B9)  (B9)  (C2)  (C2)  (C2)  (C3)  (C3)  (C4)  (C4)  (C4)	gery (C	C9)	
IYDROLOO Vetland Hyd rimary Indica Surface High W Saturat Sedime Drift De Surface Inunda Sparse ield Observ urface Water Vater Table F	Hydric soil indical  GY  rology Indicator ators (minimum of water (A1) Auter Table (A2) Auter Table (A2) Auter Table (A2) Auter Table (B2) Auter Table (B3) Auter Torust (B4) Auter Table (B5) Auter Torust (B4) A	rs: of one re	quired; gery (E urface	37) (B8)		Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted (Other (E.	MLRA 1, 2, st (B11) invertebrates in Sulfide Oc Rhizospher e of Reduce ron Reduction or Stresses xplain in Res	AA, and s (B13) dor (C1) res along d Iron (Con in Tille Plants (E	4B)  g Living Roots (4) ed Soils (C6)	S 	econ () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	ors (2 or model) deleaves (44, and 48 terns (B10 Water Table) sible on As (Position (D3) Test (D5) dounds (D6)	B9)  (B9)  (B9)  (B9)  (B9)  (C2)  (C2)  (C2)  (C3)  (C3)  (C4)  (C4)  (C4)	gery (C	C(9)	
HYDROLOG Vetland Hyd Primary Indica Surface High W Saturat Sedime Drift De Surface Inunda Sparse Field Observ Surface Water Table Featuration Preincludes capi	Hydric soil indical  GY  rology Indicator ators (minimum of the Water (A1) (ater Table (A2) cion (A3)  Marks (B1) cent Deposits (B2) eposits (B3)  lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Active (B6) ty Vegetated Contations: r Present? esent? ellary fringe)	rs: of one re	quired;	37) (B8) No No No		Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted ( Other (E	MLRA 1, 2, st (B11) invertebrates in Sulfide Oct Rhizosphere of Reducte from Reduction Stresses explain in Research (inches): th (inches):	4A, and s (B13) dor (C1) res along d Iron (C on in Tille Plants (E marks)	4B)  4B)  4B)  4B)  4B)  4B)  4B)  4B)	(C3) CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	econ: () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	ors (2 or module decision of the context of the con	B9)  (B9)  (B9)  (B9)  (B9)  (C2)  (C2)  (C2)  (C3)  (C3)  (C4)  (C4)  (C4)	gery (C	<b>No</b>	
HYDROLOG  Wetland Hyd  Primary Indica  High W  Saturat  Water I  Sedime  Drift De  Iron De  Inunda  Sparsee  Field Observ  Surface Water  Water Table F  Saturation Preincludes capi	Hydric soil indical  GY  rology Indicator ators (minimum of the Water (A1) dater Table (A2) dion (A3)  Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on A6 ly Vegetated Corations: r Present? Present?	rs: of one re	quired;	37) (B8) No No No		Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted ( Other (E	MLRA 1, 2, st (B11) invertebrates in Sulfide Oct Rhizosphere of Reducte from Reduction Stresses explain in Research (inches): th (inches):	4A, and s (B13) dor (C1) res along d Iron (C on in Tille Plants (E marks)	4B)  4B)  4B)  4B)  4B)  4B)  4B)  4B)	(C3) CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	econ: () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave	ors (2 or module decision of the context of the con	B9) 3) ) e (C2) erial Imag )2) 6) (LRR A	gery (C		
HYDROLOG Vetland Hyd Primary Indica Surface High W Saturat Sedime Drift De Surface Inunda Sparse Field Observ Surface Water Table Featuration Preincludes capi	Hydric soil indical  GY  rology Indicator ators (minimum of the Water (A1) (ater Table (A2) cion (A3)  Marks (B1) cent Deposits (B2) eposits (B3)  lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Active (B6) ty Vegetated Contations: r Present? esent? ellary fringe)	rs: of one re	quired;	37) (B8) No No No		Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted ( Other (E	MLRA 1, 2, st (B11) invertebrates in Sulfide Oct Rhizosphere of Reducte from Reduction Stresses explain in Research (inches): th (inches):	4A, and s (B13) dor (C1) res along d Iron (C on in Tille Plants (E marks)	4B)  4B)  4B)  4B)  4B)  4B)  4B)  4B)	(C3) CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	econ: () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave	ors (2 or module decision of the context of the con	B9) 3) ) e (C2) erial Imag )2) 6) (LRR A	gery (C		
YDROLOG /etland Hyd rimary Indica Surface High W Saturat Sedime Drift De Surface Inunda Sparse ield Observ urface Water /ater Table Faturation Prencludes capi	Hydric soil indical  GY  rology Indicator ators (minimum of the Water (A1) (ater Table (A2) cion (A3)  Marks (B1) cent Deposits (B2) eposits (B3)  lat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Active (B6) ty Vegetated Contations: r Present? esent? ellary fringe)	rs: of one re serial Imancave So Yes Yes Yes am gaug	quired;	37) (B8) No No No nitoring v		Water-Si (except Salt Crus Aquatic I Hydroge Oxidized Presence Recent II Stunted ( Other (E	MLRA 1, 2, st (B11) invertebrates in Sulfide Oct Rhizosphere of Reducte from Reduction Stresses explain in Research (inches): th (inches):	4A, and s (B13) dor (C1) res along d Iron (C on in Tille Plants (E marks)	4B)  4B)  4B)  4B)  4B)  4B)  4B)  4B)	(C3) CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	econ: () () () () () () () () () () () () ()	Water-Staine MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave	ors (2 or module decision of the context of the con	B9) 3) ) e (C2) erial Imag )2) 6) (LRR A	gery (C		

Project Site:	Manley Road			City/Cou	nty: Battle Ground/Clark County	Sampling Date:	6/22/	<u>/17</u>	
Applicant/Owner:	Clark County				State: WA	Sampling Point:	<u>19</u>		
Investigator(s):	Jeff Gray, Kevin O'Brien, Steph	anie Modjesk	<u>i</u>		Section, Township, Rar	nge: 29, 04N, 02E			
Landform (hillslope, te	errace, etc.): <u>floodplain</u>		Loc	cal relief (cond	cave, convex, none): none	Slope	e (%):	0-2	
Subregion (LRR):	<u>A</u>	Lat: 45.7	799491		Long: <u>-122.578165</u>	Datum: \	WGS 1	984	
Soil Map Unit Name:	Gee silt loam, 8-20% slopes (r	non-hydric)			NWI clas	ssification: PEM/PS	<u>3S</u>		
Are climatic / hydrolog	gic conditions on the site typical fo	or this time of	year?	Yes ⊠	I No ☐ (If no, explain	in Remarks.)			
Are Vegetation	, Soil □, or Hydrology	☐, signific	cantly disturbe	ed? Are	"Normal Circumstances" present	? Yes	$\boxtimes$	No	
Are Vegetation	, Soil □, or Hydrology	☐, natura	lly problemati	c? (If ne	eeded, explain any answers in R	emarks.)			
SUMMARY OF FIN	IDINGS – Attach site map s	howing sa	mplina poin	nt locations	. transects. important feati	ures. etc.			
Hydrophytic Vegetation	•	Yes 🗵	• • •		,				
Hydric Soil Present?		Yes 🗵		Is the Sam		Yes	$\boxtimes$	No	
Wetland Hydrology Pr	resent?	Yes 🗵		within a W	etland?		_		
	data point taken approximately			12 for Wetla	nd K All three wetland indicat	ors mat			
Remarks. Wetland	uata point taken approximately	5 leet north	of flag Onw	12 IOI Wella	na K. Ali tillee wetiana maicat	ors met.			
VEGETATION - U	se scientific names of plant	ts							
Tree Stratum (Plot siz	•	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	:			
1. <u>-</u>					Number of Dominant Species	2			(4)
2					That Are OBL, FACW, or FAC	): <u>3</u>			(A)
3					Total Number of Dominant	2			(B)
4					Species Across All Strata:	<u>3</u>			(B)
50% =, 20% =			= Total Cov	er	Percent of Dominant Species	. <u>100</u>			(A/B)
Sapling/Shrub Stratur	n (Plot size: 15x10' belt)				That Are OBL, FACW, or FAC	: 100			(700)
1. <u>Salix lucida</u>		<u>12</u>	<u>ves</u>	<u>FACW</u>	Prevalence Index workshee	t:			
2. Rubus armeniacu	<u>s</u>	<u>5</u>	<u>yes</u>	<u>FAC</u>	Total % Cover of	: Multipl	y by:		
3					OBL species	x1 =		_	
4					FACW species	x2 =		_	
5					FAC species	x3 =		_	
50% = <u>8.5,</u> 20% = <u>3.4</u>		<u>17</u>	= Total Cov	er	FACU species	x4 =	-	_	
Herb Stratum (Plot siz	ze: <u>5' radius</u> )				UPL species	x5 =		_	
Scirpus microcarp	<u>ous</u>	<u>75</u>	<u>yes</u>	<u>FACW</u>	Column Totals:	_ (A)		(B	6)
2. <u>Glyceria elata</u>		<u>15</u>	<u>no</u>	<u>FACW</u>	Prevalence	e Index = B/A =			
3. Epilobium ciliatum	1	<u>10</u>	<u>no</u>	<u>FACW</u>	Hydrophytic Vegetation Indi				
4					1 – Rapid Test for Hydro				
5					2 - Dominance Test is >	50%			
6					3 - Prevalence Index is	≤3.0 <sup>1</sup>			
7					4 - Morphological Adapt		ting		
8					data in Remarks or o				
9					5 - Wetland Non-Vascul	ar Plants¹			
10					☐ Problematic Hydrophytic	: Vegetation <sup>1</sup> (Explain)			
11					<sup>1</sup> Indicators of hydric soil and v	vetland hydrology must			
50% = <u>50</u> , 20% = <u>20</u>		<u>100</u>	= Total Cov	er	be present, unless disturbed of				
Woody Vine Stratum	(Plot size: 15x10' belt)								
1. <u>-</u>					Hydrophytic				
2						Yes ⊠	No		
50% =, 20% =			= Total Cov	er	Present?				
% Bare Ground in He	rb Stratum <u>0</u>								
Remarks:	Hydrophytic vegetation indicator p	resent. Pass	es Dominance	e Test.					

_	Redox Features           %         Type¹         Loc²           7         C         M           2         D         M	Texture Remarks  silt loam silt loam	
Color (moist)	%         Type¹         Loc²           7         C         M           2         D         M	silt loam silt loam	
0-2 10YR 3/2 100 2-18 10YR 4/2 91 10YR 4/6 10YR 4/1 10YR	7         C         M           2         D         M	silt loam silt loam	
2-18 10YR 4/2 91 10YR 4/6 10YR 4/1 10YR 4/6 10YR	2 D M  Covered or Coated Sand Grains. <sup>2</sup> L	silt loam	
Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS= lydric Soil Indicators: (Applicable to all LRRs, unless otherwill Histosol (A1)	2 D M  Covered or Coated Sand Grains. <sup>2</sup> L		
Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=  lydric Soil Indicators: (Applicable to all LRRs, unless otherwing Histosol (A1)	Covered or Coated Sand Grains. <sup>2</sup> L	ocation: PL=Pore Lining, M=Matrix	
lydric Soil Indicators: (Applicable to all LRRs, unless otherwing Histosol (A1)		.ocation: PL=Pore Lining, M=Matrix	
lydric Soil Indicators: (Applicable to all LRRs, unless otherwing Histosol (A1)		.ocation: PL=Pore Lining, M=Matrix	
lydric Soil Indicators: (Applicable to all LRRs, unless otherwing Histosol (A1)		.ocation: PL=Pore Lining, M=Matrix	
lydric Soil Indicators: (Applicable to all LRRs, unless otherwing Histosol (A1)		ocation: PL=Pore Lining, M=Matrix	
lydric Soil Indicators: (Applicable to all LRRs, unless otherwing Histosol (A1)		ocation: PL=Pore Lining, M=Matrix	
lydric Soil Indicators: (Applicable to all LRRs, unless otherwing Histosol (A1)		ocation: PL=Pore Lining, M=Matrix	
Histosol (A1)	ise noted.)		
		Indicators for Problematic Hydric Soils <sup>3</sup> :	
☐ Histic Epipedon (A2) ☐ Stripp	y Redox (S5)	2 cm Muck (A10)	
	ped Matrix (S6)	Red Parent Material (TF2)	
_ ` ' /	y Mucky Mineral (F1) (except MLRA 1)	☐ Very Shallow Dark Surface (TF12)	
	y Gleyed Matrix (F2)	☐ Other (Explain in Remarks)	
	eted Matrix (F3)		
	x Dark Surface (F6)	3 Indicators of hydrophytic vegetation and	
`	eted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present,	
	x Depressions (F8)	unless disturbed or problematic.	
Restrictive Layer (if present):			
ype:		_	_
lepth (inches):  Lemarks: Hydric soils present. Meets criteria for indicator F6-F	Hydric Soils F	Present? Yes 🛚 No	
HYDROLOGY			
Netland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
☐ Surface Water (A1) ☐ Wate	r-Stained Leaves (B9)	☐ Water-Stained Leaves (B9)	
☐ High Water Table (A2) (exce	pt MLRA 1, 2, 4A, and 4B)	(MLRA 1, 2, 4A, and 4B)	
Saturation (A3) □ Salt 0	Crust (B11)	☐ Drainage Patterns (B10)	
☐ Water Marks (B1) ☐ Aqua	tic Invertebrates (B13)	☐ Dry-Season Water Table (C2)	
☐ Sediment Deposits (B2) ☐ Hydro	ogen Sulfide Odor (C1)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Drift Deposits (B3) ☐ Oxidi	zed Rhizospheres along Living Roots (C3	3) Geomorphic Position (D2)	
	ence of Reduced Iron (C4)	☐ Shallow Aquitard (D3)	
	nt Iron Reduction in Tilled Soils (C6)	☐ FAC-Neutral Test (D5)	
	ed or Stresses Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)	
	(Explain in Remarks)	☐ Frost-Heave Hummocks (D7)	
_			
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other			
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other ☐ Sparsely Vegetated Concave Surface (B8)			
Inundation Visible on Aerial Imagery (B7) Other Sparsely Vegetated Concave Surface (B8)  Field Observations:	Depth (inches): Adjacent		
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other ☐ Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes ☐ No ☒ □	· · · · —		
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other ☐ Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes ☐ No ☐ ☐  Saturation Present? Yes ☐ No ☐ ☐  Saturation Present? Yes ☐ No ☐ ☐	Depth (inches): 14"	etland Hydrology Present? Yes ⊠ N.	o [
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other ☐ Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes ☐ No ☐ ☐  Water Table Present? Yes ☐ No ☐ ☐  Saturation Present? — — —	Depth (inches): 14"	etland Hydrology Present? Yes ⊠ No	lo [
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other ☐ Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes ☐ No ☐ ☐  Saturation Present? Yes ☐ No ☐ ☐  Saturation Present? Yes ☐ No ☐ ☐	Depth (inches): 14" Depth (inches): 10"  We	etland Hydrology Present? Yes ⊠ No	lo [
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other ☐ Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes ☐ No ☐ ☐  Saturation Present? Yes ☐ No ☐ ☐  Saturation Present? Yes ☐ No ☐ ☐  Saturation Present? Yes ☐ No ☐ ☐	Depth (inches): 14" Depth (inches): 10"  We	etland Hydrology Present? Yes ⊠ No	lo [

Project Site:	Manley Road						City/Cour		ittle Groui ounty	nd/Clark	Sam	pling Dat	te:	6/22	2/17	
Applicant/Owner:	Clark County									State: WA	Sam	pling Poi	nt:	20		
Investigator(s):	Jeff Gray, Ke	vin O'Brien, Stepha	nie Mod	<u>jeski</u>				;	Section, 7	Γownship, R	tange: 2	29, 04N, (	02E			
Landform (hillslope, te	errace, etc.):	<u>slope</u>				Loca	al relief (conc	ave, con	vex, none	e): <u>none</u>			Slop	e (%):	<u>5-10</u>	<u> </u>
Subregion (LRR):	<u>A</u>		Lat:	45.799	<u> 532</u>			Long	g: <u>-122.5</u>	78128		D	atum:	WGS	1984	
Soil Map Unit Name:	Gee silt loar	<u>n, 8-20% slopes (n</u>	on-hydric	<u>c)</u>						NWI c	lassifica	tion: <u>I</u>	<u>NA</u>			
Are climatic / hydrolog	ic conditions o	n the site typical fo	r this time	e of ye	ar?	Υ	es 🛛	No		(If no, explai	in in Rer	narks.)				
Are Vegetation ☐,	, Soil 🔲	or Hydrology	□, sig	gnificar	ntly dis	sturbed	l? Are "	Normal (	Circumsta	nces" prese	ent?		Yes	$\boxtimes$	No	
Are Vegetation ☐,	, Soil 🔲	or Hydrology	□, na	aturally	proble	ematic'	? (If ne	eded, ex	kplain any	answers in	Remark	s.)				
SUMMARY OF FIN	IDINGS - At	tach site map s	howing	samp	oling	point	locations,	transe	cts, imp	ortant fea	atures,	etc.				
Hydrophytic Vegetatio	n Present?		Yes	$\boxtimes$	No											
Hydric Soil Present?			Yes		No	$\boxtimes$	Is the Samp within a We		a				Yes		No	$\boxtimes$
Wetland Hydrology Pr	esent?		Yes		No	$\boxtimes$										
Remarks: Upland a	t flag OHW 12	for Wetland K. No	ot all wet	tland i	ndica	tors m	et. Sample	point is 1	not a wet	land.						
VEGETATION - Us	se scientific	names of plant	s													
Tree Stratum (Plot siz	e: 30x15' belt	)	Absolut % Cove		Domin Specie		Indicator Status	Domin	ance Tes	st Workshe	et:					
1			70 0000	<u> </u>	эрсокс	<del></del>	<u>Otatao</u>	Numbe	er of Dom	inant Specie	29					
2.				_						ACW, or FA			<u>2</u>			(A)
3				_				Total N	Number of	Dominant						
4				_						All Strata:			<u>2</u>			(B)
50% =, 20% =				=	= Tota	I Cove	r	Percer	nt of Domi	inant Specie	es		400			(A (D)
Sapling/Shrub Stratun	n (Plot size: <u>15</u>	x10' belt)								ACW, or FA			<u>100</u>			(A/B)
1. Rubus armeniacus	<u>s</u>		<u>90</u>	7	<u>es</u>		<u>FAC</u>	Preval	ence Ind	ex workshe	eet:					
2. Acer macrophyllur	<u>m</u>		<u>5</u>	<u>r</u>	10		<u>FACU</u>		<u>Tot</u>	al % Cover	of:		Multip	ly by:		
3				-				OBL s	pecies		_		x1 =			
4				-				FACW	species		_		x2 =		_	
5				-				FAC sp	pecies		_		x3 =		_	
50% = <u>47.5,</u> 20% = <u>19</u>	<u>9</u>		<u>95</u>	=	= Tota	I Cove	r	FACU	species		_		x4 =			
Herb Stratum (Plot siz	ze: <u>5' radius</u> )							UPL sp	oecies		_		x5 =		_	
1. Epilobium ciliatum	<u>)</u>		<u>6</u>	7	es_		FACW	Colum	n Totals:		(A)				(E	3)
2				_						Prevalen	nce Index	c = B/A =				
3				_				Hydro	phytic Ve	egetation In	ndicators	s:				
4				_					I – Rapid	Test for Hyd	drophytic	: Vegetati	ion			
5				_				□ 2	2 - Domina	ance Test is	>50%					
6				_					B - Prevale	ence Index i	s <3.0 <sup>1</sup>					
7				_				,		ological Ada	_	1 (Provide	SUDDO	rtina		
8.				_				🗆 "		Remarks or				iting		
9.									5 - Wetlan	d Non-Vasc	cular Plar	nts <sup>1</sup>				
10									Problemat	ic Hydrophy	rtic Veae	tation¹ (F	xolain)			
11				-					Tobloma	.io i iyal opiliy	, ao vogo	riation (E	лрішіт			
50% = 3, 20% = 1.2			6	-	= Tota	I Cove	 r			dric soil and			gy must			
Woody Vine Stratum (	(Plot size:	)	_					be pres	sent, unle	ss disturbed	d or prob	lematic.				
1	`	<u> </u>														
2.				-				Hydro	phytic							
50% =, 20% =				-	Tota	I Cove	 r	Vegeta			Yes			No		
% Bare Ground in Her								Presei	nt?							
		getation indicator p	rocant													
Remarks:	ryuropriyiic ve	getation mulcator p	reseril.													

Depth	Matr	iv				Redox Featu	ires							
•	-		0/	0-1-	. /		4	12		_		Damada	_	
nches)	Color (moist)		<u>%</u>	Color	(mo	ist) %	Type'	Loc <sup>2</sup>	Texture			Remarks	5	
<u>0-18</u>	10YR 3/3		<u>85</u>	_					loam	<u> </u>				
	<u>10YR 3/2</u>		<u>15</u>	_						_				
		_		_	_									
		_		_				-						
		_		_	_									
		_		_	_									
		_		_										
	. <del></del> .			—		<del></del>		—	2	<del>-</del> <del></del>				
		-				ix, CS=Covered or Coa	ated Sand	d Grains.		=Pore Lining, M			3.	
		icable i	O all L	_	_	otherwise noted.)			_	cators for Prob		nyuric S	oons :	
Histoso					_	Sandy Redox (S5)				2 cm Muck (		TEQ)		
	Epipedon (A2)				]	Stripped Matrix (S6)	(54) (		. –	Red Parent		•	E40\	
	Histic (A3)				_	Loamy Mucky Minera		(Cept MLRA 1		Very Shallov		-	F12)	
	gen Sulfide (A4)				_	Loamy Gleyed Matrix	(F2)			Other (Expla	ain in Rem	narks)		
-	ed Below Dark Su		111)		_	Depleted Matrix (F3)	( <b>5</b> 0)							
	Dark Surface (A12	-			_	Redox Dark Surface			31					
· ·	Mucky Mineral (S				]	Depleted Dark Surface				icators of hydro vetland hydrolog				
	Gleyed Matrix (S	-			_	Redox Depressions (	F8)			unless disturbed				
	.ayer (if present)	):												
oe:														
											Yes		No	₽
	s): No hydric soil in	dicators	preser	it.				Hydric Soil	s Present?					
epth (inchesemarks:	No hydric soil ind	dicators	preser	nt.				Hydric Soil	s Present /					
YDROLO	No hydric soil ind		preser	nt.				Hydric Soil	s Present /					
YDROLO etland Hyc	No hydric soil ind	rs:			I that	apply)		Hydric Soil		ndary Indicators		re require	ed)	
YDROLO etland Hyc imary Indic	No hydric soil ind	rs:		check al	I that	apply) Water-Stained Leave	s (B9)	Hydric Soil	Seco	ndary Indicators Water-Stained	; (2 or mo		ed)	
PROLO etland Hyc mary Indic Surfac	No hydric soil ind  GY  drology Indicator eators (minimum c	rs:		check al				-	Seco	-	s (2 or mo Leaves (E	39)	ed)	
YDROLO etland Hyd imary Indic Surfac High W	GY drology Indicators (minimum conservators (A1)	rs:		check al		Water-Stained Leave		-	Seco	Water-Stained	: (2 or mo Leaves (E	39) <b>)</b>	ed)	
YDROLO etland Hyc imary Indic Surfac High W Satura	GY drology Indicators (minimum conservators (A1) Vater Table (A2)	rs:		check al		Water-Stained Leave (except MLRA 1, 2, 4	4A, and 4	-	Seco	Water-Stained (MLRA 1, 2, 4A	: (2 or mo Leaves (E <b>A, and 4B</b> ms (B10)	39) <b>)</b>	ed)	
YDROLO etland Hyd imary Indic Surfac High W Satura Water	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1)	rs: of one re		check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates	<b>4A, and 4</b> (B13)	-	Secol	Water-Stained   (MLRA 1, 2, 4A) Drainage Patter Dry-Season Wa	s (2 or mo Leaves (E <b>A, and 4B</b> rns (B10) ater Table	39) )	·	
YDROLO etland Hyd mary Indic Surfac High W Satura Water Sedim	GY drology Indicator actors (minimum c we Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)	rs: of one re		check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd	<b>4A, and 4</b> (B13) or (C1)	4B)	Secon □	Water-Stained   (MLRA 1, 2, 4A Drainage Patter Dry-Season Water Staturation Visib	(2 or mo Leaves (E A, and 4B rns (B10) ater Table ole on Aer	(C2)	·	
YDROLO etland Hyo imary Indic Surfac High W Satura Water Sedim	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3)	rs: of one re		check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphere	4A, and 4 (B13) or (C1) es along I	4B)	Secoi	Water-Stained   (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po	e (2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer osition (D2	(C2)	·	
YDROLO etland Hyc imary Indic Surfac High W Satura Water Sedim Drift D Algal M	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)	rs: of one re		check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphero Presence of Reduced	4A, and 4 (B13) or (C1) es along I	4B) Living Roots (	Secon	Water-Stained I (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitar	s (2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer position (D2 rd (D3)	(C2)	·	
YDROLO etland Hyc imary Indic   Surfac   High W   Satura   Water   Sedim   Drift Do	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) stion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	rs: of one re		check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odi Oxidized Rhizosphero Presence of Reduced Recent Iron Reductio	(B13) or (C1) es along I d Iron (C4 on in Tilled	Living Roots (	Secol	Water-Stained I (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	Leaves (EA, and 4B rns (B10) ater Table on Aerosition (D2 rd (D3) est (D5)	39)  (C2)  rial Image	ery (C9)	
YDROLO etland Hyd imary Indic   Surfac   High W   Satura   Water   Sedim   Drift Do   Algal N   Iron Do   Surfac	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) de Soil Cracks (B6)	rs: of one re	equired;	check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Ode Oxidized Rhizosphere Presence of Reduced Recent Iron Reductio Stunted or Stresses F	(B13) or (C1) es along ld Iron (C4) in Tilled Plants (D1	Living Roots (	Secoi	Water-Stained   (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mot	(2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer bosition (D2 rd (D3) est (D5) unds (D6)	(C2) rial Image 2)	ery (C9)	
YDROLO etland Hyc imary Indic   Surfac   High W   Satura   Water   Sedim   Drift D   Algal M   Iron De   Surfac	GY drology Indicator eators (minimum of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6 ation Visible on A6	rs: of one re	equired	check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odi Oxidized Rhizosphero Presence of Reduced Recent Iron Reductio	(B13) or (C1) es along ld Iron (C4) in Tilled Plants (D1	Living Roots (	Secol	Water-Stained I (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te	(2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer bosition (D2 rd (D3) est (D5) unds (D6)	(C2) rial Image 2)	ery (C9)	
YDROLO etland Hyo imary Indic  Surfac High W Satura Water Sedime Drift De Inon De Surfac	GY  drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6 ation Visible on Active (B6) ely Vegetated Core	rs: of one re	equired	check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Ode Oxidized Rhizosphere Presence of Reduced Recent Iron Reductio Stunted or Stresses F	(B13) or (C1) es along ld Iron (C4) in Tilled Plants (D1	Living Roots (	Secoi	Water-Stained   (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mot	(2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer bosition (D2 rd (D3) est (D5) unds (D6)	(C2) rial Image 2)	ery (C9)	
YDROLO etland Hyc imary Indic   Surfac   High W   Satura   Water   Sedim   Drift D   Algal N   Iron De   Surfac	GY  drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6 ation Visible on Act	rs: of one re	equired; agery (E urface	check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odi Oxidized Rhizosphero Presence of Reduced Recent Iron Reductio Stunted or Stresses F Other (Explain in Ren	(B13) or (C1) es along ld Iron (C4) in Tilled Plants (D1	Living Roots (	Secoi	Water-Stained   (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mot	(2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer bosition (D2 rd (D3) est (D5) unds (D6)	(C2) rial Image 2)	ery (C9)	
YDROLO etland Hyc imary Indic Surfac High W Satura Water Sedim Drift D Iron De Surfac Inunda Sparse eld Observ	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Active Vegetated Convations: er Present?	rs: of one re of	equired;	check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odi Oxidized Rhizosphere Presence of Reduced Recent Iron Reductio Stunted or Stresses F Other (Explain in Ren Depth (inches):	(B13) or (C1) es along ld Iron (C4) in Tilled Plants (D1	Living Roots (	Secoi	Water-Stained   (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mot	(2 or mo Leaves (E A, and 4B rns (B10) ater Table ble on Aer bosition (D2 rd (D3) est (D5) unds (D6)	(C2) rial Image 2)	ery (C9)	
YDROLO etland Hyc imary Indic   Surfac   High W   Satura   Water   Sedim   Drift De   Algal M   Iron De   Surfac   Inunda   Sparse eld Observ urface Water	GY drology Indicator ators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Acely Vegetated Convations: er Present?	rs: of one re	equired; agery (E urface	check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odi Oxidized Rhizosphero Presence of Reduced Recent Iron Reductio Stunted or Stresses F Other (Explain in Ren	(B13) or (C1) es along ld Iron (C4) in Tilled Plants (D1	Living Roots (L) d Soils (C6) 1) (LRR A)	Secoi	Water-Stained I (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mot Frost-Heave Hu	e (2 or mo Leaves (E A, and 4B rns (B10) atter Table ble on Aer bosition (D2 rd (D3) est (D5) unds (D6) unmocks	(C2) rial Image 2)	ery (C9)	
YDROLO etland Hyc imary Indic ] Surfac ] High W ] Satura ] Water ] Sedim. ] Drift D. ] Iron Do ] Surfac ] Inunda ] Sparse eld Observ arface Water ater Table le	GY drology Indicator ators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Acely Vegetated Convations: er Present?	rs: of one re of	equired;	check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odi Oxidized Rhizosphere Presence of Reduced Recent Iron Reductio Stunted or Stresses F Other (Explain in Ren Depth (inches):	(B13) or (C1) es along ld Iron (C4) in Tilled Plants (D1	Living Roots (L) d Soils (C6) 1) (LRR A)	Secoi	Water-Stained   (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mot	e (2 or mo Leaves (E A, and 4B rns (B10) atter Table ble on Aer bosition (D2 rd (D3) est (D5) unds (D6) unmocks	(C2) rial Image 2)	ery (C9)	No
YDROLO  Vetland Hyc  Imary Indic  Surfac  High W  Satura  Water  Sedim  Inon De  Inon De  Inunda  Sparse  eld Observ  urface Water  faturation Pr  coludes cap	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Active Vegetated Convertions: er Present? Present? resent?	rs: of one re of) erial Imancave S Yes Yes Yes	equired;	check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odi Oxidized Rhizosphere Presence of Reduced Recent Iron Reductio Stunted or Stresses F Other (Explain in Ren  Depth (inches): Depth (inches):	4A, and 4 (B13) or (C1) es along I d Iron (C4 on in Tillec Plants (D1 marks)	Living Roots (	Secon C3) C3) C3	Water-Stained I (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mot Frost-Heave Hu	e (2 or mo Leaves (E A, and 4B rns (B10) atter Table ble on Aer bosition (D2 rd (D3) est (D5) unds (D6) unmocks	39)  (C2)  rial Image 2)  (LRR A)	ery (C9)	No
YDROLO etland Hyc imary Indic Surfac High W Satura Water Sedim Drift D Algal M Iron De Surfac Inunda Sparse eld Observ arface Water ater Table I	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Active Vegetated Convertions: er Present? Present? resent?	rs: of one re of) erial Imancave S Yes Yes Yes	equired;	check al		Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reductio Stunted or Stresses F Other (Explain in Ren  Depth (inches): Depth (inches):	4A, and 4 (B13) or (C1) es along I d Iron (C4 on in Tillec Plants (D1 marks)	Living Roots (	Secon C3) C3) C3	Water-Stained I (MLRA 1, 2, 4A Drainage Patter Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mot Frost-Heave Hu	e (2 or mo Leaves (E A, and 4B rns (B10) atter Table ble on Aer bosition (D2 rd (D3) est (D5) unds (D6) unmocks	39)  (C2)  rial Image 2)  (LRR A)	ery (C9)	No

Project Site:	Manley Road			City/Cou	unty: Battle Ground/Clark County	Sampling Date:	6/22	2/17	
Applicant/Owner:	Clark County				State: WA	Sampling Point:	<u>21</u>		
Investigator(s):	Jeff Gray, Kevin O'Brien, Stepha	anie Modjesk	<u>i</u>		Section, Township, R	ange: 29, 04N, 02	<u> </u>		
Landform (hillslope, te	errace, etc.): <u>floodplain</u>		Lo	ocal relief (con	cave, convex, none): none		Slope (%):	<u>2-5</u>	
Subregion (LRR):	<u>A</u>	Lat: 45.7	799517		Long: -122.578487	Datı	ım: WGS	1984	
Soil Map Unit Name:	Gee silt loam, 8-20% slopes (r	non-hydric)			NWIc	lassification: PE	M		
Are climatic / hydrolog	ic conditions on the site typical fo	r this time of	year?	Yes	☑ No ☐ (If no, explai	in in Remarks.)			
Are Vegetation	, Soil □, or Hydrology	☐, signific	cantly disturb	ed? Are	"Normal Circumstances" prese	nt? `	res ⊠	No	
Are Vegetation	, Soil □, or Hydrology	☐, natura	lly problema	tic? (If r	needed, explain any answers in	Remarks.)			
SUMMARY OF FIN	IDINGS – Attach site map s	howing sa	mpling po	nt locations	s, transects, important fea	tures, etc.			
Hydrophytic Vegetatio	n Present?	Yes 🗵	No □						
Hydric Soil Present?		Yes 🗵	No □	Is the San within a W	ipled Area	•	∕es ⊠	No	
Wetland Hydrology Pr	resent?	Yes 🗵	No □		retiana :				
Remarks: Wetland	data point taken between flags	OHW 5 and	OHW6 near	flag L2 along	stream channel. All three we	tland indicators m	et.		
	and point tailor both our inage			==	,				
VEGETATION - U	se scientific names of plant	s							
Tree Stratum (Plot siz		Absolute	Dominant	Indicator	Dominance Test Workshe	et:			
1. <u>-</u>	,	% Cover	Species?	<u>Status</u>					
2					Number of Dominant Specie That Are OBL, FACW, or FA				(A)
3									
4.					Total Number of Dominant Species Across All Strata:	<u>2</u>	•		(B)
50% =, 20% =			= Total Co		1	_			
·	 n (Plot size: <u>15x10' belt)</u>		10101 00	<b>VO</b> 1	Percent of Dominant Specie That Are OBL, FACW, or FA				(A/B)
1. <u>-</u>	<u></u> (o. o.2o. <u>.oo.</u> )				Prevalence Index workshe	et.			
2					Total % Cover		fultiply by:		
3					OBL species		1 =		
4.					FACW species	<del></del>	2 =		
5.					FAC species	<del>_</del>	- <u></u> 3 =		
50% =, 20% =			= Total Co		FACU species		4 =		
Herb Stratum (Plot siz			- Total Oc	VCI	UPL species	<del></del>	5 =		
,	,	25	1/00	OPI					۵۱
Callitriche stagnal     Sairnus misrassum	_	<u>35</u>	<u>yes</u>	OBL OBL	Column Totals:	(A)		(E	3)
2. Scirpus microcarp	<u>ous</u>	<u>18</u>	<u>yes</u>	OBL FACIAL		ce Index = B/A =			
3. Glyceria elata		<u>12</u>	<u>no</u>	<u>FACW</u>	Hydrophytic Vegetation In				
4. <u>Caltha palustris</u>	000	<u>8</u>	no no	OBL EACW	1 – Rapid Test for Hyd				
5. <u>Phalaris arundina</u>	<u>cea</u>	<u>7</u>	<u>no</u>	<u>FACW</u>	2 - Dominance Test is				
6					3 - Prevalence Index is				
7		-			4 - Morphological Ada	ptations¹ (Provide si on a separate shee			
8							,		
9					5 - Wetland Non-Vasc				
10			—		☐ Problematic Hydrophy	tic Vegetation¹ (Exp	lain)		
11					<sup>1</sup> Indicators of hydric soil and	wetland hydrology	must		
50% = <u>40</u> , 20% = <u>16</u>	(5) ( ) (5 (6))	<u>80</u>	= Total Co	ver	be present, unless disturbed				
Woody Vine Stratum	(Plot size: 15x10' belt)								
1. <u>-</u>					Hydrophytic				
2		-			Vegetation	Yes 🛛	No		
50% =, 20% =			= Total Co	ver	Present?	_			_
% Bare Ground in He	rb Stratum 20								
Remarks:	Bare ground is mud. Hydrophytic	vegetation in	dicator prese	ent.					

Depth	Matri	x				Redox Fea	tures								
nches)	Color (moist)		%	Colo	r (moi		Type <sup>1</sup>	Loc <sup>2</sup>	 Texture	e.	F	Remarks			
0-8	10YR 4/2		9 <u>5</u>		/R 4-6	<u> </u>	<u>C</u>		silt loa			1011101110	<u> </u>		
						<u> </u>					_				
		_													
		_		_											
		_		_											
		_		_											
		_		_											
		_		_											
pe: C= Co	oncentration, D=D	epletion	ı, RM=l	Reduced	Matri	x, CS=Covered or Co	oated San	d Grains.	<sup>2</sup> Location: PL	=Pore Lining, M=	Matrix				
		icable t	o all L	_	_	otherwise noted.)			_	icators for Probl		lydric S	oils³:		
Histoso	ol (A1)					Sandy Redox (S5)				2 cm Muck (A	.10)				
	Epipedon (A2)					Stripped Matrix (S6)				Red Parent M					
	Histic (A3)					Loamy Mucky Miner		xcept MLRA	•	Very Shallow		-	12)		
, ,	gen Sulfide (A4)					Loamy Gleyed Matr				Other (Explain	n in Rema	arks)			
•	ed Below Dark Su	•	111)			Depleted Matrix (F3									
	Dark Surface (A12	•				Redox Dark Surface	` '		31						
-	Mucky Mineral (S					Depleted Dark Surfa				licators of hydropl wetland hydrology					
	Gleyed Matrix (S4			l		Redox Depressions	(F8)	T	U	unless disturbed o	or problen	natic.			
	_ayer (if present)	:													
oe:											Yes	$\boxtimes$	No		
	-	at 8" bel	ow gro	und surfa	ace. F	lydric soils present; m	neets indic	Hydric Soil cator F3-Deple							_
epth (inche	-	at 8" bel	low gro	und surfa	ace. F	łydric soils present; n	neets indic								
emarks:	Water and mud a		ow gro	und surfa	ace. F	łydric soils present; n	neets indic								
YDROLO	Water and mud a	rs:					neets indic		ted Matrix.						_
YDROLO etland Hydinary Indic	Water and mud a  GY  drology Indicator eators (minimum o	rs:				apply)			ted Matrix.	ndary Indicators (	2 or more	e require	ed)		_
YDROLO etland Hyd imary Indic	GY drology Indicators (minimum of the Water (A1)	rs:		check a		apply) Water-Stained Leav	res (B9)	cator F3-Deple	ted Matrix.	Water-Stained Le	eaves (B9		ed)		
/DROLO etland Hyd mary Indic Surfac High V	GY drology Indicator cators (minimum of the Water (A1) Vater Table (A2)	rs:		check a	ll that	apply) Water-Stained Leav (except MLRA 1, 2,	res (B9)	cator F3-Deple	seco	Water-Stained Lo	eaves (B9		ed)		
/DROLO etland Hyo mary Indic Surfac High V	GY drology Indicator eators (minimum of the Water (A1) Vater Table (A2) ation (A3)	rs:		check a	III that	apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)	res (B9) , <b>4A</b> , and	cator F3-Deple	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern	eaves (B9 and 4B) as (B10)	9)	ed)		
"DROLO etland Hyo mary Indic Surfac High V Satura Water	GY drology Indicator cators (minimum of the Water (A1) Vater Table (A2) stion (A3) Marks (B1)	rs: f one re		check a	II that	apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate	res (B9) , <b>4A, and</b> es (B13)	cator F3-Deple	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat	eaves (B9 and 4B) as (B10) er Table (	(C2)			
"DROLO titland Hyo mary Indic Surfac High V Satura Water Sedim	GY  drology Indicator cators (minimum of the Water (A1)  Vater Table (A2) ation (A3)  Marks (B1) ent Deposits (B2)	rs: f one re		check a	III that	apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O	res (B9) , <b>4A</b> , and es (B13) dor (C1)	cator F3-Deple	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visible	eaves (B9 and 4B) as (B10) er Table (e on Aeria	(C2)			
Marks:  Marks:  Marks:  Marks:  Marks:  Mary Indic  Surfac  High V  Satura  Water  Sedim  Drift D	GY drology Indicators cators (minimum of the Water (A1) Vater Table (A2) ation (A3) Marks (B1) ent Deposits (B2) eposits (B3)	rs: f one re		check a	III that	apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe	res (B9) , <b>4A</b> , and es (B13) dor (C1) eres along	4B) Living Roots (	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visible Geomorphic Pos	eaves (BS and 4B) as (B10) er Table (e on Aeria ition (D2)	(C2)			
Marks:  Marks:  Marks:  Marks:  Marks:  Mary Indication  Surfact  High V  Satura  Water  Sedim  Drift D  Algal N	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) stion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)	rs: f one re		check a	Ill that	apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce	res (B9) , 4A, and es (B13) dor (C1) eres along ed Iron (C4	4B) Living Roots (4)	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand	eaves (BS and 4B) as (B10) er Table ( e on Aeria ition (D2)	(C2)			_
Marks:  Marks:  Marks:  Marks:  Mary Indio  Surfact  High V  Satura  Water  Sedim  Drift D  Algal N	GY drology Indicator cators (minimum of the Water (A1) Vater Table (A2) stion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	rs: f one re		check a	III that	apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti	res (B9)  , 4A, and es (B13) dor (C1) eres along ed Iron (C4) ion in Tille	4B) Living Roots (4) ad Soils (C6)	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes	eaves (BS and 4B) as (B10) er Table ( e on Aeria ition (D2) I (D3)	(C2) al Image	ery (C9)		
/DROLO bitland Hyo mary Indic Surface High V Satura Water Sedim Drift D Algal N Iron D Surface	GY drology Indicator cators (minimum of the Water (A1) Vater Table (A2) thion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6)	rs: f one re	quired;	check a	Ill that	apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses	res (B9)  4A, and es (B13) dor (C1) eres along ed Iron (C4) ion in Tille Plants (D	4B) Living Roots (4) ad Soils (C6)	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes Raised Ant Mour	eaves (BS and 4B) as (B10) er Table (e on Aeria ition (D2) (D3) et (D5) ands (D6) (	(C2) (Image	ery (C9)		
POROLO Petland Hyd mary Indic Surface High V Satura Water Sedim Drift D Algal N Iron D Surface Inunda	GY  drology Indicator cators (minimum of the Water (A1)  Vater Table (A2) ation (A3)  Marks (B1) tent Deposits (B2) teposits (B3)  Mat or Crust (B4) teposits (B5) te Soil Cracks (B6 ation Visible on A6	rs: f one re	equired;	check a	III that	apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti	res (B9)  4A, and es (B13) dor (C1) eres along ed Iron (C4) ion in Tille Plants (D	4B) Living Roots (4) ad Soils (C6)	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes	eaves (BS and 4B) as (B10) er Table (e on Aeria ition (D2) (D3) et (D5) ands (D6) (	(C2) (Image	ery (C9)		
YDROLO etland Hyd imary Indio Surfac High V Satura Water Sedim Drift D Algal N Iron D Surfac	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) Ation (A3) Marks (B1) Lent Deposits (B2) Leposits (B3) Mat or Crust (B4) Leposits (B5) Leposits (B5) Leposits (B5) Leposits (B6) Lep	rs: f one re	equired;	check a	Ill that	apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses	res (B9)  4A, and es (B13) dor (C1) eres along ed Iron (C4) ion in Tille Plants (D	4B) Living Roots (4) ad Soils (C6)	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes Raised Ant Mour	eaves (BS and 4B) as (B10) er Table (e on Aeria ition (D2) (D3) et (D5) ands (D6) (	(C2) (Image	ery (C9)		
YDROLO etland Hyd imary Indic   Surfac   High V   Satura   Water   Sedim   Drift D   Algal N   Iron D   Surfac   Inunda   Sparse	GY  drology Indicators ators (minimum of the Water (A1) Vater Table (A2) Ation (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Action Visible on Action Visible on Actions:	rs: If one re	equired; agery (E urface	check a	Ill that	apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re	res (B9) 4A, and dor (C1) eres along ed Iron (C4) ion in Tille Plants (D emarks)	4B) Living Roots (4) ed Soils (C6) oil (LRR A)	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes Raised Ant Mour	eaves (BS and 4B) as (B10) er Table (e on Aeria ition (D2) (D3) et (D5) ands (D6) (	(C2) (Image	ery (C9)		
YDROLO etland Hyd imary Indio   Surface   High V   Satura   Water   Sedim   Drift D   Iron D   Surface   Inunda   Sparse	GY drology Indicator cators (minimum of the Water (A1) Vater Table (A2) stion (A3) Marks (B1) tent Deposits (B2) teposits (B3) Mat or Crust (B4) teposits (B5) te Soil Cracks (B6 tation Visible on Activity Vegetated Convertions: ter Present?	rs:  If one re  If one	equired;	check a 37) (B8)	III that	apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re	res (B9)  4A, and dor (C1) eres along ed Iron (C4 ion in Tille Plants (D emarks)	4B) Living Roots (4) ed Soils (C6) oil (LRR A)	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes Raised Ant Mour	eaves (BS and 4B) as (B10) er Table (e on Aeria ition (D2) (D3) et (D5) ands (D6) (	(C2) (Image	ery (C9)		
YDROLO etland Hyd imary Indic   Surface   High V   Satura   Water   Sedim   Drift D   Algal N   Iron D   Surface   Inunda   Sparse	GY  drology Indicator cators (minimum of the Water (A1)  Vater Table (A2) thion (A3)  Marks (B1) tent Deposits (B3) Mat or Crust (B4) teposits (B5) the Soil Cracks (B6 tation Visible on Act the Soil Cracks (B6 the Soil Cracks	rs: If one re	equired; agery (E urface	check a	Ill that	apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re	res (B9)  4A, and es (B13) dor (C1) eres along ed Iron (C4) ion in Tille Plants (Demarks)  Adjace	4B) Living Roots (4) ed Soils (C6) oil (LRR A)	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes Raised Ant Mour	eaves (BS and 4B) as (B10) er Table (e on Aeria ition (D2) (D3) et (D5) ands (D6) (	(C2) (Image	ery (C9)		
YDROLO etland Hyd imary Indio ] Surfac ] High V ] Satura ] Water ] Sedim ] Drift D ] Algal N ] Iron D ] Surfac ] Inunda ] Sparse eld Observ arface Water ater Table	GY  drology Indicator cators (minimum of the Water (A1)  Vater Table (A2) thion (A3)  Marks (B1) tent Deposits (B3) Mat or Crust (B4) teposits (B5) the Soil Cracks (B6 tation Visible on Act the Soil Cracks (B6 the Soil Cracks	rs:  If one re  If one	equired;	check a 37) (B8)	III that	apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re	res (B9)  4A, and es (B13) dor (C1) eres along ed Iron (C- ion in Tille Plants (D emarks)  Adjace 8"	4B) Living Roots (4) ad Soils (C6) b) (LRR A)	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitand FAC-Neutral Tes Raised Ant Mour	eaves (BS and 4B) is (B10) er Table (e on Aeria ition (D2) I (D3) st (D5) inds (D6) (inmocks (	(C2) (Image	ery (C9)	No	
YDROLO etland Hydrimary Indice   Surface   High V   Satura   Water   Sedim   Drift D   Algal N   Iron Do   Surface   Inundae   Sparse   eld Observation Procludes cap	GY drology Indicator cators (minimum of the Water (A1) Vater Table (A2) ation (A3) Marks (B1) tent Deposits (B2) teposits (B3) Mat or Crust (B4) teposits (B5) the Soil Cracks (B6) te in Visible on Action Visibl	f one ref	equired;	check a  37) (B8)  No No No	III that	apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re	res (B9)  , <b>4A</b> , and es (B13) dor (C1) eres along ed Iron (C4 ion in Tille Plants (D emarks)  Adjace 8" 0"	4B) Living Roots (4) ed Soils (C6) 01) (LRR A)	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (BS and 4B) is (B10) er Table (e on Aeria ition (D2) I (D3) st (D5) inds (D6) (inmocks (	(C2) al Image (LRR A)	ery (C9)		
POROLO  Surface High V Satura Water Sedim Drift D Algal N Iron Do Surface Inunda Sparse Seld Observ rface Water Table turation Procludes cap	GY drology Indicator cators (minimum of the Water (A1) Vater Table (A2) ation (A3) Marks (B1) tent Deposits (B2) teposits (B3) Mat or Crust (B4) teposits (B5) the Soil Cracks (B6) te in Visible on Action Visibl	f one ref	equired;	check a  37) (B8)  No No No	III that	apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re  Depth (inches): Depth (inches):	res (B9)  , <b>4A</b> , and es (B13) dor (C1) eres along ed Iron (C4 ion in Tille Plants (D emarks)  Adjace 8" 0"	4B) Living Roots (4) ed Soils (C6) 01) (LRR A)	Seco	Water-Stained Lo (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (BS and 4B) as (B10) er Table (e on Aeria ition (D2) (D3) et (D5) ands (D6) (nmocks (	(C2) al Image (LRR A)	ery (C9)		

Project Site:	Manley Road						City/Cour		Count	: Ground tv	d/Clark	Samplin	g Date:	6/22	/17	
Applicant/Owner:	Clark County							· •		St	tate: WA	Samplin	g Point:	22		
Investigator(s):	Jeff Gray, Ke	vin O'Brien, Stepha	nie Modj	<u>jeski</u>					Sec	ction, To	ownship, Ra	nge: <u>29, (</u>	04N, 02E			
Landform (hillslope, te	rrace, etc.):	hillslope				Loca	al relief (cond	ave, c	onvex	k, none)	: <u>none</u>		Slope	e (%):	<u>2-5</u>	
Subregion (LRR):	<u>A</u>		Lat:	45.799	9457			Lo	ong:	-122.57	8460		Datum:	WGS 1	984	
Soil Map Unit Name:	Gee silt loar	n, 8-20% slopes (n	on-hydric	<u>c)</u>							NWI cla	assification:	NA NA			
Are climatic / hydrolog	ic conditions o	n the site typical fo	r this time	e of ye	ar?	Y	′es ⊠	N	lo	☐ (I	f no, explain	in Remark	(s.)			
Are Vegetation ☐,	Soil □,	or Hydrology	□, sig	nificar	ntly dis	sturbe	d? Are '	'Norma	al Circ	cumstan	ices" presen	t?	Yes	$\boxtimes$	No	
Are Vegetation □,	Soil 🔲,	or Hydrology	□, nat	turally	proble	ematic	? (If ne	eded,	expla	ain any a	answers in F	Remarks.)				
SUMMARY OF FIN	IDINGS - Att	tach site map sl	nowing	samp	pling	poin	tlocations	, tran	sects	s, impo	ortant feat	ures, etc				
Hydrophytic Vegetatio	n Present?		Yes		No	$\boxtimes$										
Hydric Soil Present?			Yes		No	$\boxtimes$	Is the Samp						Yes		No	$\boxtimes$
Wetland Hydrology Pr	esent?		Yes		No	$\boxtimes$										
Remarks: Upland d	ata point betw	veen OHW 5 and 0	DHW 6 at	t wetla	and fla	ag L2	on ravine slo	pe. N	ot all	three w	vetland indi	cators are	present.			
VEGETATION - Us	se scientific	names of plant	s													
Tree Stratum (Plot siz	e: 30x15' belt)		Absolut % Cove		Domin Specie		Indicator Status	Don	ninan	ce Test	Workshee	t:				
Pseudotsuga men	ziesii		30		<u>yes</u>	<u> </u>	FACU	Nur	abor o	of Domin	nant Species					
2. Acer macrophyllur			15		<u>ves</u>		FACU				ACW, or FA		<u>1</u>			(A)
3. Frangula purshian	<del></del> '		10		<u>no</u>		FAC	Tota	al Num	nher of I	Dominant					
4.	_										All Strata:		<u>6</u>			(B)
50% = <u>27.5,</u> 20% = <u>11</u>	<u>L</u>		<u>55</u>	=	= Tota	l Cove	r	Pero	cent o	f Domin	ant Species	<b>;</b>				
Sapling/Shrub Stratun	n (Plot size: 15	x10' belt)									ACW, or FA		<u>17</u>			(A/B)
1. <u>Symphoricarpos a</u>	lbus		<u>25</u>	7	<u>ves</u>		<u>FACU</u>	Prev	valen	ce Inde	x workshee	et:				
2. Acer circinatum			<u>6</u>	<u>r</u>	<u>no</u>		FAC			Tota	I % Cover o	<u>f:</u>	Multip	ly by:		
3. <u>Sambucus racem</u>	<u>osa</u>		<u>3</u>	<u>r</u>	<u>10</u>		<u>FACU</u>	OBL	spec	ies		_	x1 =			
4				_				FAC	CW sp	ecies		_	x2 =			
5				-				FAC	Spec	cies	<u>37</u>		x3 =	<u>111</u>		
50% = <u>17</u> , 20% = <u>6.8</u>			<u>34</u>	=	= Tota	I Cove	er	FAC	CU spe	ecies	<u>114</u>		x4 =	<u>456</u>		
Herb Stratum (Plot siz	e: <u>5' radius</u> )							UPL	spec	ies			x5 =			
1. Polystichum munit	<u>tum</u>		<u>35</u>	۷	<u>yes</u>		FACU	Colu	ımn T	otals:	<u>151</u> (	A)		567	(B)	
2. Streptopus ample	xifolius		<u>18</u>	Δ	<u>yes</u>		FAC				Prevaler	nce Index =	B/A = <u>3.7</u>			
Dicentra formosa			6		no		FACU	Hyd	lrophy	ytic Veg	getation Ind	licators:				
4. <u>Urtica dioica</u>			<u>4</u>	_	no		FAC				est for Hydr		getation			
5				_					2 - [	Domina	nce Test is >	>50%				
6				_					3 - F	Prevaler	nce Index is	<3 0 <sup>1</sup>				
7													rovide suppo	rtina		
8.				-							Remarks or			ung		
9.				_					5 - V	Netland	Non-Vascu	lar Plants <sup>1</sup>				
10									Prol	blematic	: Hvdrophyti	c Vegetatio	on <sup>1</sup> (Explain)			
11				-							, , a. op , a.	o rogotatio	) ( <u>_</u> ,p.a)			
50% = <u>31.5</u> , 20% = <u>12</u>	2.6		63	-	= Tota	al Cove	er						drology must			
Woody Vine Stratum (		0' belt)						be p	oresen	it, unies	s disturbed	or problem	atic.			
1. Rubus ursinus	·	,	20	\	<u>yes</u>		FACU									
2.			_	_				Hyd	lrophy	ytic						
50% =, 20% =			20	-	= Tota	al Cove	 er	_	etatio			Yes		No		$\boxtimes$
% Bare Ground in Her			_					Pres	sent?							
		getation indicator n	ot met													
Remarks:	i, ai opiiyilo ve	gotation indicator ii	ot mot.													

				o doc	ument the indicator or	commin are ab.		ators.)			
Depth	Matrix				Redox Features						
nches) Color	(moist)	%	Color	(moist	<u> </u>	rpe <sup>1</sup> Loc	Textur	re	Rema	rks	
<u>0-18</u> <u>10Y</u>	R 3/3	<u>100</u>	_				<u>loar</u>	<u> </u>			
<del></del>			_	_		<u> </u>	- —				
<u> </u>											
<del></del>			_		<del></del>						
<del></del>			_	_							
			_	_			- —				
			_	_			- —				
				<del></del> .				<del>_</del>			
•					CS=Covered or Coated	Sand Grains.		L=Pore Lining, M=M		0-:1-3.	
dric Soil Indicators	: (Applicable	to all L	_	_	•		_	dicators for Probler	-	Solls :	
Histosol (A1)	(42)				Sandy Redox (S5)			2 cm Muck (A10			
Histic Epipedon Black Histic (A3)					Stripped Matrix (S6) ₋oamy Mucky Mineral (F´	1) (except MI P		Red Parent Mat		TE12)	
Hydrogen Sulfide					_oamy Gleyed Matrix (F2		'',	Very Shallow Do Other (Explain i		(1112)	
Depleted Below		(Δ11)			Depleted Matrix (F3)	-)		Other (Explain)	iii Neiliaiks)		
Thick Dark Surfa		(711)		_	Redox Dark Surface (F6)						
Sandy Mucky Mi					Depleted Dark Surface (F		<sup>3</sup> In	dicators of hydrophy	tic vegetatio	n and	
Sandy Mucky Mi Sandy Gleyed M					Redox Depressions (F8)	.,		wetland hydrology n	must be prese		
strictive Layer (if p					todox Boprosolono (1 0)			unless disturbed or	problematic.		
pe:											
<u></u>						Hydric S	oils Present?	,	Yes 🗆	No	Σ
· · · · · · · · · · · · · · · · · · ·	c soil indicator	present				Hyunc S					
emarks: No hydri	c soil indicator	present				nyune 3					
emarks: No hydri		present				nyune 3					
emarks: No hydri  YDROLOGY  Vetland Hydrology Ir	ndicators:			that ap	pply)	nyune 3		ondary Indicators (2	or more requ	uired)	
YDROLOGY etland Hydrology Ir imary Indicators (mir	ndicators: nimum of one r				pply) Water-Stained Leaves (B			ondary Indicators (2 Water-Stained Lea	·	uired)	
YDROLOGY etland Hydrology Ir imary Indicators (mir	ndicators: nimum of one r		; check all	v		99)	Seco		ives (B9)	uired)	
YDROLOGY etland Hydrology Ir imary Indicators (mir Surface Water ( High Water Tab	ndicators: nimum of one r		; check all	V	Water-Stained Leaves (B	99)	Seco	Water-Stained Lea	aves (B9) nd 4B)	uired)	
YDROLOGY etland Hydrology Ir imary Indicators (mir Surface Water ( High Water Tab Saturation (A3)	ndicators: nimum of one r A1) e (A2)		; check all	] V	Water-Stained Leaves (B	19) and 4B)	Seco	Water-Stained Lea	nd 4B) (B10)	uired)	
YDROLOGY etland Hydrology Ir imary Indicators (mir Surface Water ( High Water Tab Saturation (A3) Water Marks (B	ndicators: nimum of one r A1) de (A2)		; check all	) V	Water-Stained Leaves (Beccept MLRA 1, 2, 4A, and Salt Crust (B11)	9) and 4B)	Seco	Water-Stained Lea (MLRA 1, 2, 4A, and Drainage Patterns	nd 4B) (B10) Table (C2)		
YDROLOGY etland Hydrology Ir imary Indicators (mir Surface Water (I) High Water Tab Saturation (A3) Water Marks (B) Sediment Depos	adicators: himum of one r A1) le (A2) 1) sits (B2)		; check all [ [	) V	Water-Stained Leaves (B except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1	19) and 4B)	Seco	Water-Stained Lea (MLRA 1, 2, 4A, and Drainage Patterns Dry-Season Water	nd 4B) (B10) Table (C2) on Aerial Ima		
YDROLOGY etland Hydrology Ir imary Indicators (mir ] Surface Water (a) ] High Water Tab ] Saturation (A3) ] Water Marks (B) ] Sediment Deposits (E)	adicators: nimum of one r A1) le (A2) 1) sits (B2)		; check all [ [ [ [	) V ((	Water-Stained Leaves (B except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C	e9) and 4B) (3) (C1) Ilong Living Root	Seco	Water-Stained Lea (MLRA 1, 2, 4A, al Drainage Patterns Dry-Season Water Saturation Visible of	nd 4B) (B10) Table (C2) on Aerial Ima		
YDROLOGY Setland Hydrology Ir simary Indicators (mir Surface Water ( High Water Tab Saturation (A3) Water Marks (B Sediment Deposits (E Algal Mat or Cru	ndicators: nimum of one r A1) le (A2) 1) sits (B2) 3) st (B4)		; check all [ [ [ [ [	) V (((((((((((((((((((((((((((((((((((	Water-Stained Leaves (B except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres a	19) and 4B) (C1) Ilong Living Root n (C4)	Secc	Water-Stained Lea (MLRA 1, 2, 4A, and Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position	nves (B9) nd 4B) (B10) Table (C2) on Aerial Ima		
YDROLOGY etland Hydrology Ir imary Indicators (mir ] Surface Water ( ] High Water Tab ] Saturation (A3) ] Water Marks (B ] Sediment Deposits (E ] Algal Mat or Cru. ] Iron Deposits (B	ndicators: nimum of one r A1) le (A2) 1) sits (B2) i3) st (B4)		; check all [ [ [ [ [ [ [	() () () () () () () () () () () () () (	Water-Stained Leaves (B except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Dxidized Rhizospheres a Presence of Reduced Iron	and 4B)  13)  C1)  Ilong Living Root  n (C4)  Tilled Soils (C6)	Second	Water-Stained Lea (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard (I	nd 4B) (B10) Table (C2) on Aerial Ima on (D2) D3) (D5)	gery (C9)	
YDROLOGY etland Hydrology Ir imary Indicators (mir ] Surface Water ( ] High Water Tab ] Saturation (A3) ] Water Marks (B ] Sediment Deposits (B ] Algal Mat or Cru ] Iron Deposits (B ] Surface Soil Cra ] Inundation Visib	adicators: himum of one r A1) le (A2) 1) sits (B2) 3) st (B4) 5) lcks (B6)	required	; check all [ [ [ [ [ [ [ ] [ ]	() () () () () () () () () () () () () (	Water-Stained Leaves (B except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Dxidized Rhizospheres a Presence of Reduced Iron Recent Iron Reduction in	and 4B)  (3) (13) (10) (10) (10) (10) (10) (10) (10) (10	Section	Water-Stained Lea (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Positi Shallow Aquitard (I FAC-Neutral Test (	nd 4B) (B10) Table (C2) on Aerial Imaon (D2) D3) (D5) Is (D6) (LRR	gery (C9)	
YDROLOGY etland Hydrology Ir imary Indicators (mir ] Surface Water (a) ] High Water Tab ] Saturation (A3) ] Water Marks (B) ] Sediment Deposits (E) ] Algal Mat or Cru ] Iron Deposits (B) ] Surface Soil Cra ] Inundation Visib ] Sparsely Vegeta	adicators: himum of one r A1) le (A2) 1) sits (B2) 3) st (B4) 5) lcks (B6)	required	; check all [ [ [ [ [ [ [ ] [ ]	() () () () () () () () () () () () () (	Water-Stained Leaves (B except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Dxidized Rhizospheres a Presence of Reduced Iron Recent Iron Reduction in Stunted or Stresses Plant	and 4B)  (3) (13) (10) (10) (10) (10) (10) (10) (10) (10	Sect	Water-Stained Lea (MLRA 1, 2, 4A, and Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positing Shallow Aquitard (I FAC-Neutral Test (I Raised Ant Mound	nd 4B) (B10) Table (C2) on Aerial Imaon (D2) D3) (D5) Is (D6) (LRR	gery (C9)	
YDROLOGY  etland Hydrology Ir imary Indicators (mir ] Surface Water ( ] High Water Tab ] Saturation (A3) ] Water Marks (B ] Sediment Depos ] Drift Deposits (E ] Algal Mat or Cru ] Iron Deposits (B ] Surface Soil Cra ] Inundation Visib ] Sparsely Vegeta eld Observations:	ndicators: nimum of one r A1) le (A2) 1) sits (B2) 3) st (B4) 5) lecks (B6) le on Aerial Im	required nagery (E Surface	; check all [ [ [ [ [ [ 37) [ (B8)	V	Water-Stained Leaves (B except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Dxidized Rhizospheres a Presence of Reduced Iron Recent Iron Reduction in Stunted or Stresses Plant Other (Explain in Remark	and 4B)  (3) (13) (10) (10) (10) (10) (10) (10) (10) (10	Sect	Water-Stained Lea (MLRA 1, 2, 4A, and Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positing Shallow Aquitard (I FAC-Neutral Test (I Raised Ant Mound	nd 4B) (B10) Table (C2) on Aerial Imaon (D2) D3) (D5) Is (D6) (LRR	gery (C9)	
YDROLOGY Vetland Hydrology Ir Imary Indicators (mir Surface Water ( High Water Tab Saturation (A3) Water Marks (B Sediment Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta	ndicators: nimum of one r A1) le (A2) 1) sits (B2) 3) st (B4) 5) lcks (B6) le on Aerial Im ated Concave s	required nagery (I	; check all [ [ [ [ [ [ 37) [ (B8)	V	Water-Stained Leaves (B sexcept MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Dxidized Rhizospheres a Presence of Reduced Iron Recent Iron Reduction in Stunted or Stresses Plant Other (Explain in Remark Depth (inches):	and 4B)  (3) (13) (10) (10) (10) (10) (10) (10) (10) (10	Sect	Water-Stained Lea (MLRA 1, 2, 4A, and Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positing Shallow Aquitard (I FAC-Neutral Test (I Raised Ant Mound	nd 4B) (B10) Table (C2) on Aerial Imaon (D2) D3) (D5) Is (D6) (LRR	gery (C9)	
YDROLOGY  Yetland Hydrology Ir  rimary Indicators (mir  Surface Water (  High Water Tab  Saturation (A3)  Water Marks (B  Sediment Deposits (B  Algal Mat or Cru  Iron Deposits (B  Surface Soil Cra  Inundation Visib  Sparsely Vegeta  eld Observations:  urface Water Present?	ndicators: nimum of one r A1) le (A2) 1) sits (B2) 3) st (B4) 5) lecks (B6) le on Aerial Im	required nagery (E Surface	; check all [ [ [ [ [ [ 37) [ (B8)	V	Water-Stained Leaves (B except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Dxidized Rhizospheres a Presence of Reduced Iron Recent Iron Reduction in Stunted or Stresses Plant Other (Explain in Remark	and 4B)  (3) (13) (10) (10) (10) (10) (10) (10) (10) (10	Sect	Water-Stained Lea (MLRA 1, 2, 4A, and Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positing Shallow Aquitard (I FAC-Neutral Test (I Raised Ant Mound	nd 4B) (B10) Table (C2) on Aerial Imaon (D2) D3) (D5) Is (D6) (LRR	gery (C9)	
HYDROLOGY Vetland Hydrology Informary Indicators (mir Surface Water ( High Water Tab Saturation (A3) Water Marks (B Sediment Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta ield Observations: surface Water Present? Vater Table Present? includes capillary fring	ndicators: nimum of one r A1) le (A2) 11) sits (B2) 13) st (B4) 5) lcks (B6) le on Aerial Im ated Concave s Yes Yes	nagery (E	; check all	V   V   V   V   V   V   V   V   V   V	Water-Stained Leaves (B except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1 dydrogen Sulfide Odor (C Dxidized Rhizospheres a Presence of Reduced Iron Recent Iron Reduction in Stunted or Stresses Plant Other (Explain in Remark Depth (inches):  Depth (inches):  Depth (inches):	and 4B)  (3) (C1) (long Living Root n (C4) Tilled Soils (C6) ts (D1) (LRR A) (ss)	Section Sectin Section Section Section Section Section Section Section Section	Water-Stained Lea (MLRA 1, 2, 4A, and Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positing Shallow Aquitard (I FAC-Neutral Test (I Raised Ant Mound	nd 4B) (B10) Table (C2) on Aerial Imaon (D2) D3) (D5) Is (D6) (LRR	agery (C9)	No
IYDROLOGY Vetland Hydrology Intrimary Indicators (min Surface Water (and High Water Tab Saturation (A3) Water Marks (Basediment Deposits (Basediment Deposit	ndicators: nimum of one r A1) le (A2) 11) sits (B2) 13) st (B4) 5) lcks (B6) le on Aerial Im ated Concave s Yes Yes	nagery (E	; check all	V   V   V   V   V   V   V   V   V   V	Water-Stained Leaves (B except MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Dxidized Rhizospheres a Presence of Reduced Iron Reduction in Stunted or Stresses Plant Other (Explain in Remark Depth (inches):	and 4B)  (3) (C1) (long Living Root n (C4) Tilled Soils (C6) ts (D1) (LRR A) (ss)	Section Sectin Section Section Section Section Section Section Section Section	Water-Stained Lea (MLRA 1, 2, 4A, an Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positin Shallow Aquitard (I FAC-Neutral Test (I Raised Ant Mound Frost-Heave Humr	nves (B9) nd 4B) (B10) Table (C2) on Aerial Ima on (D2) D3) (D5) Is (D6) (LRR mocks (D7)	agery (C9)	

Project Site:	Manley Road			City/Cou	nty: <u>Battle Ground/Clark</u> Sampling Da County	ate: <u>6/22/17</u>	
Applicant/Owner:	Clark County				State: <u>WA</u> Sampling Po	oint: <u>23</u>	
Investigator(s):	Jeff Gray, Kevin O'Brien, Steph	nanie Modjesk	<u>(i</u>		Section, Township, Range: 29, 04N,	02E	
Landform (hillslope, te	errace, etc.): <u>floodplain</u>		Loc	cal relief (cond	cave, convex, none): none	Slope (%): 0-2	<u>2</u>
Subregion (LRR):	<u>A</u>	Lat: 45.	<u>799788</u>		Long: <u>-122.579356</u>	Datum: <u>WGS 1984</u>	<u> 4</u>
Soil Map Unit Name:	Gee silt loam, 8-20% slopes (	non-hydric)	=		NWI classification:	<u>NA</u>	
Are climatic / hydrolog	jic conditions on the site typical f	or this time of	year?	Yes ⊠	No (If no, explain in Remarks.)		
Are Vegetation	, Soil □, or Hydrology	□, signifi	cantly disturbe	ed? Are	"Normal Circumstances" present?	Yes 🛛 No	
Are Vegetation	, Soil □, or Hydrology	☐, natura	ally problemati	c? (If ne	eeded, explain any answers in Remarks.)		
SUMMARY OF FIN	IDINGS – Attach site map	showing sa	mpling poir	nt locations	, transects, important features, etc.		
Hydrophytic Vegetatio	n Present?	Yes 🛭	☑ No □				
Hydric Soil Present?		Yes 🛭	☑ No □	Is the Sam within a W		Yes 🛛 No	· 🗆
Wetland Hydrology Pr	resent?	Yes 🛭	☑ No □				
Remarks: Wetland	data point at Flag O3 in Wetla	nd O. All thre	e wetland inc	licators are p	resent. Data point located in floodplain wetl	land (PEM) on sou	uth
	aybreak Creek.			·	·		
VEGETATION - U	se scientific names of plan	its					
Tree Stratum (Plot siz	re: 30x15' belt)	Absolute	Dominant Species 2	Indicator	Dominance Test Worksheet:		
1. <u>-</u>		% Cover	Species?	<u>Status</u>	Number of Deminant Species		
2					Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u>	(A)
3					Total Number of Dominant		
4.					Species Across All Strata:	<u>3</u>	(B)
50% =, 20% =			= Total Cov	er	Percent of Dominant Species		
·	 n (Plot size: <u>15x10' belt)</u>				That Are OBL, FACW, or FAC:	<u>100</u>	(A/B)
1. <u>-</u>					Prevalence Index worksheet:		
2		· <u></u>			Total % Cover of:	Multiply by:	
3.					OBL species	x1 =	
4.					FACW species	x2 =	
5					FAC species	x3 =	
50% =, 20% =			= Total Cov	er	FACU species	x4 =	
Herb Stratum (Plot siz		·			UPL species	x5 =	
Phalaris arundinad		<u>45</u>	<u>yes</u>	FACW	Column Totals:(A)		(B)
Scirpus microcarp		<u>25</u>	<u>yes</u>	OBL	Prevalence Index = B/A =		(=)
Athyrium cyclosor		<u>10</u>	no	FAC	Hydrophytic Vegetation Indicators:		
4. Glyceria elata	<u>um</u>	20	ves	FACW	☐ 1 – Rapid Test for Hydrophytic Vegetat	tion	
5.		<u>20</u>	<u>ycs</u>	171011	<ul><li>✓ 2 - Dominance Test is &gt;50%</li></ul>	uon	
6.							
·							
7 8.					4 - Morphological Adaptations (Provided data in Remarks or on a separate si		
9.					☐ 5 - Wetland Non-Vascular Plants <sup>1</sup>	,	
· <del></del>							
10					☐ Problematic Hydrophytic Vegetation¹ (E	≞xplain)	
11	2.0				<sup>1</sup> Indicators of hydric soil and wetland hydrolo	ogy must	
50% = <u>31.5</u> , 20% = <u>12</u>		<u>63</u>	= Total Cov	er	be present, unless disturbed or problematic.		
	(Plot size: 15x10' belt)						
1. <u>s</u>					Hydrophytic		
2					Vegetation   Yes	No No	
50% =, 20% =			= Total Cov	er	Present?		
% Bare Ground in Her	rb Stratum <u>0</u>						
Remarks:	Hydrophytic vegetation indicators	met; passes	Dominance T	est.			

Color (moist)	Dorth	8.4 - 4					Dodo: F- '									
10   10   10   10   10   10   10   10	Depth							4	. 2			_				
					Color (	noist)		Type	Loc <sup>-</sup>			F	Remarks	5		
			_		40)/D	<u></u>										
(ype: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      Coation: PL=Pore Lining, M=Matrix   PL=Pore Lining, M=Matrix	<u>4-16</u>	10YR 4/2		<u>88</u>	·					ioam	<u> </u>					
Histos (Ar)   Sandy (Redox (SS)   2 cm Muck (A10)   Sandy Redox (SS)   3 cm Muck (A10)   Sandy Redox (SS)   3 cm Muck (A10)   Sandy Redox Mark Surface (TF12)   Sandy Mucky Mineral (S1)   Redox Dark Surface (F6)   Sandy Mucky Mineral (S1)   Depleted Bark Surface (F7)   Sandy Mucky Mineral (S1)   Redox Dark Surface (F7)   Sandy Mucky Mark (S4)   Redox Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Depressions (F8)   Hydric Solis Present?   Yes   No   Sandy Gleyed Matrix (S4)   Water (A1)   Water-Stained Leaves (B9)   Water-Stained Leaves (B10)   Salt Crust (B11)   Drainage Platems (B10)   Dry-Season Water Table (C2)   Salt Crust (B11)   Drainage Platems (B10)   Dry-Season Water Table (C2)   Salt Crust (B10)   Presence of Reduced fron (C4)   Shallow Aquitard (D3)   Shallow Aquitard (D3)   Recent fron Reduction in Tilled Solis (C6)   FAC-Neutral Test (D5)   Surface Soli Cracks (B6)   Recent fron Reduction in Tilled Solis (C6)   FAC-Neutral Test (D5)   Surface Soli Cracks (B6)   Depth (inches):   16			_	_	<u>10YR</u>	4/1	<u>4</u>	<u>D</u>	<u>IVI</u>							
Histos (Ar)   Sandy (Redox (SS)   2 cm Muck (A10)   Sandy Redox (SS)   3 cm Muck (A10)   Sandy Redox (SS)   3 cm Muck (A10)   Sandy Redox Mark Surface (TF12)   Sandy Mucky Mineral (S1)   Redox Dark Surface (F6)   Sandy Mucky Mineral (S1)   Depleted Bark Surface (F7)   Sandy Mucky Mineral (S1)   Redox Dark Surface (F7)   Sandy Mucky Mark (S4)   Redox Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Depressions (F8)   Hydric Solis Present?   Yes   No   Sandy Gleyed Matrix (S4)   Water (A1)   Water-Stained Leaves (B9)   Water-Stained Leaves (B10)   Salt Crust (B11)   Drainage Platems (B10)   Dry-Season Water Table (C2)   Salt Crust (B11)   Drainage Platems (B10)   Dry-Season Water Table (C2)   Salt Crust (B10)   Presence of Reduced fron (C4)   Shallow Aquitard (D3)   Shallow Aquitard (D3)   Recent fron Reduction in Tilled Solis (C6)   FAC-Neutral Test (D5)   Surface Soli Cracks (B6)   Recent fron Reduction in Tilled Solis (C6)   FAC-Neutral Test (D5)   Surface Soli Cracks (B6)   Depth (inches):   16			_			_				-						
Histos (A)   Sandy Redox (SS)   2 cm Muck (A/1)   Very Shallow Dark Surface (TF12)   Other (Explain in Remarks)   Depleted Board Surface (A12)   Depleted Matrix (F3)   Depleted Matrix (F3)   Redox Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Depressions (F8)   Water-Stained Indicator of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.    VEROLOGY   Vettand Hydrology Indicators:   Hydric Solis Present?   Ves   No   Muckey Mineral (F1) (Solis Present?   Ves   No   Muckey Matrix (S4)   Solis Present?   Ves   No   Muckey Matrix (S4)   Solis Present   Ves   Solid Color (S1)   Solid Colo			_			_				-						
Histos (Ar)   Sandy Redox (SS)   2 cm Muck (Ar)   Sandy Redox Marks (SR)   Compared to the first (SR)   Sandy Redox Dark Surface (Ar1)   Sandy Redox Dark Surface (Ar1)   Depleted Dark Surface (FF)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (FF)   Sandy Mucky Marks (SR)   Redox Dark Surface (FF)   Sandy Mucky Marks (SR)   Redox Depressions (F8)   Water Art (SR)   Water (Ar1)   Water Stained Leaves (FF)   Water (Ar1)   Water Stained Leaves (FF)   Water (Ar1)   Water (Ar1)   Water Stained Leaves (FF)   Water (Ar1)   Diring Persent (Proposition (Ar2)   Salt (Crust (SR1))   Diring Persent (Ar2)   Diring Persent (Brown (Ar2)   Diring Roots (SR)			-			_										
Histose (Ari)   Sandy Redox (SS)   2 cm Muck (Ari)   3 cm Muck (Ari)   3 cm Muck (Ari)   4 cm M			_			<del>_</del>				-						
Histose (Ari)   Sandy Redox (SS)   2 cm Muck (Ari)   3 cm Muck (Ari)   3 cm Muck (Ari)   4 cm M	Type: C= C	oncentration, D=[	Depletion	 n, RM=f	Reduced M	— atrix, CS=0	Covered or Coa	ated Sand	I Grains.	Location: PL:	=Pore Lining, M=	=Matrix				
Histosol (A1)			•			-							lydric S	oils³:		_
Black Histic (A3)	_						-			_			•			
Hydrogen Sulfide (A4)	] Histic	Epipedon (A2)				Strippe	ed Matrix (S6)				Red Parent M	/laterial (T	F2)			
Depleted Below Dark Surface (A11)	Black	Histic (A3)				Loamy	Mucky Minera	al (F1) <b>(ex</b>	cept MLRA 1	) 🗆	Very Shallow	Dark Sur	face (TF	<del>-</del> 12)		
Thick Dark Surface (A12)	] Hydro	gen Sulfide (A4)				Loamy	Gleyed Matrix	(F2)			Other (Explai	n in Rema	arks)			
Sandy Mucky Mineral (S1)	] Deplet	ed Below Dark S	urface (A	11)		Deplet	ed Matrix (F3)									
Sandy Gleyed Matrix (S4)	] Thick I	Dark Surface (A1	2)			Redox	Dark Surface	(F6)								
Saturation (A3)	] Sandy	Mucky Mineral (S	S1)			Deplet	ed Dark Surfa	ce (F7)								
PAPE   Paper	] Sandy	Gleyed Matrix (S	4)			Redox	Depressions (	(F8)						Ι,		
emarks: Hydric soil indicator F3 present.    Hydric Soils Present?   Hydric Soils Present?   Yes   No	estrictive	Layer (if present	):													
PYDROLOGY    Fetland Hydrology Indicators:	vpe:															
YDROLOGY    etland Hydrology Indicators:	, i												$\boxtimes$	No	Г	
Vertiand Hydrology Indicators:  Intrinary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Saturation (A3)  Saturation (A3)  Saturation Deposits (B2)  High Crust (B11)  Saturation Present?  Saturation Present?  Yes  No  Depth (inches):  Indicators (minimum of one required; check all that apply)  Saturation Present?  Yes  No  Water Harks (B1)  Water-Stained Leaves (B9)  Water-Stained Leaves (B1)  Water-Stai	epth (inche		ator F3 p	present					Hydric Soils	s Present?		Yes				<u>_</u>
Surface Water (A1)	Pepth (inche	Hydric soil indic	ator F3 p	oresent					Hydric Soils	s Present?		Yes			L	
High Water Table (A2)	epth (inche	Hydric soil indic		present					Hydric Soils	s Present?		Yes				
Saturation (A3)	epth (inche emarks: IYDROLO Vetland Hy	Hydric soil indic	rs:			nat apply)			Hydric Soils		ndary Indicators					
Water Marks (B1)	epth (inche demarks: IYDROLO Vetland Hy rimary India	Hydric soil indic	rs:		check all t	,	-Stained Leave	es (B9)	Hydric Soils	Secon	-	(2 or more	e require			
Sediment Deposits (B2)	epth (inche emarks:  EYDROLO  /etland Hy rimary India  Surface	Hydric soil indic	rs:		check all t	Water-				Secon	Water-Stained L	(2 or more eaves (Bs	e require 9)			
□ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) □ Geomorphic Position (D2) □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Shallow Aquitard (D3) □ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) □ FAC-Neutral Test (D5) □ Surface Soil Cracks (B6) □ Stunted or Stresses Plants (D1) (LRR A) □ Raised Ant Mounds (D6) (LRR A) □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Frost-Heave Hummocks (D7) □ Sparsely Vegetated Concave Surface (B8)  ield Observations:  urface Water Present? Yes □ No □ Depth (inches): □ Vater Table Present? Yes □ No □ Depth (inches): 16	EYDROLO  Jetland Hy rimary India  Surface High \( \)	Hydric soil indic	rs:		check all t	Water-	ot MLRA 1, 2,			Secon	Water-Stained L	(2 or more eaves (BS , and 4B)	e require 9)			
Algal Mat or Crust (B4)	IYDROLO Jetland Hy rimary India Surfac High \ Satura	Hydric soil indic	rs:		check all t	Water- (exception Salt Ci	ot MLRA 1, 2, rust (B11)	4A, and 4		Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Patterr	(2 or more eaves (Bs , <b>and 4B)</b> ns (B10)	e require 9)			
Iron Deposits (B5)	IYDROLO Vetland Hy rrimary India Surface High \ Satura	Hydric soil indic	rs: of one re		check all t	Water- (exception Salt Control Aquation Control Contro	ot MLRA 1, 2, rust (B11) c Invertebrates	<b>4A</b> , and <b>4</b>		Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat	(2 or more eaves (B9 , <b>and 4B)</b> ns (B10) ter Table	e require 9) (C2)	ed)		
Surface Soil Cracks (B6)	IYDROLO Vetland Hy rimary India	Hydric soil indic  OGY  drology Indicato cators (minimum of ce Water (A1)  Water Table (A2) ation (A3)  Marks (B1) ment Deposits (B2)	rs: of one re		check all t	Water- (excer Salt Ci Aquati Hydrog	ot MLRA 1, 2, rust (B11) c Invertebrates gen Sulfide Od	<b>4A</b> , and 4 s (B13) for (C1)	в)	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl	(2 or more eaves (Bs , <b>and 4B)</b> ns (B10) ter Table le on Aerid	e require 9) (C2) al Image	ed)		
Inundation Visible on Aerial Imagery (B7)	IYDROLO Vetland Hy rimary India High \ Satura Water Water Drift C	Hydric soil indice  OGY  drology Indicator cators (minimum of the ca	rs: of one re		check all t	Water- (excep Salt Cr Aquati Hydrog Oxidiza	ot MLRA 1, 2, rust (B11) c Invertebrates gen Sulfide Od ed Rhizospher	4A, and 4 s (B13) for (C1) es along L	JB)	Secor	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos	(2 or more eaves (B6 , <b>and 4B)</b> ns (B10) ter Table le on Aeria sition (D2)	e require 9) (C2) al Image	ed)		
Sparsely Vegetated Concave Surface (B8)  ield Observations:  surface Water Present? Yes No Depth (inches):  Vater Table Present? Yes No Depth (inches): 16  saturation Present?  Yes No Depth (inches): 10  Wetland Hydrology Present? Yes No	AYDROLO Vetland Hy Irimary India Satura Water Sedim Sedim Algal	Hydric soil indic  OGY  drology Indicato cators (minimum of ce Water (A1)  Water Table (A2) ation (A3)  Marks (B1) ment Deposits (B2) Deposits (B3)  Mat or Crust (B4)	rs: of one re		check all t	Water- (excep Salt Ci Aquati Hydrog Oxidize Preser	ot MLRA 1, 2, rust (B11) c Invertebrates gen Sulfide Od ed Rhizospher nce of Reduced	4A, and 4 s (B13) for (C1) es along L d Iron (C4	Living Roots (	Secor	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro	(2 or more eaves (Bs , <b>and 4B)</b> ns (B10) ter Table e on Aeria sition (D2)	e require 9) (C2) al Image	ed)		
ield Observations:  urface Water Present? Yes No Depth (inches):  Vater Table Present? Yes No Depth (inches): 16  aturation Present?  Yes No Depth (inches): 10  Wetland Hydrology Present? Yes No No Depth (inches): 10	IYDROLO Vetland Hy rimary India Satura Water Water Drift C Algal	Hydric soil indice  OGY  drology Indicator cators (minimum of ce Water (A1)  Water Table (A2) ation (A3)  Marks (B1) ment Deposits (B2) Deposits (B3)  Mat or Crust (B4) Deposits (B5)	rs: of one re		check all t	Water- (excep Salt Ci Aquati Hydrog Oxidize Preser Recen	ot MLRA 1, 2, rust (B11) c Invertebrates gen Sulfide Od ed Rhizospher nce of Reduced t Iron Reductio	4A, and 4 s (B13) lor (C1) es along L d Iron (C4	Living Roots (G.)	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes	(2 or more eaves (Bs , and 4B) ns (B10) ter Table le on Aeria sition (D2) d (D3) st (D5)	e require 9) (C2) al Image	ed) ery (C9)		
uriface Water Present? Yes \( \bar{\text{No}} \\ \sigma\) Depth (inches): \( \begin{array}{c c c c c c c c c c c c c c c c c c c	IYDROLO Vetland Hy rrimary India Satura Water Sedim Drift D Algal Iron D	Hydric soil indic  OGY  drology Indicato cators (minimum of ce Water (A1)  Nater Table (A2) ation (A3)  Marks (B1) nent Deposits (B2) Deposits (B3)  Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6)	rs: of one re	equired;	check all t	Water- (excep Salt Ci Aquati Hydrog Oxidiz Preser Recen Stunte	ot MLRA 1, 2, rust (B11) c Invertebrates gen Sulfide Od ed Rhizospher nce of Reduced t Iron Reduction d or Stresses	4A, and 4  s (B13)  or (C1)  es along L  d Iron (C4)  on in Tilled	Living Roots (G.)	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes Raised Ant Mour	(2 or more eaves (Bs , and 4B) ns (B10) ter Table e on Aeria sition (D2) d (D3) st (D5) nds (D6)	e require 9) (C2) al Image )	ed) ery (C9)		
Vater Table Present?       Yes       ☒       No       ☐       Depth (inches):       16         viaturation Present?       Yes       ☒       No       ☐       Depth (inches):       10         viaturation Present?       Yes       ☒       No       ☐       Depth (inches):       10         viaturation Present?       Yes       ☒       No         ncludes capillary fringe)       Yes       ☒       No	HYDROLO Vetland Hy Satura High \ Sedim Sedim High \ Sedim Sedim High \ Surfac	Hydric soil indic  OGY  drology Indicator cators (minimum of the Water (A1)  Water Table (A2) ation (A3)  Marks (B1) ment Deposits (B2) Deposits (B3)  Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on A	rs: of one re	equired;	check all t	Water- (excep Salt Ci Aquati Hydrog Oxidiz Preser Recen Stunte	ot MLRA 1, 2, rust (B11) c Invertebrates gen Sulfide Od ed Rhizospher nce of Reduced t Iron Reduction d or Stresses	4A, and 4  s (B13)  or (C1)  es along L  d Iron (C4)  on in Tilled	Living Roots (G.)	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes Raised Ant Mour	(2 or more eaves (Bs , and 4B) ns (B10) ter Table e on Aeria sition (D2) d (D3) st (D5) nds (D6)	e require 9) (C2) al Image )	ed) ery (C9)		
raturation Present? Includes capillary fringe)  Yes ☑ No ☐ Depth (inches): 10  Wetland Hydrology Present? Yes ☑ No	Algal Iron D Spars	Hydric soil indice  OGY  drology Indicator cators (minimum of the Cators (Marks (B1)) The Marks (B1) The Marks (B1) The Marks (B2) The Marks (B3) The Marks (B3) The Marks (B4) The Mark	rs: of one re	equired;	check all t	Water- (excep Salt Ci Aquati Hydrog Oxidiz Preser Recen Stunte	ot MLRA 1, 2, rust (B11) c Invertebrates gen Sulfide Od ed Rhizospher nce of Reduced t Iron Reduction d or Stresses	4A, and 4  s (B13)  or (C1)  es along L  d Iron (C4)  on in Tilled	Living Roots (G.)	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes Raised Ant Mour	(2 or more eaves (Bs , and 4B) ns (B10) ter Table e on Aeria sition (D2) d (D3) st (D5) nds (D6)	e require 9) (C2) al Image )	ed) ery (C9)		
Saturation Present?  No Depth (inches): 10  Wetland Hydrology Present?  Wetland Hydrology Present?  Yes No  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	HYDROLO Vetland Hy Primary India High N Satura Sedim Horift D Algal Iron D Surfac	Hydric soil indice  OGY  drology Indicator cators (minimum of the Water (A1)  Water Table (A2) ation (A3)  Marks (B1) ment Deposits (B2) Deposits (B3)  Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on A ely Vegetated Covations:	rs: of one re  ) erial Ima	equired; agery (E urface	check all t	Water- (excep Salt Ci Aquati Hydrog Oxidize Preser Recen Stunte	ot MLRA 1, 2, rust (B11) c Invertebrates gen Sulfide Od ed Rhizospher nce of Reduced t Iron Reduction d or Stresses I (Explain in Rer	4A, and 4  s (B13)  or (C1)  es along L  d Iron (C4)  on in Tilled	Living Roots (C)	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes Raised Ant Mour	(2 or more eaves (Bs , and 4B) ns (B10) ter Table e on Aeria sition (D2) d (D3) st (D5) nds (D6)	e require 9) (C2) al Image )	ed) ery (C9)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	HYDROLO Vetland Hy Primary India Satura Sedim High \ Satura Sedim Sield Obser Surface Wat	Hydric soil indice  OGY  drology Indicator cators (minimum of ce Water (A1)  Water Table (A2) ation (A3)  Marks (B1) ment Deposits (B2) Deposits (B3)  Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on A ely Vegetated Covations: er Present?	rs: of one re  ) erial Ima	equired;	check all t	Water- (exceptosalt Circle Aquati Hydrog Oxidize Preser Recen Stunte Other	ot MLRA 1, 2, rust (B11) c Invertebrates gen Sulfide Oded Rhizospherence of Reduced t Iron Reduction or Stresses I (Explain in Reduction Repth (inches):	4A, and 4 s (B13) or (C1) es along L d Iron (C4 on in Tilled Plants (D1 marks)	Living Roots (C)	Secon	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes Raised Ant Mour	(2 or more eaves (Bs , and 4B) ns (B10) ter Table e on Aeria sition (D2) d (D3) st (D5) nds (D6)	e require 9) (C2) al Image )	ed) ery (C9)		
	HYDROLO Wetland Hy Primary India Surface High \ Satura Sedim Sield Obser Fourface Water Vater Table Saturation P	Hydric soil indice  Hydric	rs: of one re  i)  iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	equired;	check all t	Water- (except Salt Cit Aquatit Hydrog Oxidizer Preser Recen Stunter Other In Definition of the International Inte	ot MLRA 1, 2, rust (B11) c Invertebrates gen Sulfide Od ed Rhizospher nce of Reduced t Iron Reduction d or Stresses if (Explain in Rer epth (inches):	4A, and 4 s (B13) or (C1) es along L d Iron (C4 on in Tilled Plants (D1 marks)	Living Roots ((	Secor	Water-Stained L (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes Raised Ant Moul Frost-Heave Hui	(2 or more eaves (Bs, and 4B) ns (B10) ter Table le on Aeria sition (D2) d (D3) st (D5) nds (D6) (mmocks (	e require 9) (C2) al Image ) (LRR A)	ed) ery (C9)		

Project Site:	Manley Road			City/Cour	nty: Battle Ground/Clark County	Sampling Date:	6/22/1	7
Applicant/Owner:	Clark County				State: WA	Sampling Point:	<u>24</u>	
Investigator(s):	Jeff Gray, Kevin O'Brien, Steph	anie Modjesk	<u>i</u>		Section, Township, Rang	je: <u>29, 04N, 02E</u>		
Landform (hillslope, te	errace, etc.): <u>ravine slope</u>		Loc	al relief (cond	ave, convex, none): none	Slope	e (%): ≥	<u> 10</u>
Subregion (LRR):	<u>A</u>	Lat: 45.7	<u>799756</u>		Long: <u>-122.579324</u>	Datum: \	WGS 19	84
Soil Map Unit Name:	Gee silt loam, 8-20% slopes (	non-hydric)	-		NWI class	sification: <u>NA</u>		
Are climatic / hydrolog	ic conditions on the site typical for	or this time of	year?	Yes 🛛	No	n Remarks.)		
Are Vegetation □,	, Soil □, or Hydrology	☐, signific	cantly disturbe	d? Are	Normal Circumstances" present?	Yes	⊠ N	No 🗆
Are Vegetation ☐,	, Soil □, or Hydrology	☐, natura	ally problemation	c? (If ne	eeded, explain any answers in Re	marks.)		
SUMMARY OF FIN	IDINGS – Attach site map s	howing sa	mpling poin	t locations	, transects, important featu	res, etc.		
Hydrophytic Vegetatio	n Present?	Yes 🗆	No ⊠					
Hydric Soil Present?		Yes 🗆	No ⊠	Is the Samp		Yes		No 🛛
Wetland Hydrology Pr	resent?	Yes 🗆	] No ⊠	Within a vi	, idia i			
Remarks: Upland d	lata point at Flag O3 on ravine	slope above	Wetland O. A	II three wetla	and indicators are not present.			
		·						
VEGETATION - Us	se scientific names of plan							
Tree Stratum (Plot siz	e: 30x15' belt)	Absolute % Cover	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet:			
1. Acer macrophyllui	<u>m</u>	<u>25</u>	<u>yes</u>	FACU	Number of Dominant Species	_		
2.					That Are OBL, FACW, or FAC:	<u>2</u>		(A)
3					Total Number of Dominant	•		(D)
4					Species Across All Strata:	<u>2</u>		(B)
50% = <u>-</u> , 20% = <u>-</u>		<u>25</u>	= Total Cove	er	Percent of Dominant Species	50		(A/B)
Sapling/Shrub Stratun	m (Plot size: 15x10' belt)				That Are OBL, FACW, or FAC:	<u>50</u>		(A/D)
1. Rubus armeniacus	<u>s</u>	<u>95</u>	<u>ves</u>	<u>FAC</u>	Prevalence Index worksheet:			
2					Total % Cover of:	Multipl	y by:	
3					OBL species	x1 =		=
4					FACW species	x2 =		-
5					FAC species	x3 =		-
50% = <u>-</u> , 20% = <u>-</u>		<u>95</u>	= Total Cove	er	FACU species	x4 =		-
Herb Stratum (Plot siz	ze: <u>5' radius</u> )				UPL species	x5 =		=
1. Phalaris arundinad	<u>cea</u>	<u>18</u>	<u>yes</u>	<u>FACW</u>	Column Totals:	(A)		_ (B)
2. <u>Ipomoea hederace</u>	<u>ea</u>	<u>7</u>	<u>yes</u>	<u>FACU</u>	Prevalence	Index = B/A =		
3					Hydrophytic Vegetation Indic			
4					1 – Rapid Test for Hydro			
5					2 - Dominance Test is >5	0%		
6					3 - Prevalence Index is <	3.0 <sup>1</sup>		
7					4 - Morphological Adapta		ting	
8					data in Remarks or on			
9					5 - Wetland Non-Vascula	r Plants'		
10					☐ Problematic Hydrophytic	Vegetation <sup>1</sup> (Explain)		
11					<sup>1</sup> Indicators of hydric soil and we	etland hydrology must		
50% = <u>25</u> , 20% = <u>5</u>	(E)	<u>25</u>	= Total Cove	er	be present, unless disturbed or			
	(Plot size: 15x10' belt)							
1. <u>-</u>					Hydrophytic			
2						es 🗆	No	$\boxtimes$
50% =, 20% =			= Total Cove	er	Present?			
% Bare Ground in He								
Remarks:	Bare ground due to dense blackb	erry cover. H	ydrophytic veg	etation indica	tor not met.			

Depth	Matr	ix				Redox	k Features			-					
·			0/	Color	. /22.0			1 1002				Domork			
nches)	Color (moist)		<u>%</u>	Colo	(mo	ist) %	Туре	Loc <sup>2</sup>				Remark	S		_
<u>0-18</u>	10YR 3/3		<u>90</u>	_					103	<u></u>	_				
<del></del>	<u>10YR 3/2</u>		<u>10</u>	-							_				
<del></del>		_		-							_				
<del></del>		_		-							_				
		_		_					<del>-</del> -		_				
		_		_							_				
		_		_							_				
	. <del></del> .					—		—	- <u>-</u>	<del>_</del> <del>_</del> _	_				
	oncentration, D=D	-				-		and Grains.		PL=Pore Lining			3		_
	ndicators: (Appl	licable t	o all L	_	_		-			dicators for P		Hydric S	ioils":		
Histoso					_	Sandy Redox (				_					
	Epipedon (A2)				_	Stripped Matrix				_	ent Material				
Black F	Histic (A3)					Loamy Mucky	Mineral (F1)	(except MLRA			illow Dark S	surface (T	F12)		
	gen Sulfide (A4)					Loamy Gleyed	Matrix (F2)			Other (Ex	xplain in Re	marks)			
Deplete	ed Below Dark Su	urface (A	A11)			Depleted Matri	x (F3)								
Thick E	Dark Surface (A12	2)		[		Redox Dark Su	ırface (F6)		3.						
Sandy	Mucky Mineral (S	61)		[		Depleted Dark	Surface (F7)		ĬI.	ndicators of hy wetland hydro					
Sandy	Gleyed Matrix (S	4)				Redox Depress	sions (F8)			unless distur			,		
strictive L	ayer (if present)	):													
e:															
								Hydric Sc	ils Present?		Yes		No		
	s):	dicator p	present					nyunc 3c							_
emarks:	No hydric soil ind	dicator p	present					nyunc 30							
marks:	No hydric soil ind		present					nyunc 30							_
/DROLO	No hydric soil ind	rs:			I that	apply)		nyunc 3c		condary Indicat	ors (2 or me	ore requir	ed)		
marks:  /DROLO etland Hyden mary Indice	No hydric soil ind	rs:		check al	I that	apply) Water-Stained	Leaves (B9)			condary Indicat Water-Stain	-	-	ed)		
marks:  'DROLO etland Hyo mary Indic Surfac	No hydric soil ind  GY  drology Indicator eators (minimum c	rs:		check al		,			Sec	-	ed Leaves (	(B9)	ed)		
/DROLO etland Hyc mary Indic Surfac High V	GY drology Indicators (minimum conservators (A1)	rs:		check al		Water-Stained	1, 2, 4A, an		Sec	Water-Stain	ed Leaves (	(B9)	ed)		
/DROLO etland Hyc mary Indic Surfac High V Satura	GY drology Indicators (minimum conservators (A1) Vater Table (A2)	rs:		check al		Water-Stained (except MLRA	1, 2, 4A, an	d 4B)	Sec	Water-Stain	ed Leaves ( , <b>4A, and 4E</b> atterns (B10	(B9) <b>3)</b>	ed)		
"DROLO tetland Hyc mary Indic Surfac High V Satura Water	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1)	rs: of one re		check al		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte	1, 2, 4A, and	d 4B)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season	ed Leaves ( 4A, and 4E atterns (B10 Water Tabl	(B9) <b>3)</b> ) e (C2)			
TOROLO  TOROLO  Stland Hyo mary Indic Surfac  High V Satura  Water  Sedim	GY drology Indicator actors (minimum c we Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)	rs: of one re		check al		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi	1, 2, 4A, and brates (B13) de Odor (C1)	d 4B)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season Saturation V	ed Leaves ( , <b>4A</b> , <b>and 4</b> E atterns (B10 Water Tabl 'isible on Ae	B9)  (B9)  (B9)  (B9)  (B9)  (C2)  (C2)  (C3)  (C3)			
TOROLO  Itland Hyc mary Indic Surfac High V Satura Water Sedim Drift D	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3)	rs: of one re		check al		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo	A 1, 2, 4A, and brates (B13) de Odor (C1) ospheres alor	d 4B)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season Saturation V Geomorphic	ed Leaves (  4A, and 4E atterns (B10 Water Tabl /isible on Ae Position (D	B9)  (B9)  (B9)  (B9)  (B9)  (C2)  (C2)  (C3)  (C3)			
Marks:  Marks:  Marks:  Marks:  Marks:  Mary Indic  Surfac  High V  Satura  Water  Sedim  Drift D  Algal N	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)	rs: of one re		check al		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re	a 1, 2, 4A, and brates (B13) de Odor (C1) espheres alor educed Iron (	d 4B)  ng Living Roots (C4)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu	ed Leaves ( , 4A, and 4E atterns (B10 Water Tabl /isible on Ae Position (D uitard (D3)	B9)  (B9)  (B9)  (B9)  (B9)  (C2)  (C2)  (C3)  (C3)			
Marks:  POROLO  Etland Hyce  Mary Indice  Surface  High V  Satura  Water  Sedim  Drift D  Algal N  Iron De	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) stion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	rs: of one re		check al		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re	the	d 4B) ) ng Living Roots (C4) Illed Soils (C6)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu FAC-Neutra	ed Leaves ( 4A, and 4E atterns (B10 Water Tabl risible on Ae Position (D uitard (D3) I Test (D5)	(B9) (B) (B) (B) (B) (B) (B) (B) (B) (B) (B	ery (C9)		
/DROLO Patland Hyde Mary Indice Surface High V Satura Water Sedim Drift D Algal N Iron De	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) de Soil Cracks (B6)	rs: of one re	quired;	check al		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	a 1, 2, 4A, and brates (B13) de Odor (C1) espheres alor educed Iron (eduction in Till esses Plants	d 4B) ) ng Living Roots (C4) Illed Soils (C6)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu FAC-Neutra Raised Ant	ed Leaves ( 4A, and 4E atterns (B10 Water Tabl (isible on Ae Position (D uitard (D3) I Test (D5) Mounds (D6	(B9) (B9) (B9) (B9) (B9) (B9) (B9) (B9)	ery (C9)		
/DROLO titland Hyo mary Indic Surfac High V Satura Water Sedim Drift D Algal N Iron Do Surfac Inunda	GY drology Indicator eators (minimum of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6 ation Visible on A6	rs:  of one re	equired;	check al		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re	a 1, 2, 4A, and brates (B13) de Odor (C1) espheres alor educed Iron (eduction in Till esses Plants	d 4B) ) ng Living Roots (C4) Illed Soils (C6)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu FAC-Neutra	ed Leaves ( 4A, and 4E atterns (B10 Water Tabl (isible on Ae Position (D uitard (D3) I Test (D5) Mounds (D6	(B9) (B9) (B9) (B9) (B9) (B9) (B9) (B9)	ery (C9)		
PROLO Patland Hyde mary Indice Surface High V Satura Water Sedim Drift D Algal N Iron De Surface Inunda	GY  drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6 ation Visible on Active (B6) ely Vegetated Core	rs:  of one re	equired;	check al		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	a 1, 2, 4A, and brates (B13) de Odor (C1) espheres alor educed Iron (eduction in Till esses Plants	d 4B) ) ng Living Roots (C4) Illed Soils (C6)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu FAC-Neutra Raised Ant	ed Leaves ( 4A, and 4E atterns (B10 Water Tabl (isible on Ae Position (D uitard (D3) I Test (D5) Mounds (D6	(B9) (B9) (B9) (B9) (B9) (B9) (B9) (B9)	ery (C9)		
Marks:  Parameter Sedim Drift D Algal M Iron Do Surface Inunda Sparse	GY  drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6 ation Visible on Act	rs: of one re	equired; agery (E urface	37) (B8)		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	a 1, 2, 4A, and a librates (B13) de Odor (C1) aspheres alor educed Iron (eduction in Tilesses Plants in Remarks)	d 4B) ) ng Living Roots (C4) Illed Soils (C6)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu FAC-Neutra Raised Ant	ed Leaves ( 4A, and 4E atterns (B10 Water Tabl (isible on Ae Position (D uitard (D3) I Test (D5) Mounds (D6	(B9) (B9) (B9) (B9) (B9) (B9) (B9) (B9)	ery (C9)		
YDROLO etland Hyd mary Indice Surface High V Satura Water Sedim Drift D Algal N Iron Do Surface Inunda Sparse eld Observ	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Active Vegetated Convations: er Present?	rs: of one re  s) erial Imancave S	equired;	37) (B8)		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	a 1, 2, 4A, and behavior (B13) de Odor (C1) espheres alor educed Iron (eduction in Till esses Plants (in Remarks)	d 4B) ) ng Living Roots (C4) Illed Soils (C6)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu FAC-Neutra Raised Ant	ed Leaves ( 4A, and 4E atterns (B10 Water Tabl (isible on Ae Position (D uitard (D3) I Test (D5) Mounds (D6	(B9) (B9) (B9) (B9) (B9) (B9) (B9) (B9)	ery (C9)		
/DROLO  Patland Hyo mary Indic Surfac High V Satura Water Sedim Drift D Algal N Iron Do Surfac Inunda Sparse Id Observ rface Water	GY drology Indicator ators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Acely Vegetated Convations: er Present?	rs: of one re	equired; agery (E urface	37) (B8)		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	a 1, 2, 4A, and behavior (B13) de Odor (C1) espheres alor educed Iron (eduction in Till esses Plants (in Remarks)	d 4B) ) ng Living Roots (C4) Illed Soils (C6)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu FAC-Neutra Raised Ant	ed Leaves ( 4A, and 4E atterns (B10 Water Tabl (isible on Ae Position (D uitard (D3) I Test (D5) Mounds (D6	(B9) (B9) (B9) (B9) (B9) (B9) (B9) (B9)	ery (C9)		
YDROLO etland Hyd imary Indice Surface High V Satura Water Sedim Drift D Algal N Iron Do Surface Inunda Sparse eld Observ arface Water atter Table	GY drology Indicator ators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Acely Vegetated Convations: er Present?	rs: of one re  s) erial Imancave S	equired;	37) (B8)		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	a 1, 2, 4A, and a librates (B13) de Odor (C1) aspheres alor educed Iron (eduction in Tilesses Plants in Remarks)	d 4B) ) ng Living Roots (C4) Illed Soils (C6)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu FAC-Neutra Raised Ant	ed Leaves (  , 4A, and 4B atterns (B10 Water Tabl (isible on Ae Position (D aitard (D3) I Test (D5) Mounds (D6 Hummocks	(B9) (B9) (B9) (B9) (B9) (B9) (B9) (B9)	ery (C9)	No	
imary Indic    Surface   High V   Satura   Water   Sedim   Drift D   Algal N   Iron Do   Surface   Inunda   Sparse   Ind Observer of the sturation Procludes cap	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Active Vegetated Convations: er Present? Present?	rs: of one re of	equired;	acheck al 37) (B8) No No No		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain  Depth (inci	a 1, 2, 4A, and a brates (B13) de Odor (C1) espheres alor educed Iron (eduction in Till esses Plants (in Remarks)  hes): hes):	d 4B)  Ing Living Roots (C4) Illed Soils (C6) (D1) (LRR A)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu FAC-Neutra Raised Ant I Frost-Heave	ed Leaves (  , 4A, and 4B atterns (B10 Water Tabl (isible on Ae Position (D aitard (D3) I Test (D5) Mounds (D6 Hummocks	B9)  i) ii) iiiiiiiiiiiiiiiiiiiiiiiiiiii	ery (C9)		
Marks:  Mary Indice Surface High V Satura Water Sedim Drift D Algal N Iron De Surface Inunda Sparse Pld Observ Aface Water Aface Water Table Surface Cap	GY drology Indicators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) the Soil Cracks (B6) ation Visible on Active Vegetated Convertions: er Present? Present? resent?	rs: of one re of	equired;	acheck al 37) (B8) No No No		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain  Depth (inci	a 1, 2, 4A, and a brates (B13) de Odor (C1) espheres alor educed Iron (eduction in Till esses Plants (in Remarks)  hes): hes):	d 4B)  Ing Living Roots (C4) Illed Soils (C6) (D1) (LRR A)	Sec	Water-Stain (MLRA 1, 2, Drainage Pa Dry-Season Saturation V Geomorphic Shallow Aqu FAC-Neutra Raised Ant I Frost-Heave	ed Leaves (  , 4A, and 4B atterns (B10 Water Tabl (isible on Ae Position (D aitard (D3) I Test (D5) Mounds (D6 Hummocks	B9)  i) ii) iiiiiiiiiiiiiiiiiiiiiiiiiiii	ery (C9)		

Project Site:	Manley Road				City/Coun	ty: <u>Battl</u> Cou	<u>le Ground/0</u> ntv	<u>Clark</u>	Sampling	Date:	6/21/	17	
Applicant/Owner:	Clark County					<u>000</u>		te: WA	Sampling	Point:	<u>25</u>		
Investigator(s):	Jeff Gray, Kevin O'Brien, Ste	phanie Modjes	<u>ci</u>			S	ection, Tow	vnship, Rang	ge: <u>29,04</u>	N, 02E			
Landform (hillslope, te	errace, etc.): Open Field			Loca	al relief (conca	ave, conve	ex, none):	none		Slop	e (%):	<u>0</u>	
Subregion (LRR):	<u>A</u>	Lat: 45.	805932			Long:	-122.5808	<u> 381</u>		Datum:	WGS 1	984	
Soil Map Unit Name:	Washougal loam, 0-3% slop	<u>oes</u>						NWI clas	sification:	None			
Are climatic / hydrolog	ic conditions on the site typica	for this time o	year?	Y	es 🛛	No	☐ (If r	no, explain ii	n Remarks.	)			
Are Vegetation	, Soil □, or Hydrology	v □, signif	icantly distu	urbed	l? Are "I	Normal Ci	rcumstance	es" present?	•	Yes	$\boxtimes$	No	
Are Vegetation	, Soil □, or Hydrology	/ □, natur	ally problen	natic1	? (If ne	eded, exp	lain any an	swers in Re	marks.)				
SUMMARY OF FIN	IDINGS – Attach site map	showing sa	mpling p	oint	locations,	transec	ts, impor	tant featu	res, etc.				
Hydrophytic Vegetatio	n Present?	Yes [	☑ No										
Hydric Soil Present?		Yes [	] No	$\boxtimes$	Is the Samp within a We					Yes		No	$\boxtimes$
Wetland Hydrology Pr	resent?	Yes [	] No	$\boxtimes$									
Remarks: Data poi	nt taken within location of po	tential bioswa	le location	n with	nin open fiel	d. Field is	regularly	mowed an	d used for	horse pas	ture. N	ot all	
	tland indicators present.				·					•			
VEGETATION - U	se scientific names of pla	ints											
Tree Stratum (Plot siz	re: 30' radius)	Absolute	Domina		Indicator	Domina	nce Test V	Vorksheet:					
1. <u>-</u>		% Cover	<u>Species</u>	<u>. f.</u>	<u>Status</u>	Numbor	of Domina	nt Species					
2								CW, or FAC:		<u>2</u>			(A)
3.			· <u></u>			Total Nu	mber of Do	nminant					
4.			· <u></u>				Across All			<u>3</u>			(B)
50% =, 20% =			= Total (	Cove	r	Percent	of Domina	nt Species					
Sapling/Shrub Stratur	m (Plot size: 15' radius)							CW, or FAC:		<u>66</u>			(A/B)
1. <u>-</u>						Prevale	nce Index	worksheet:					
2							Total 9	% Cover of:		Multip	ly by:		
3						OBL spe	ecies			x1 =		_	
4						FACW s	pecies			x2 =		_	
5						FAC spe	ecies			x3 =		_	
50% =, 20% =			= Total (	Cove	r	FACU s	pecies			x4 =		_	
Herb Stratum (Plot siz	ze: <u>5' radius</u> )					UPL spe	ecies			x5 =		_	
Agrostis gigantea		<u>30</u>	<u>yes</u>		FAC	Column	Totals:		(A)			(B	5)
2. Agrostis capillaris		25	yes		FAC	00.0	. otalo.	Prevalence		A =	'	_ `	,
Plantago lanceola		<u></u>	yes		FACU	Hydropi	hytic Vege	tation Indic					
4. Trifolium pratense	<del></del>	<u>15</u>	<u>no</u>		FACU			st for Hydro		etation			
5. <u>Medicago lupulina</u>		<u>10</u>	no		FACU			e Test is >5					
6						□ 3-	Prevalenc	e Index is <	3 0 <sup>1</sup>				
7						4		gical Adapta		vide sunno	rtina		
8			· <u></u>					emarks or on			iung		
9.						□ 5 -	Wetland N	lon-Vascula	r Plants <sup>1</sup>				
10						□ Pr	oblematic F	Hydrophytic	Vegetation	<sup>1</sup> (Explain)			
11.							obioinatio i	iyaropiiyao	vogotation	(Explain)			
50% = <u>50</u> , 20% = <u>20</u>		100	= Total (	Cove				c soil and we					
Woody Vine Stratum	(Plot size: 15' radius)					be prese	ent, unless	disturbed or	problemati	IC.			
1. <u>-</u>	<u> </u>												
2						Hydropl	hytic						
50% =, 20% =			= Total (	Cove	 r	Vegetat		Y	es		No		
% Bare Ground in He			,			Present	ſ						
	Hydrophytic vegetation present	nassas Domi	nance Toot										
Remarks:	ryuropriyiic vegetation present	, passes Domi	iance rest										

Depth   Color (   0-16   10 Y	Matrix (moist)						nce of indicate	013.)			
<del></del>	(moist)				Redox Features						
0-16 10 Y	(	%	Colo	(mo	ist) % Type <sup>1</sup>	Loc <sup>2</sup>	 Texture		Remarks		
	′R 3/3	100					loam	Dry			
			_					<u> </u>			
			_					<u> </u>			
								<u> </u>			
<u> </u>			_								
<u> </u>			_					<del>-</del>			
			_					<del></del>			
			_					<del>-</del>			
•					x, CS=Covered or Coated Sar	nd Grains.		Pore Lining, M=Matrix			
dric Soil Indicators	: (Applicable	to all L	_	_	•		_	cators for Problematic	Hydric Soi	ils³:	
Histosol (A1)					Sandy Redox (S5)			2 cm Muck (A10)			
Histic Epipedon (				]	Stripped Matrix (S6)			Red Parent Material			
Black Histic (A3)				_	Loamy Mucky Mineral (F1) (	except MLRA	· _	Very Shallow Dark S	•	12)	
Hydrogen Sulfide				_	Loamy Gleyed Matrix (F2)			Other (Explain in Re	marks)		
Depleted Below I		(A11)		_	Depleted Matrix (F3)						
Thick Dark Surfa				_	Redox Dark Surface (F6)		3Indi	cators of hydrophytic ve	agotation on	v d	
Sandy Mucky Mir				_	Depleted Dark Surface (F7)			etland hydrology must		iu	
Sandy Gleyed Ma			L		Redox Depressions (F8)		u	nless disturbed or probl	lematic.		
strictive Layer (if p	resent):										
e:	_								_		_
pth (inches):						Tryunc our	Is Present?	Yes		No	
YDROLOGY											
	ndicators:										
etland Hydrology In		required	; check al	I that	apply)		Secon	idary Indicators (2 or m	ore required	1)	
tland Hydrology In	nimum of one r	required		I that	apply) Water-Stained Leaves (B9)			idary Indicators (2 or mo Water-Stained Leaves (	•	1)	
etland Hydrology In mary Indicators (min	nimum of one r	required				i 4B)			(B9)	1)	
etland Hydrology In mary Indicators (min Surface Water (# High Water Tabl	nimum of one r	required			Water-Stained Leaves (B9)	i 4B)		Water-Stained Leaves (	(B9)	<b>i</b> )	
etland Hydrology In mary Indicators (min Surface Water (# High Water Tabl	nimum of one r A1) le (A2)	required			Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and	i 4B)		Water-Stained Leaves (MLRA 1, 2, 4A, and 4I	(B9) <b>B)</b>	1)	
etland Hydrology In mary Indicators (min Surface Water (A High Water Tabl Saturation (A3)	nimum of one r A1) le (A2)	required			Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11)	i 4B)		Water-Stained Leaves ( (MLRA 1, 2, 4A, and 4I) Drainage Patterns (B10	(B9) <b>B)</b> (b)		
etland Hydrology In mary Indicators (min Surface Water (A High Water Tabl Saturation (A3) Water Marks (B1	nimum of one r A1) le (A2) 1) sits (B2)	required			Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13)			Water-Stained Leaves ( (MLRA 1, 2, 4A, and 4I) Drainage Patterns (B10) Dry-Season Water Tabl	(B9)  B)  I)  Ie (C2)  erial Imagery		
etland Hydrology In mary Indicators (min Surface Water (A High Water Tabl Saturation (A3) Water Marks (B1 Sediment Depos	nimum of one r A1) le (A2) 1) sits (B2)	required			Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	g Living Roots	(C3)	Water-Stained Leaves ( (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10) Dry-Season Water Tabl Saturation Visible on Ae	(B9)  B)  I)  Ie (C2)  erial Imagery		
etland Hydrology In mary Indicators (min Surface Water (A High Water Tabl Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B	nimum of one r A1) e (A2) 1) sits (B2) 3) st (B4)	required			Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along	g Living Roots (	(C3)	Water-Stained Leaves ( (MLRA 1, 2, 4A, and 4I) Drainage Patterns (B10) Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D	(B9)  B)  I)  Ie (C2)  erial Imagery		
etland Hydrology In mary Indicators (min Surface Water (A High Water Tabl Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B Algal Mat or Cru	nimum of one r A1) le (A2) 1) sits (B2) (3) st (B4)	required			Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C	g Living Roots (C4) ed Soils (C6)	(C3)	Water-Stained Leaves ( (MLRA 1, 2, 4A, and 4I) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3)	(B9)  B)  I)  le (C2)  erial Imagery  C2)		
etland Hydrology In mary Indicators (min Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B Algal Mat or Cru- Iron Deposits (Bs Surface Soil Cra	nimum of one r A1) le (A2) 1) sits (B2) 3) st (B4) 5) locks (B6)				Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C) Recent Iron Reduction in Tilli	g Living Roots (C4) ed Soils (C6)	(C3)	Water-Stained Leaves ( (MLRA 1, 2, 4A, and 4I) Drainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5)	(B9)  B)  I)  le (C2)  erial Imagery  D2)		
etland Hydrology In imary Indicators (min Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B1 Algal Mat or Cruel Iron Deposits (B2 Surface Soil Crael Inundation Visible	nimum of one r A1) le (A2) 1) sits (B2) s3) st (B4) 5) lcks (B6)	nagery (I	37)		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stresses Plants (I	g Living Roots (C4) ed Soils (C6)	(C3)	Water-Stained Leaves ( (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10) Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	(B9)  B)  I)  le (C2)  erial Imagery  D2)		
etland Hydrology In imary Indicators (min Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B Algal Mat or Cru- Iron Deposits (B Surface Soil Cra Inundation Visibl Sparsely Vegeta	nimum of one r A1) le (A2) 1) sits (B2) s3) st (B4) 5) lcks (B6)	nagery (I	37)		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stresses Plants (I	g Living Roots (C4) ed Soils (C6)	(C3)	Water-Stained Leaves ( (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10) Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	(B9)  B)  I)  le (C2)  erial Imagery  D2)		
etland Hydrology In imary Indicators (min ] Surface Water (A ] High Water Tabl ] Saturation (A3) ] Water Marks (B1 ] Sediment Depos ] Drift Deposits (B ] Algal Mat or Cru-   Iron Deposits (B:   Surface Soil Cra   Inundation Visibl   Sparsely Vegeta   Eld Observations:	nimum of one r A1) le (A2) 1) sits (B2) (3) st (B4) 5) lcks (B6) le on Aerial Im	nagery (I	37)		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stresses Plants (I	g Living Roots (C4) ed Soils (C6)	(C3)	Water-Stained Leaves ( (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10) Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	(B9)  B)  I)  le (C2)  erial Imagery  D2)		
etland Hydrology In imary Indicators (min ] Surface Water (A ] High Water Tabl ] Saturation (A3) ] Water Marks (B1 ] Sediment Deposit ] Drift Deposits (B1 ] Algal Mat or Cru- Iron Deposits (B2 ] Iron Deposits (B3 ] Surface Soil Cra Inundation Visibl ] Sparsely Vegeta eld Observations: urface Water Present	nimum of one r A1) le (A2) 1) sits (B2) (3) st (B4) 5) lecks (B6) le on Aerial Im	nagery (I	37) (B8)		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stresses Plants (I Other (Explain in Remarks)	g Living Roots (C4) ed Soils (C6)	(C3)	Water-Stained Leaves ( (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10) Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	(B9)  B)  I)  le (C2)  erial Imagery  D2)		
High Water Tabl Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B Algal Mat or Cru- Iron Deposits (B Surface Soil Cra Inundation Visibl	nimum of one r A1) le (A2)  1) sits (B2) s3) st (B4) 5) le ks (B6) le on Aerial Im ated Concave s Yes Yes	nagery (I Surface	37) (B8) No		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C) Recent Iron Reduction in Till Stunted or Stresses Plants (I) Other (Explain in Remarks)	g Living Roots (C4) ed Soils (C6) D1) (LRR A)	(C3)	Water-Stained Leaves ( (MLRA 1, 2, 4A, and 4) Drainage Patterns (B10) Dry-Season Water Tabl Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	(B9)  B)  Ile (C2)  Brial Imagery  (C2)  (C3)  (C4)  (C5)  (C4)  (C7)  (C7)		
retland Hydrology In rimary Indicators (min rimary Indicators (min Indicators) Indicat	nimum of one r A1) le (A2)  1) sits (B2) si3) st (B4) 5) le (A2) le on Aerial Im sted Concave s Yes Yes	nagery (E	37) (B8) No No		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stresses Plants (I Other (Explain in Remarks)  Depth (inches):  Depth (inches):	g Living Roots (C4) ed Soils (C6) D1) (LRR A)	(C3)	Water-Stained Leaves ( (MLRA 1, 2, 4A, and 4I) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummock	(B9)  B)  Ile (C2)  Brial Imagery  (C2)  (C3)  (C4)  (C5)  (C4)  (C7)  (C7)	y (C9)	
retland Hydrology In rimary Indicators (min rimary Indicators (min Indicators) Indicat	nimum of one r A1) le (A2)  1) sits (B2) si3) st (B4) 5) le (A2) le on Aerial Im sted Concave s Yes Yes	nagery (E	37) (B8) No No		Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C) Recent Iron Reduction in Till Stunted or Stresses Plants (I) Other (Explain in Remarks)  Depth (inches): Depth (inches):	g Living Roots (C4) ed Soils (C6) D1) (LRR A)	(C3)	Water-Stained Leaves ( (MLRA 1, 2, 4A, and 4I) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummock	(B9)  B)  Ile (C2)  Brial Imagery  (C2)  (C3)  (C4)  (C5)  (C4)  (C7)  (C7)	y (C9)	<u> </u>

Project Site:	Manley Road			City/Cour	nty: Battle Ground/Clark County	Sampling Date	): <u>6</u>	<u>/21/17</u>	
Applicant/Owner:	Clark County				State: WA	Sampling Poin	t: <u>2</u>	<u>6</u>	
Investigator(s):	Jeff Gray, Kevin O'Brien, Steph	anie Modjesk	<u>i</u>		Section, Township, Ra	nge: <u>29, 04N, 0</u>	<u>2E</u>		
Landform (hillslope, te	errace, etc.): Roadside should	<u>er</u>	Loc	al relief (conc	ave, convex, none): none		Slope (%	5): <u>0</u>	
Subregion (LRR):	<u>A</u>	Lat: 45.8	<u>3019050</u>		Long: <u>-122.585999</u>	Da	tum: WG	S 1984	
Soil Map Unit Name:	Riverwash, cobbly				NWI cla	assification: <u>n</u>	<u>one</u>		
Are climatic / hydrolog	gic conditions on the site typical fo	or this time of	year?	Yes ⊠	No 🔲 (If no, explain	in Remarks.)			
Are Vegetation ☐,	, Soil □, or Hydrology	☐, signific	cantly disturbe	d? Are "	Normal Circumstances" presen	t?	Yes 🗵	No	
Are Vegetation	, Soil □, or Hydrology	☐, natura	ally problemation	c? (If ne	eeded, explain any answers in F	Remarks.)			
SUMMARY OF FIN	IDINGS – Attach site map s	howing sa	mpling poin	t locations,	transects, important feat	ures, etc.			
Hydrophytic Vegetatio	n Present?	Yes 🗵	No □	la tha Cama	alad Avaa				
Hydric Soil Present?		Yes [	No ⊠	Is the Samp			Yes	] No	$\boxtimes$
Wetland Hydrology Pr	resent?	Yes [	] No ⊠						
Remarks: Data poir	nt taken within location of pote	ntial bioswa	le location ald	ong roadside	edge. Not all three wetland in	ndicators presen	ıt.		
VEGETATION - Us	se scientific names of plant	ts							
Tree Stratum (Plot siz	e: 30' radius)	Absolute % Cover	Dominant Species?	Indicator <u>Status</u>	Dominance Test Workshee	t:			
1. Psuedotsuga men	nziesii_	<u>20</u>	<u>yes</u>	FACU	Number of Dominant Species				
2.					That Are OBL, FACW, or FAC		<u>2</u>		(A)
3					Total Number of Dominant				
4					Species Across All Strata:		<u>3</u>		(B)
50% = <u>10</u> , 20% = <u>4</u>		<u>20</u>	= Total Cov	er	Percent of Dominant Species	<b>i</b>	00		(A (D)
Sapling/Shrub Stratun	m (Plot size: 15' radius)				That Are OBL, FACW, or FAC		<u>66</u>		(A/B)
1. <u>-</u>					Prevalence Index workshee	et:			
2					Total % Cover o	<u>f:</u>	Multiply by	<u>y:</u>	
3					OBL species	_	x1 = _		
4					FACW species	_	x2 = _		
5					FAC species	_	x3 = _		
50% =, 20% =			= Total Cov	er	FACU species	_	x4 =		
Herb Stratum (Plot siz	ze: <u>5'</u> )				UPL species	<del>_</del>	x5 = _		
1. Agrostis gigantea		<u>40</u>	<u>yes</u>	FAC	Column Totals:	_ (A)	_	(	B)
2. Agrostis capillaris		<u>30</u>	<u>yes</u>	FAC		ce Index = B/A =			
Trifolium pratense	•	20	yes	FACU	Hydrophytic Vegetation Ind	licators:			
4. Anthoxanthum od	oratum	<u>5</u>	no	FACU	☐ 1 – Rapid Test for Hydr	ophytic Vegetatic	n		
5. <u>Taraxacum officin</u>	<u>ale</u>	<u>3</u>	<u>no</u>	<u>FACU</u>	2 - Dominance Test is	>50%			
6. <u>Hypochaeris radic</u>	e <u>ata</u>	<u>2</u>	<u>no</u>	FACU	☐ 3 - Prevalence Index is	<3 0 <sup>1</sup>			
7		_	<del></del>		4 Morphological Adap	<del>-</del> .	supporting	,	
8					data in Remarks or			9	
9					5 - Wetland Non-Vascu	lar Plants <sup>1</sup>			
10					☐ Problematic Hydrophyti		(nlain)		
11					— Troblemade Trydrophlyd	e vegetation (Ex	.piairi)		
50% = 50, 20% = 20		100	= Total Cov	<del></del>	<sup>1</sup> Indicators of hydric soil and		y must		
Woody Vine Stratum (	(Plot size: 15' radius)	<u></u>		<b>.</b>	be present, unless disturbed	or problematic.			
1. <u>-</u>									
2.					Hydrophytic				
50% =, 20% =			= Total Cov	er	•	Yes 🛚	1	No	
% Bare Ground in He			2.2. 000		Present?				
	<del>_</del>	accos Domi-	anco Tost						
Remarks:	Hydrophytic vegetation present; p	asses Domin	iance rest.						

Depth Mat	rix			Redox Fea	itures		-					
nches) Color (moist)	%		Color (m	oist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	<u> </u>		Remark	S	
<u>0-18</u> <u>10 YR 3/3</u>	<u>10</u>	<u>0</u>		. <u>—</u>			loam	<u>Dry</u>				
		<u>—</u>		·					•			
			-	· <u></u>				_				
		_		· —				<del>_</del>				
			-	· ——				<del>-</del>				
		_	-	· —				_	•			
	-	<u>—</u>		· —			-		•			
ype: C= Concentration, D=	—— Depletion	— RM=Redu	ced Mat	rix_CS=Covered or Co	nated Sand	I Grains <sup>2</sup> Lo	cation: PI :	=Pore Lining,	M=Matrix			
dric Soil Indicators: (App	-				oatea oana	TOTAINS. LO		cators for Pr		Hvdric S	Soils <sup>3</sup> :	
Histosol (A1)		u,		Sandy Redox (S5)				2 cm Muck		,		
Histic Epipedon (A2)				Stripped Matrix (S6)	)				it Material (	TF2)		
Black Histic (A3)				Loamy Mucky Mine		cept MLRA 1)			ow Dark Su	,	F12)	
] Hydrogen Sulfide (A4)				Loamy Gleyed Matr		. ,			olain in Ren	-	,	
Depleted Below Dark S	urface (A1	1)		Depleted Matrix (F3	, ,			` '		,		
Thick Dark Surface (A1		,		Redox Dark Surface	e (F6)							
Sandy Mucky Mineral (	S1)			Depleted Dark Surfa				icators of hyd				
Sandy Gleyed Matrix (S	64)			Redox Depressions	(F8)			vetland hydrol ınless disturbe			ıt,	
estrictive Layer (if presen	t):								,			
pe:												
epth (inches):						Hydric Soils P	resent?		Yes		No	$\boxtimes$
<u> </u>	ndicator pre	esent.										
emarks: No hydric soil ii		esent.				•						
emarks: No hydric soil ii  YDROLOGY  Vetland Hydrology Indicate	ors:		ok all tha	ot apply)			Sacon	adany Indicate	re /2 or mo	uro roquir	od)	
emarks: No hydric soil ii  YDROLOGY  /etland Hydrology Indicate	ors:				(0.0 (PO)			ndary Indicato	-		ed)	
YDROLOGY  [etland Hydrology Indicate   rimary Indicators (minimum   Surface Water (A1)	ors: of one req		ck all tha	Water-Stained Leav	` '	ID)		Water-Staine	d Leaves (E	39)	ed)	
YDROLOGY etland Hydrology Indicate imary Indicators (minimum  Surface Water (A1)  High Water Table (A2)	ors: of one req			Water-Stained Leav (except MLRA 1, 2	` '	·B)		Water-Staine	d Leaves (E	39)	ed)	
YDROLOGY etland Hydrology Indicate imary Indicators (minimum    Surface Water (A1)   High Water Table (A2)   Saturation (A3)	ors: of one req			Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)	, 4A, and 4	ВВ)		Water-Staine (MLRA 1, 2, 4 Drainage Pat	d Leaves (E 1A, and 4B terns (B10)	39) <b>)</b>	ed)	
YDROLOGY etland Hydrology Indicate imary Indicators (minimum   Surface Water (A1)   High Water Table (A2)   Saturation (A3)   Water Marks (B1)	ors: of one req			Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate	, <b>4A</b> , <b>and 4</b>	JB)		Water-Stainer (MLRA 1, 2, 4 Drainage Pati Dry-Season V	d Leaves (E 1A, and 4B terns (B10) Vater Table	39) 3) e (C2)		
YDROLOGY etland Hydrology Indicate imary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ors: of one req			Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O	, <b>4A</b> , <b>and 4</b> es (B13) edor (C1)			Water-Stainer (MLRA 1, 2, 4 Drainage Patt Dry-Season V Saturation Vis	d Leaves (E 4A, and 4B terns (B10) Vater Table sible on Ael	B9)  (C2)  (C3)		
YDROLOGY etland Hydrology Indicate imary Indicators (minimum   Surface Water (A1)   High Water Table (A2)   Saturation (A3)   Water Marks (B1)   Sediment Deposits (B2)   Drift Deposits (B3)	ors: of one req			Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe	es (B13) dor (C1) eres along l	Living Roots (C3)		Water-Stainer (MLRA 1, 2, 4 Drainage Patt Dry-Season V Saturation Vis Geomorphic I	d Leaves (E4A, and 4B) terns (B10) Vater Table sible on Aei	B9)  (C2)  (C3)		
YDROLOGY etland Hydrology Indicate imary Indicators (minimum  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B4)	ors: of one req			Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce	es (B13) dor (C1) eres along I ed Iron (C4	Living Roots (C3)		Water-Stainer (MLRA 1, 2, 4 Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit	d Leaves (E 4A, and 4B terns (B10) Vater Table sible on Ael Position (D2 tard (D3)	B9)  (C2)  (C3)		
YDROLOGY etland Hydrology Indicate imary Indicators (minimum) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	ors: of one req			Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti	es (B13) Idor (C1) Idor (C4) Idor in Tillec	Living Roots (C3) ) d Soils (C6)		Water-Stainer (MLRA 1, 2, 4 Drainage Patt Dry-Season V Saturation Vis Geomorphic I Shallow Aquit FAC-Neutral	d Leaves (E 4A, and 4B terns (B10) Vater Table sible on Aer Position (D2 tard (D3) Test (D5)	39) (i) (ii) (iii)	ery (C9)	
YDROLOGY etland Hydrology Indicate imary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B	ors: of one req	uired; ched		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses	es (B13) dor (C1) eres along l ed Iron (C4 ion in Tilled Plants (D1	Living Roots (C3) ) d Soils (C6)		Water-Stainer (MLRA 1, 2, 4 Drainage Pati Dry-Season V Saturation Vis Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M	d Leaves (E 4A, and 4B terns (B10) Vater Table sible on Aer Position (D2 tard (D3) Test (D5) ounds (D6)	e (C2) rial Image 2)	ery (C9)	
YDROLOGY  etland Hydrology Indicate imary Indicators (minimum)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (E1)	ors: of one req 2) ) 6) werial Imag	uired; ched		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti	es (B13) dor (C1) eres along l ed Iron (C4 ion in Tilled Plants (D1	Living Roots (C3) ) d Soils (C6)		Water-Stainer (MLRA 1, 2, 4 Drainage Patt Dry-Season V Saturation Vis Geomorphic I Shallow Aquit FAC-Neutral	d Leaves (E 4A, and 4B terns (B10) Vater Table sible on Aer Position (D2 tard (D3) Test (D5) ounds (D6)	e (C2) rial Image 2)	ery (C9)	
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YDROLOGY etland Hydrology Indicate imary Indicators (minimum   Surface Water (A1)   High Water Table (A2)   Saturation (A3)   Water Marks (B1)   Sediment Deposits (B3)   Algal Mat or Crust (B4   Iron Deposits (B5)   Surface Soil Cracks (B1   Inundation Visible on A1   Sparsely Vegetated Celeld Observations:	ors: of one req 2) 6) Aerial Imag	uired; ched		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses	es (B13) dor (C1) eres along led Iron (C4) ion in Tilled Plants (D1)	Living Roots (C3) ) d Soils (C6)		Water-Stainer (MLRA 1, 2, 4 Drainage Pati Dry-Season V Saturation Vis Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M	d Leaves (E 4A, and 4B terns (B10) Vater Table sible on Aer Position (D2 tard (D3) Test (D5) ounds (D6)	e (C2) rial Image 2)	ery (C9)	
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YDROLOGY  Tetland Hydrology Indicate imary Indicators (minimum)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (E1)	ors: of one req 2) 6) Aerial Imag oncave Sur Yes Yes	uired; ched ery (B7) face (B8)		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re	es (B13) dor (C1) eres along l ed Iron (C4 ion in Tilled Plants (D1 emarks)	Living Roots (C3) ) d Soils (C6) I) (LRR A)		Water-Stainer (MLRA 1, 2, 4 Drainage Pati Dry-Season V Saturation Vis Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M	d Leaves (E  AA, and 4B  terns (B10)  Vater Table  sible on Ael  Position (D2  tard (D3)  Test (D5)  ounds (D6)  Hummocks	e (C2) rial Image 2)	ery (C9)	0
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YDROLOGY etland Hydrology Indicate imary Indicators (minimum   Surface Water (A1)   High Water Table (A2)   Saturation (A3)   Water Marks (B1)   Sediment Deposits (B3)   Algal Mat or Crust (B4   Iron Deposits (B5)   Surface Soil Cracks (E   Inundation Visible on A   Sparsely Vegetated Coeld Observations: urface Water Present? ater Table Present? sturation Present? cludes capillary fringe)	ors: of one req 2) 6) Aerial Imag oncave Sur Yes Yes Yes	ery (B7) rface (B8)		Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reduct Stunted or Stresses Other (Explain in Re  Depth (inches): Depth (inches):	es (B13) dor (C1) eres along l ed Iron (C4) ion in Tillec s Plants (D1) emarks)	Living Roots (C3) ) d Soils (C6) d) (LRR A)  Wet		Water-Stainer (MLRA 1, 2, 4) Drainage Pati Dry-Season V Saturation Vis Geomorphic I Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave I	d Leaves (E  AA, and 4B  terns (B10)  Vater Table  sible on Ael  Position (D2  tard (D3)  Test (D5)  ounds (D6)  Hummocks	39) e (C2) rial Image 2) (LRR A	ery (C9)	0

# **Appendix D** — **Ecology Wetland Rating Forms**

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland A	Date of site visit:	6/21/2017		
Rated by Stephanie Modjeski, Jeff Gray  Trained by Ecology? ✓ Yes □No	Date of training	3/18/2015		
HGM Class used for rating Depressional & Flats Wetland has multip	ole HGM classes? ☐	Yes ☑No		
NOTE: Form is not complete with out the figures requested (figures can	be combined).			
Source of base aerial photo/map				
OVERALL WETLAND CATEGORY III (based on functions ⊡or special characteristics □)				
4.0.4				
1. Category of wetland based on FUNCTIONS				
Category I - Total score = 23 - 27	Score for each			
Category II - Total score = 20 - 22 function based				
X Category III - Total score = 16 - 19	on three			
Category IV - Total score = 9 - 15	ratings			

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List appropriate rating (H, M, L)			
Site Potential	M	M	L	
Landscape Potential	M	Н	М	
Value	Н	M	L	Total
Score Based on Ratings	7	7	4	18

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

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

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	Х

# 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	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	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	4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	11
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	3

### Riverine Wetlands

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

#### Lake Fringe Wetlands

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

#### Slope Wetlands

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

# **HGM Classification of Wetland in Western Washington**

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

i. Ale ii	ie water levels in the entire unit usuali	ly controlled by tides except during floods?
<b>√</b>	NO - go to 2	$\square$ <b>YES</b> - the wetland class is <b>Tidal Fringe</b> - go to 1.1
1.1	Is the salinity of the water during per	riods of annual low flow below 0.5 ppt (parts per thousand)?
		a Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. <b>Estuarine</b> wetland and is not scored. This method <b>cannot</b> be
	ntire wetland unit is flat and precipitati vater and surface water runoff are NO	on is the only source (>90%) of water to it. T sources of water to the unit.
<b>√</b>	NO - go to 3  If your wetland can be classified as a	☐ <b>YES</b> - The wetland class is <b>Flats</b> a Flats wetland, use the form for <b>Depressional</b> wetlands.
		on the shores of a body of permanent open water (without any the year) at least 20 ac (8 ha) in size;
<b>√</b>	NO - go to 4	☐ <b>YES</b> - The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe
		n be very gradual), I in one direction (unidirectional) and usually comes from seeps. v, or in a swale without distinct banks.
<b>√</b>	NO - go to 5	$\square$ <b>YES</b> - The wetland class is <b>Slope</b>
		type of wetlands except occasionally in very small and shallow as are usually <3 ft diameter and less than 1 ft deep).
	the entire wetland unit <b>meet all</b> of the  ] The unit is in a valley, or stream cha from that stream or river,  ] The overbank flooding occurs at leas	nnel, where it gets inundated by overbank flooding
<b>√</b>	NO - go to 6	☐ <b>YES</b> - The wetland class is <b>Riverine</b>
NOTE: 1	he Riverine unit can contain depressi	ions that are filled with water when the river is not flooding.

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

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

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

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

NOTES and FIELD OBSERVATIONS:

Wetland name or number

TMDL for East Fork Lewis River status is Under Development.

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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	3
☐ Wetland has an unconstricted, or slightly constricted, surface outlet	
that is permanently flowing points = 1	
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is	
a permanently flowing ditch. points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic	0
(use NRCS definitions). Yes = 4 No = 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	3
Wetland has persistent, ungrazed, plants > ½ of area points = 3	
Wetland has persistent, ungrazed plants $> \frac{1}{10}$ of area points = 1	
Wetland has persistent, ungrazed plants $< \frac{1}{10}$ of area points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	
This is the area that is ponded for at least 2 months. See description in manual.	
Area seasonally ponded is > ½ total area of wetland points = 4	0
Area seasonally ponded is $> \frac{1}{4}$ total area of wetland points = 2	
Area seasonally ponded is < 1/4 total area of wetland points = 0	
Total for D 1 Add the points in the boxes above	6
Rating of Site Potential If score is: 12 - 16 = H	the first page
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
ID 0.4. Dono the wetland wit receive eternoweter discharges?	
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	
	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0 Yes = 1 No = 0	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Yes = 1 No = 0  Yes = 1 No = 0	1 0 0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Yes = 1 No = 0  Yes = 1 No = 0  Add the points in the boxes above	1 0 0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Yes = 1 No = 0  Yes = 1 No = 0	1 0 0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is:	1 0 0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Yes = 1 No = 0  Yes = 1 No = 0  Add the points in the boxes above  Rating of Landscape Potential If score is:  3 or 4 = H  1 or 2 = M  0 = L Record the rating on	1 0 0 the first page
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H ☑ 1 or 2 = M □ 0 = L Record the rating on  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,	1 0 0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H ☑ 1 or 2 = M □ 0 = L Record the rating on  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	1 0 0 2 the first page
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H ☑ 1 or 2 = M □ 0 = L Record the rating on  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,	1 0 0 the first page
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is:  3 or 4 = H  1 or 2 = M  0 = L Record the rating on  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  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is:  3 or 4 = H  1 or 2 = M  0 = L Record the rating on	1 0 0 2 the first page
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H ☑ 1 or 2 = M □ 0 = L Record the rating on  D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0	1 0 0 2 the first page
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 or 4 = H ☑ 1 or 2 = M □ 0 = L Record the rating on  D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important	1 0 0 2 the first page
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Total for D 2  Add the points in the boxes above Rating of Landscape Potential If score is: □ 3 or 4 = H □ 1 or 2 = M □ 0 = L Record the rating on D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in	1 0 0 2 the first page

DEPRESSIONAL AND FLATS WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degr	adation
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	4
Wetland is a flat depression (QUESTION 7 on key), whose outlet is	
a permanently flowing ditch points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet	
that is permanently flowing points = 0	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of	
the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the	
deepest part.  Marks of pending are 3 ft or more above the surface or bettem of cutlet points = 7.	
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	3
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5  ☐ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3	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.	
'	
<u> </u>	0
l l	
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	7
Total for D 4 Add the points in the boxes above	7
Rating of Site Potential If score is: 12 - 16 = H	tne first page
D 5.0. Does the landscape have the potential to support hydrologic function of the site?	
D 5.1. Does the wetland unit 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?	1
Yes = 1 No = 0	
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human	4
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	1
Yes = 1 No = 0	2
Total for D 5  Add the points in the boxes above	
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):	
<ul> <li>Flooding occurs in a sub-basin that is immediately down-</li> </ul>	
gradient of unit. points = 2	1
<ul> <li>Surface flooding problems are in a sub-basin farther down-</li> </ul>	•
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	0
conveyance in a regional flood control plan?  Yes = 2 No = 0	
Total for D 6 Add the points in the boxes above	1
Rating of Value If score is: 2 - 4 = H  1 = M  0 = L  Record the rating on	tne tirst page

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class</i> . Check the Cowardin plant classes in the wetland. <i>Up to 10 patches may be combined for each class to meet the threshold of</i> 1/4 <i>ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.</i>	
<ul> <li>☐ Aquatic bed</li> <li>☐ Emergent</li> <li>☐ Scrub-shrub (areas where shrubs have &gt; 30% cover)</li> <li>☐ Forested (areas where trees have &gt; 30% cover)</li> <li>☐ I structures: points = 0</li> <li>☐ If the unit has a Forested class, check if:</li> <li>☐ 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</li> </ul>	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).	
<ul> <li>□ Permanently flooded or inundated</li> <li>□ Seasonally flooded or inundated</li> <li>□ Occasionally flooded or inundated</li> <li>□ Occasionally flooded or inundated</li> <li>□ Saturated only</li> <li>□ Permanently flowing stream or river in, or adjacent to, the wetland</li> <li>□ Seasonally flowing stream in, or adjacent to, the wetland</li> </ul>	1
<ul> <li>□ Lake Fringe wetland</li> <li>□ Freshwater tidal wetland</li> <li>2 points</li> <li>2 points</li> </ul>	
H 1.3. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> .  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	1
S species points = 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	0
All three diagrams in this row are HIGH = 3 points	

Rating of Landscape Potential in Score is. 4-0-11 7-3-14 7-3-14	ord the rating on	the mst 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 policion	es? 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 p	lant	
or animal on the state or federal lists)		
☐ It is mapped as a location for an individual WDFW priority specie	es	0
☐ It is a Wetland of High Conservation Value as determined by the	<b>;</b>	0
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	1	
watershed plan		
Site has 1 or 2 priority habitats (listed on next page) with in 100m	points = 1	
Site does not meet any of the criteria above	points = 0	
Rating of Value If Score is: 2 = H 1 = M 0 = L Rec	ord the rating on	the first page

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf\_or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds**: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above ). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). ☐ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). ☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. ☐ **Talus**: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category
Chook of	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
	Estuarine Wetlands	
30 1.0.1	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 <b>= Category I</b> □ No - Go to <b>SC 1.2</b>	
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 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
00.00	☐ Yes = Category I ☐ No = Category II	
SC 2.1.	Wetlands of High Conservation Value (WHCV)  Has the WA Department of Natural Resources updated their website to include the list	
00 2.1.	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 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 to SC 2.4 ☑ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website?	
SC 3.0. I		
	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,	
30 3.1.	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	
	<b>NOTE</b> : 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,	
00.0.4	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 sever under the capacity?	
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

SC 4.0.	Forested Wetlands	
	Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you</i>	
	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	
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	
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 $\frac{3}{4}$ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )	
	☐ Yes = Category I ☐ No = Category II	
SC 6.0.	Interdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
	☐ Yes - Go to SC 6.1  ☑ No = Not an interdunal wetland for rating	
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	
00 0.1.	(rates H,H,H or H,H,M for the three aspects of function)?	
	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
00 0.2.	The wetland if ac of larger, of is it in a mosaic of wetlands that is if ac of larger? $\square \text{ Yes} = \textbf{Category II} \qquad \square \text{ No - Go to SC 6.3}$	
SC 6 2		
SC 6.3.	·	
	1 ac?	
	☐ Yes = Category III ☐ No = Category IV	
_	ry of wetland based on Special Characteristics	
If you ar	nswered No for all types, enter "Not Applicable" on Summary Form	

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland B	Date of site visit:	6/21/2017
Rated by <u>Stephanie Modjeski, Jeff Gray</u> Trained by Ecology? ✓ Yes □ No	Date of training	3/18/2015
HGM Class used for rating Depressional & Flats Wetland has multi	ple HGM classes?	Yes ☑No
NOTE: Form is not complete with out the figures requested (figures can Source of base aerial photo/map	n be combined).	
Source of base aerial prioto/map		
OVERALL WETLAND CATEGORY III (based on functions or spec	al characteristics   )	
4. Cotomoru of westland based on FUNCTIONS		
1. Category of wetland based on FUNCTIONS	Score for each	
Category I - Total score = 23 - 27		
Category II - Total score = 20 - 22	function based	
X Category III - Total score = 16 - 19	on three	
Category IV - Total score = 9 - 15	ratings	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	ropriate rating	g (H, M, L)	
Site Potential	L	L	L	
Landscape Potential	Н	Н	М	
Value	M	Н	М	Total
Score Based on Ratings	6	7	5	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	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	Х

# 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	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	4
polygons for accessible habitat and undisturbed habitat		7
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	11
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	3

### Riverine Wetlands

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

#### Lake Fringe Wetlands

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

#### Slope Wetlands

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

# **HGM Classification of Wetland in Western Washington**

For questions 1 -7, the criteria described must apply to the entire unit being rated. If 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	$\square$ <b>YES</b> - the wetland class is <b>Tidal Fringe</b> - go to 1.1		
1.1 Is the salinity of the water during pe	riods of annual low flow below 0.5 ppt (parts per thousand)?		
	a Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. <b>Estuarine</b> wetland and is not scored. This method <b>cannot</b> be		
2. The entire wetland unit is flat and precipitate Groundwater and surface water runoff are NO			
☑ NO - go to 3  If your wetland can be classified as	☐ YES - The wetland class is Flats a Flats wetland, use the form for <b>Depressional</b> wetlands.		
	s on the shores of a body of permanent open water (without any the year) at least 20 ac (8 ha) in size;		
☑ NO - go to 4	☐ <b>YES</b> - The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)		
	n be very gradual), d in one direction (unidirectional) and usually comes from seeps. w, or in a swale without distinct banks.		
☑ NO - go to 5	$\square$ <b>YES</b> - The wetland class is <b>Slope</b>		
	type of wetlands except occasionally in very small and shallow ons are usually <3 ft diameter and less than 1 ft deep).		
<ul> <li>5. Does the entire wetland unit meet all of the   The unit is in a valley, or stream chafrom that stream or river,</li> <li>The overbank flooding occurs at least</li> </ul>	annel, where it gets inundated by overbank flooding		
☑ NO - go to 6	☐ <b>YES</b> - The wetland class is <b>Riverine</b>		
NOTE: The Riverine unit can contain depress	sions that are filled with water when the river is not flooding.		

	depression in which water ponds, or is saturated to the surface, at t any outlet, if present, is higher than the interior of the wetland.
☐ NO - go to 7	☑ YES - The wetland class is Depressional
The unit does not pond surface water more	than a few inches. The unit seems to be maintained by high be ditched, but has no obvious natural outlet.

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.

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

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

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

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

NOTES and FIELD OBSERVATIONS:

Wetland name or number B

✓ NO - go to 8

TMDL for East Fork Lewis River status is Under Development.

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	2
☐ Wetland has an unconstricted, or slightly constricted, surface outlet		
that is permanently flowing	points = 1	
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is		
a permanently flowing ditch.	points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic		0
(use NRCS definitions).	Yes = 4 No = 0	
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-sh	rub, and/or	
Forested Cowardin classes):	mainte — F	
Wetland has persistent, ungrazed, plants > 95% of area	points = 5	3
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	
D 1.4. Characteristics of seasonal ponding or inundation:		
This is the area that is ponded for at least 2 months. See description		
Area seasonally ponded is > 1/2 total area of wetland	points = 4	0
Area seasonally ponded is > 1/4 total area of wetland	points = 2	
Area seasonally ponded is < 1/4 total area of wetland	points = 0	
	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 funct	ion 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	163 - 1 110 - 0	
generate pollutants?	Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0	1
D 2.4. Are there other sources of pollutants coming into the wetland that are	1 es - 1 No - 0	Į.
not listed in questions D 2.1 - D 2.3?		0
Source	Yes = 1 No = 0	O
	in the boxes above	3
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L		
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,		1
lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0	•
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the	` '	1
	Yes = 1 No = 0	-
D 3.3. Has the site been identified in a watershed or local plan as important		_
for maintaining water quality (answer YES if there is a TMDL for the basin in		2
which the unit is found)?	Yes = 2 No = 0	
	in the boxes above	4
Rating of Value If score is: 2 - 4 = H  1 = M  0 = L	Record the rating on	the first page

DEPRESSIONAL AND FLATS WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream 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	2	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is		
a permanently flowing ditch points = 1		
Wetland has an unconstricted, or slightly constricted, surface outlet		
that is permanently flowing points = 0		
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of		
the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the		
deepest part.		
Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7		
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	3	
☑ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet 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.		
$\Box$ The area of the basin is less than 10 times the area of the unit points = 5	0	
The area of the basin is 10 to 100 times the area of the unit points = 3	U	
The area of the basin is more than 100 times the area of the unit points = 0		
☐ Entire wetland is in the Flats class points = 5		
Total for D 4 Add the points in the boxes above	5	
Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L Record the rating on	the first page	
D 5.0. Does the landscape have the potential to support hydrologic function of the site?		
D 5.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1	
D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff?		
Yes = 1 No = 0	1	
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human		
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	1	
Yes = 1 No = 0		
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. <u>Choose the highest</u>		
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		
<ul> <li>✓ Surface flooding problems are in a sub-basin farther down-</li> </ul>	1	
gradient. points = 1		
☐ Flooding from groundwater is an issue in the sub-basin.		
☐ 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.		
D 6.2. Has the site been identified as important for flood storage or flood		
conveyance in a regional flood control plan?  Yes = 2 No = 0	0	
Total for D 6  Add the points in the boxes above	1	
	the first page	

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class</i> . Check the Cowardin plant classes in the wetland. <i>Up to 10 patches may be combined for each class to meet the threshold of</i> ¼ <i>ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.</i>	
<ul> <li>□ Aquatic bed</li> <li>□ Emergent</li> <li>□ Scrub-shrub (areas where shrubs have &gt; 30% cover)</li> <li>□ Forested (areas where trees have &gt; 30% cover)</li> <li>□ If the unit has a Forested class, check if:</li> <li>□ 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</li> </ul>	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).	
<ul> <li>□ Permanently flooded or inundated</li> <li>□ Seasonally flooded or inundated</li> <li>□ Occasionally flooded or inundated</li> <li>□ Occasionally flooded or inundated</li> <li>□ Saturated only</li> <li>□ Permanently flowing stream or river in, or adjacent to, the wetland</li> <li>□ Seasonally flowing stream in, or adjacent to, the wetland</li> </ul>	1
<ul><li>□ Lake Fringe wetland</li><li>□ Freshwater tidal wetland</li><li>2 points</li><li>2 points</li></ul>	
H 1.3. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> .  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	0
All three diagrams in this row are HIGH = 3 points	

Rating of Value If Score is:  $\square 2 = H \square 1 = M$ 

Site does not meet any of the criteria above

Record the rating on the first page

points = 0

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds**: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above ). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). ☑ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). ☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. ☐ **Talus**: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category
Chook of	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
	Estuarine Wetlands	
30 1.0.1	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 <b>= Category I</b> □ No - Go to <b>SC 1.2</b>	
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 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
00.00	☐ Yes = Category I ☐ No = Category II	
SC 2.1.	Wetlands of High Conservation Value (WHCV)  Has the WA Department of Natural Resources updated their website to include the list	
00 2.1.	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 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 to SC 2.4 ☑ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website?	
SC 3.0. I		
	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,	
30 3.1.	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	
	<b>NOTE</b> : 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,	
00.0.4	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 sever under the capacity?	
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

SC 4.0.	Forested Wetlands	
	Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you</i>	
	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	
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	
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).	
	grazed or un-mowed grassland.	
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )	
	☐ Yes = Category I ☐ No = Category II	
SC 6.0.	Interdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
	$\square$ Yes - Go to SC 6.1 $\square$ No = Not an interdunal wetland for rating	
SC 6.1.		
	(rates H,H,H or H,H,M for the three aspects of function)?	
	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
55 0.2.	Yes = Category II  □ No - Go to SC 6.3	
SC 6.3.		
JU 0.J.	1 ac?	
0-1	☐ Yes = Category III ☐ No = Category IV	
_	ry of wetland based on Special Characteristics	
If you ar	nswered No for all types, enter "Not Applicable" on Summary Form	

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):	Wetland C		Date of site visit:	6/21/2017	
Rated by Stephanie Modjes	ki, Jeff Gray Trained by E	cology? ☑ Yes ☐ No	Date of training	3/18/2015	
HGM Class used for rating	Depressional & Flats	Wetland has multip	le HGM classes? 🗌	Yes ☑No	
	ot complete with out the figures re of base aerial photo/map	equested (figures can	be combined).		
OVERALL WETLAND CATEGORY III (based on functions ☑or special characteristics ☐)					
1 Category of wetland	based on FUNCTIONS				
i. Guidgory or Welland	Category I - Total score = 23 - 27	Г	Score for each		
	Category II - Total score = 20 - 22		function based		
		on three			
	Category IV - Total score = 9 - 15		ratings		

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	ropriate rating	g (H, M, L)	
Site Potential	L	L	L	
Landscape Potential	Н	Н	Н	
Value	Н	M	М	Total
Score Based on Ratings	7	6	6	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	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	Х

# 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
Hydroperiods	D 1.4, H 1.2	5
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	5
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	5
Map of the contributing basin	D 4.3, D 5.3	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	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	11
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	3

# Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

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

# **HGM Classification of Wetland in Western Washington**

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

i. Ale the	water levels in the entire unit usual	y controlled by tides	except during floods?
✓ 1	NO - go to 2	☐ <b>YES</b> - the wetlar	nd class is <b>Tidal Fringe</b> - go to 1.1
1.1	s the salinity of the water during per	iods of annual low flo	ow below 0.5 ppt (parts per thousand)?
I I		a Freshwater Tidal F <b>Estuarine</b> wetland a	☐ <b>YES - Freshwater Tidal Fringe</b> iringe use the forms for <b>Riverine</b> wetlands. and is not scored. This method <b>cannot</b> be
	ire wetland unit is flat and precipitati ter and surface water runoff are NO		
	NO - go to 3 If your wetland can be classified as a	a Flats wetland, use	☐ <b>YES</b> - The wetland class is <b>Flats</b> the form for <b>Depressional</b> wetlands.
	e entire wetland unit <b>meet all</b> of the The vegetated part of the wetland is plants on the surface at any time of the least 30% of the open water area	on the shores of a b the year) at least 20	
✓ 1	NO - go to 4	☐ <b>YES</b> - The wetla	nd class is <b>Lake Fringe</b> (Lacustrine Fringe)
	e entire wetland unit <b>meet all</b> of the The wetland is on a slope ( <i>slope car</i> The water flows through the wetland it may flow subsurface, as sheetflow The water leaves the wetland <b>witho</b>	n be very gradual), in one direction (uni r, or in a swale withou	
✓ 1	NO - go to 5		$\square$ <b>YES</b> - The wetland class is <b>Slope</b>
	rface water does not pond in these to some or behind hummocks (depression		ept occasionally in very small and shallow iameter and less than 1 ft deep).
☐ <sup>7</sup>	e entire wetland unit <b>meet all</b> of the The unit is in a valley, or stream cha from that stream or river, The overbank flooding occurs at leas	nnel, where it gets ir	
<b>V</b>	NO - go to 6		☐ YES - The wetland class is Riverine
NOTE: Th	e Riverine unit can contain depressi	ons that are filled wi	th water when the river is not flooding.

Wetland name or number _	С	
_		

, , ,	depression in which water ponds, or is saturated to the surface, at any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	☑ YES - The wetland class is Depressional
•	flat area with no obvious depression and no overbank flooding? than a few inches. The unit seems to be maintained by high e ditched, but has no obvious natural outlet.

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

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

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

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

# NOTES and FIELD OBSERVATIONS:

TMDL for East Fork Lewis River status is Under Development. Septic system located on Tax Parcel # 227398000.

DEPRESSIONAL AND FLATS WETLANDS		
Water Quality Functions - Indicators that the site functions to im	prove 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	2
☐ Wetland has an unconstricted, or slightly constricted, surface outlet		
that is permanently flowing	points = 1	
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is		
a permanently flowing ditch.	points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic		0
(use NRCS definitions).	Yes = 4 No = 0	
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-sh	rub, and/or	
Forested Cowardin classes):	mainte — F	
Wetland has persistent, ungrazed, plants > 95% of area	points = 5	3
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	
D 1.4. Characteristics of seasonal ponding or inundation:		
This is the area that is ponded for at least 2 months. See description		
Area seasonally ponded is > 1/2 total area of wetland	points = 4	0
Area seasonally ponded is > 1/4 total area of wetland	points = 2	
Area seasonally ponded is < 1/4 total area of wetland	points = 0	
	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 funct	ion 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	163 - 1 110 - 0	
generate pollutants?	Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0	1
D 2.4. Are there other sources of pollutants coming into the wetland that are	162 - 1 110 - 0	ļ
not listed in questions D 2.1 - D 2.3?		0
Source	Yes = 1 No = 0	O
	in the boxes above	3
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L		
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,		1
lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0	•
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the	` '	1
	Yes = 1 No = 0	•
D 3.3. Has the site been identified in a watershed or local plan as important		_
for maintaining water quality (answer YES if there is a TMDL for the basin in		2
which the unit is found)?	Yes = 2 No = 0	
	in the boxes above	4
Rating of Value If score is: 2 - 4 = H  1 = M  0 = L	Record the rating on	the first page

DEPRESSIONAL AND FLATS WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradate	adation
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	0
constricted permanently flowing outlet points = 2	2
Wetland is a flat depression (QUESTION 7 on key), whose outlet is	
a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet	
that is permanently flowing points = 0	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of	
the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the	
deepest part.	
Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7	
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	3
✓ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3	J
☐ 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)	
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	0
The area of the basin is more than 100 times the area of the unit points = 0	
☐ Entire wetland is in the Flats class points = 5	
Total for D 4 Add the points in the boxes above	5
Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L Record the rating on	the first page
D 5.0. Does the landscape have the potential to support hydrologic function of the site?	
D 5.1. Does the wetland unit 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?	1
Yes = 1 No = 0	ı
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human	
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	1
Yes = 1 No = 0	
Total for D 5  Add the points in the boxes above	3
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on	the first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best	
matches conditions around the wetland unit being rated. Do not add points. Choose the highest	
score if more than one condition is met.	
The wetland captures surface water that would otherwise flow down-gradient into areas	
where flooding has damaged human or natural resources (e.g., houses or salmon redds):	
Flooding occurs in a sub-basin that is immediately down-	
gradient of unit. points = 2	1
<ul> <li>Surface flooding problems are in a sub-basin farther down-</li> </ul>	•
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	0
conveyance in a regional flood control plan?  Yes = 2 No = 0	
11 a4a1 4au 13 C	
Total for D 6  Rating of Value If score is: □ 2 - 4 = H □ 1 = M □ 0 = L  Add the points in the boxes above Record the rating on	11

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.	
<ul> <li>□ Aquatic bed</li> <li>□ Emergent</li> <li>□ Scrub-shrub (areas where shrubs have &gt; 30% cover)</li> <li>□ Forested (areas where trees have &gt; 30% cover)</li> <li>□ If the unit has a Forested class, check if:</li> <li>□ 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</li> </ul>	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).	
<ul> <li>□ Permanently flooded or inundated</li> <li>□ Seasonally flooded or inundated</li> <li>□ Occasionally flooded or inundated</li> <li>□ Occasionally flooded or inundated</li> <li>□ Saturated only</li> <li>□ Permanently flowing stream or river in, or adjacent to, the wetland</li> <li>□ Seasonally flowing stream in, or adjacent to, the wetland</li> <li>□ Seasonally flowing stream in, or adjacent to, the wetland</li> </ul>	1
<ul><li>□ Lake Fringe wetland</li><li>□ Freshwater tidal wetland</li><li>2 points</li><li>2 points</li></ul>	
H 1.3. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> .  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	1
< 5 species 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.	1
None = 0 points	
All three diagrams in this row are HIGH = 3 points	

Rating of Value If Score is:  $\square$  2 = H  $\square$  1 = M

Record the rating on the first page

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds**: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above ). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). ☑ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). ☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. ☐ **Talus**: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12

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

in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category
Chook of	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
	Estuarine Wetlands	
30 1.0.1	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 <b>= Category I</b> □ No - Go to <b>SC 1.2</b>	
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 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
00.00	☐ Yes = Category I ☐ No = Category II	
SC 2.1.	Wetlands of High Conservation Value (WHCV)  Has the WA Department of Natural Resources updated their website to include the list	
00 2.1.	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 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 to SC 2.4 ☑ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website?	
SC 3.0. I		
	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,	
30 3.1.	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	
	<b>NOTE</b> : 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,	
00.0.4	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 sever under the capacity?	
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

		1
SC 4.0.	Forested Wetlands	
	Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these	
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you</i>	
	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	
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	
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 $\frac{3}{4}$ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )	
	☐ Yes = Category I ☐ No = Category II	
SC 6.0.	Interdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions.	
	In practical terms that means the following geographic areas:	
	Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
	☐ Yes - Go to SC 6.1  ☑ No = Not an interdunal wetland for rating	
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form	
00 0.1.	(rates H,H,H or H,H,M for the three aspects of function)?	
	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
00 0.2.	Yes = Category II  □ No - Go to SC 6.3	
SC 6 2		
SC 6.3.	·	
	1 ac?	
	☐ Yes = Category III ☐ No = Category IV	
_	ry of wetland based on Special Characteristics	
If you ar	nswered No for all types, enter "Not Applicable" on Summary Form	

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland D	Date of site visit:	6/21/2017
Rated by <u>Stephanie Modjeski, Jeff Gray</u> Trained by Ecology? ☑ Yes □ No	Date of training	3/18/2015
HGM Class used for rating Depressional & Flats Wetland has mult	iple HGM classes? 🗌	Yes ☑No
NOTE: Form is not complete with out the figures requested (figures ca Source of base aerial photo/map	n be combined).	
Source of base aerial priotomap		
OVERALL WETLAND CATEGORY III (based on functions or spec	ial characteristics $\Box$ )	
4. Cotomora of water diseased on FUNCTIONS		
1. Category of wetland based on FUNCTIONS	Coore for each	
Category I - Total score = 23 - 27	Score for each	
Category II - Total score = 20 - 22	function based	
X Category III - Total score = 16 - 19	on three	
Category IV - Total score = 9 - 15	ratings	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	List appropriate rating (H, M, L)		
Site Potential	L	L	L	
Landscape Potential	M	Н	Н	
Value	Н	M	М	Total
Score Based on Ratings	6	6	6	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	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	х

# 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
Hydroperiods	D 1.4, H 1.2	5
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	5
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	5
Map of the contributing basin	D 4.3, D 5.3	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	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	11
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	3

# Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

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

# **HGM Classification of Wetland in Western Washington**

For questions 1 -7, the criteria described must apply to the entire unit being rated. If 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 u	unit usually controlled by tides	except during floods?
☑ NO - go to 2	☐ <b>YES</b> - the wetlan	nd class is <b>Tidal Fringe</b> - go to 1.1
1.1 Is the salinity of the water of	during periods of annual low fl	ow below 0.5 ppt (parts per thousand)?
	ssifièd as a Fréshwater Tidal F e it is an <b>Estuarine</b> wetland a	☐ YES - Freshwater Tidal Fringe Fringe use the forms for <i>Riverine</i> wetlands. and is not scored. This method <i>cannot</i> be
2. The entire wetland unit is flat and proundwater and surface water runo		
☑ NO - go to 3  If your wetland can be clas	sified as a Flats wetland, use	☐ YES - The wetland class is Flats the form for <b>Depressional</b> wetlands.
	wetland is on the shores of a by time of the year) at least 20	
☑ NO - go to 4	☐ <b>YES</b> - The wetla	and class is <b>Lake Fringe</b> (Lacustrine Fringe)
	(slope can be very gradual), e wetland in one direction (un sheetflow, or in a swale witho	
☑ NO - go to 5		$\square$ <b>YES</b> - The wetland class is <b>Slope</b>
<b>NOTE</b> : Surface water does not pond depressions or behind hummocks (d		eept occasionally in very small and shallow liameter and less than 1 ft deep).
<ul><li>5. Does the entire wetland unit meet</li><li>The unit is in a valley, or stifted from that stream or river,</li><li>The overbank flooding occion</li></ul>	ream channel, where it gets in	nundated by overbank flooding
☑ NO - go to 6		☐ <b>YES</b> - The wetland class is <b>Riverine</b>
NOTE: The Riverine unit can contain	n depressions that are filled wi	th water when the river is not flooding.

6. Is the entire wetland unit in a topographic depression some time during the year? This means that any outlet,	in which water ponds, or is saturated to the surface, at 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 w The unit does not pond surface water more than a few groundwater in the area. The wetland may be ditched, I	inches. The unit seems to be maintained by high

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.

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

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

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

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

NOTES and FIELD OBSERVATIONS:

Wetland name or number D

✓ NO - go to 8

TMDL for East Fork Lewis River status is Under Development.

DEPRESSIONAL AND FLATS WETLANDS		
Water Quality Functions - Indicators that the site functions to im	prove 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	2
☐ Wetland has an unconstricted, or slightly constricted, surface outlet		
that is permanently flowing	points = 1	
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is		
a permanently flowing ditch.	points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic		0
(use NRCS definitions).	Yes = 4 No = 0	
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-sh	nrub, and/or	
Forested Cowardin classes):		
Wetland has persistent, ungrazed, plants > 95% of area	points = 5	3
Wetland has persistent, ungrazed, plants > ½ of area	points = 3	Ğ
Wetland has persistent, ungrazed plants > 1/10 of area	points = 1	
Wetland has persistent, ungrazed plants < 1/10 of area	points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:		
This is the area that is ponded for at least 2 months. See description	in manual.	
Area seasonally ponded is > 1/2 total area of wetland	points = 4	0
Area seasonally ponded is > 1/4 total area of wetland	points = 2	
Area seasonally ponded is < 1/4 total area of wetland	points = 0	
Total for D 1 Add the points	in the boxes above	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 notential to cuppert the water quality funct	ion of the cite?	
D 2.0. Does the landscape have the potential to support the water quality funct		1
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		1
generate pollutants?	Yes = 1 No = 0	
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?		0
Source	Yes = 1 No = 0	0
	in the boxes above	2
Rating of Landscape Potential If score is: 3 or 4 = H 2 1 or 2 = M 0 0 = L		
Training of Editoscope Fotontial in Score is O of 4 = 11 For 2 = iii O = 2	record the rating on	the mot 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,		1
lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0	•
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the	` '	1
	Yes = 1 No = 0	'
D 3.3. Has the site been identified in a watershed or local plan as important		
for maintaining water quality (answer YES if there is a TMDL for the basin in		2
which the unit is found)?	Yes = 2 No = 0	
	in the boxes above	4
Rating of Value If score is: 2 - 4 = H  1 = M  0 = L	Record the rating on	the first page

DEPRESSIONAL AND FLATS WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degr	adation
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. <u>Characteristics of surface water outflows from the wetland:</u>	
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	2
constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is	2
a permanently flowing ditch points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet	
that is permanently flowing points = 0	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of	
the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the	
deepest part.	
Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7	
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	3
✓ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet 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)	
D 4.3. Contribution of the wetland to storage in the watershed: <i>Estimate the ratio of the area of</i>	
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	0
The area of the basin is more than 100 times the area of the unit points = 0	
☐ Entire wetland is in the Flats class points = 5	
Total for D 4  Add the points in the boxes above	5
Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L Record the rating on	
D 5.0. Does the landscape have the potential to support hydrologic function of the site?	, ,
D 5.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1
D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	
Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human	
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	1
Yes = 1 No = 0	
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):	
<ul> <li>Flooding occurs in a sub-basin that is immediately down-</li> </ul>	
gradient of unit. points = 2	4
<ul> <li>Surface flooding problems are in a sub-basin farther down-</li> </ul>	1
gradient. points = 1	
☐ Flooding from groundwater is an issue in the sub-basin. points = 1	
☐ The existing or potential outflow from the wetland is so constrained	
by human or natural conditions that the water stored by the wetland	
cannot reach areas that flood. Explain why points = 0	
☐ There are no problems with flooding downstream of the wetland. points = 0	
D 6.2. Has the site been identified as important for flood storage or flood	
conveyance in a regional flood control plan? Yes = 2 No = 0	0
Total for D 6 Add the points in the boxes above	1
7 dd tile politic in tile bekee dbeve	<u>-</u>

# 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 1 3 structures: points = 2 ☐ Emergent ☑ 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 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 1/4 ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 3 types present: points = 2 2 ☑ Occasionally flooded or inundated 2 types present: points = 1 1 types present: points = 0 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 H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. 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 1 If you counted: > 19 species points = 25 - 19 species points = 1< 5 species points = 0H 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. 1 None = 0 points Low = 1 pointModerate = 2 points All three diagrams in this row are **HIGH** = 3 points

wetland name or numberD	
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) <b>and/or</b> 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)	0
Stable steep banks of fine material that might be used by beaver or muskrat for denning	
(> 30 degree slope) OR signs of recent beaver activity are present ( <i>cut shrubs or trees</i>	
that have not yet weathered where wood is exposed)	
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas	
that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see	
H 1.1 for list of strata)	
Total for H 1 Add the points in the boxes above	5
Rating of Site Potential If Score is: 15 - 18 = H 7 - 14 = M 0 - 6 = L Record the rating on	
Training of Orto 1 otomical in coord inc. [10 10 11 [1] 1 III [1] 10 10 11 III [1] 10 10 11 III [1] 10 10 10 III	ino mot pago
H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate:	
0.28 % undisturbed habitat + ( 38 % moderate & low intensity land uses / 2 ) = 19.28%	
70.20 // Undisturbed Habitat + (	
If total accessible, hebitation	0
If total accessible habitat is:	2
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20 - 33% of 1 km Polygon points = 2	
10 - 19% of 1 km Polygon points = 1	
< 10 % of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate:	
37.8 % undisturbed habitat + ( 33.5 % moderate & low intensity land uses / 2 ) = 54.55%	
	3
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3 Land use intensity in 1 km Polygon: If	_
> 50% of 1 km Polygon is high intensity land use points = (-2)	0
≤ 50% of 1km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	
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? <i>Choose</i>	
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	1
☐ 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) with in 100m points = 1	
Site does not meet any of the criteria above points = 0	
Rating of Value If Score is: $\square$ 2 = H $\square$ 1 = M $\square$ 0 = L Record the rating on	the first nage

Melland	nama	or number	D
vvenano	паше	or number	U

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds**: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above ). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). ☑ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). ☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. ☐ **Talus**: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category
Chook of	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
	Estuarine Wetlands	
30 1.0.1	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 <b>= Category I</b> □ No - Go to <b>SC 1.2</b>	
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 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
00.00	☐ Yes = Category I ☐ No = Category II	
SC 2.1.	Wetlands of High Conservation Value (WHCV)  Has the WA Department of Natural Resources updated their website to include the list	
00 2.1.	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 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 to SC 2.4 ☑ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website?	
SC 3.0. I		
	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,	
30 3.1.	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	
	<b>NOTE</b> : 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,	
00.0.4	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 sever under the capacity?	
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

1 ac?

☐ No - Go to **SC 6.3** 

☐ No = Category IV

☐ Yes = Category II

☐ Yes = Category 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

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):	Wetland E/F		Date of site visit:	6/21/2017
Rated by Stephanie Modjes	ski, Jeff Gray	Trained by Ecology? ☑ Yes ☐	No Date of training	3/18/2015
HGM Class used for rating	Riverine & Fresh Water	er Tidal Wetland has m	ultiple HGM classes? 🗌	Yes ☑No
	ot complete with out to of base aerial photo/ma	the figures requested (figures ap	can be combined).	
OVERALL WETLAND CA	ATEGORY III	(based on functions ☑or sp	ecial characteristics   )	
1. Category of wetland	d based on FUNCTIO	ONS		
	Category I - Total sco	ore = 23 - 27	Score for each	
	Category II - Total so	ore = 20 - 22	function based	
X	Category III - Total so		on three	
	Category IV - Total so		ratings	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List appropriate rating (H, M, L)			
Site Potential	M	L	L	
Landscape Potential	Н	Н	М	
Value	M	M	М	Total
Score Based on Ratings	7	6	5	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	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	х

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

# Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	7
Hydroperiods	H 1.2	7
Ponded depressions	R 1.1	7
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	7
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	8
Width of unit vs. width of stream (can be added to another figure)	R 4.1	8
Map of the contributing basin	R 2.2, R 2.3, R 5.2	10
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	9
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	11
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	3

### Lake Fringe Wetlands

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

# Slope Wetlands

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

# **HGM Classification of Wetland in Western Washington**

For questions 1 -7, the criteria described must apply to the entire unit being rated. If 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 usua	ally 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 pe	eriods of annual low flow below 0.5 ppt (parts per thousand)?
	s a Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. <b>Estuarine</b> wetland and is not scored. This method <b>cannot</b> be
2. The entire wetland unit is flat and precipita Groundwater and surface water runoff are No.	
☑ NO - go to 3  If your wetland can be classified as	☐ <b>YES</b> - The wetland class is <b>Flats</b> is a Flats wetland, use the form for <b>Depressional</b> wetlands.
	s on the shores of a body of permanent open water (without any f the year) at least 20 ac (8 ha) in size;
☑ NO - go to 4	☐ <b>YES</b> - The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
	an be very gradual), and in one direction (unidirectional) and usually comes from seeps. w, or in a swale without distinct banks.
☑ NO - go to 5	$\square$ <b>YES</b> - The wetland class is <b>Slope</b>
	e type of wetlands except occasionally in very small and shallow ons are usually <3 ft diameter and less than 1 ft deep).
<ul> <li>5. Does the entire wetland unit meet all of th</li> <li>The unit is in a valley, or stream ch from that stream or river,</li> <li>The overbank flooding occurs at least</li> </ul>	annel, where it gets inundated by overbank flooding
□ NO - go to 6	✓ YES - The wetland class is Riverine
NOTE: The Riverine unit can contain depress	sions that are filled with water when the river is not flooding.

	c depression in which water ponds, or is saturated to the surface, a at any outlet, if present, is higher than the interior of the wetland.
☑ NO - go to 7	$\square$ YES - The wetland class is <b>Depressional</b>
The unit does not pond surface water more	y flat area with no obvious depression and no overbank flooding? than a few inches. The unit seems to be maintained by high be ditched, but has no obvious natural outlet.

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

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

(make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

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

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

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

NOTES and FIELD OBSERVATIONS:

Wetland name or number E/F

☑ NO - go to 8

RIVERINE AND FRESHWATER TIDAL FRING	E WETLANDS	
Water Quality Functions - Indicators that the site functions to in	nprove water quality	
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap se	ediments during a	
flooding event:		
Depressions cover > 3/4 area of wetland	points = 8	2
Depressions cover > ½ area of wetland	points = 4	2
Depressions present but cover < ½ area of wetland	points = 2	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person heigh	ght, <b>not</b> Cowardin	
classes)		
Trees or shrubs $> \frac{2}{3}$ area of the wetland	points = 8	
☑ Trees or shrubs > ¹/₃ area of the wetland	points = 6	6
$\Box$ Herbaceous plants (> 6 in high) > $^2/_3$ area of the wetland	points = 6	
Herbaceous plants (> 6 in high) > 1/3 area of the wetland	points = 3	
Trees, shrubs, and ungrazed herbaceous < 1/3 area of the wetland	points = 0	
	in the boxes above	8
Rating of Site Potential If score is: $\Box 12 - 16 = H \ \Box 6 - 11 = M \ \Box 0 - 5 = L$	Record the rating on	the first page
D. C. Dese the landscape have the notantial to connect the water quality fund	tion of the cito?	
R 2.0. Does the landscape have the potential to support the water quality functions.		0
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin to the wetland include a UGA or	Vaa – 4 – Na – 0	1
incorporated area?	Yes = 1 No = 0	
R 2.3. Does at least 10% of the contributing basin contain tilled fields,	Vaa – 4 – Na – 0	1
pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	
R 2.4. Is > 10% of the area within 150 ft of the wetland in land uses that	Vac = 1 No = 0	1
generate pollutants?	Yes = 1 No = 0	
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1 - R 2.4?		0
Other Sources	Yes = 1 No = 0	U
	in the boxes above	3
Rating of Landscape Potential If score is:  ☑ 3 - 6 = H □ 1 or 2 = M □ 0 = L	Record the rating on	-
Rating of Landscape Potential in Score is. 2 3-6-11 1012-W 2-L	Record the rating on	the mst page
R 3.0. Is the water quality improvement provided by the site valuable to society	?	
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a		1
tributary that drains to one within 1 mi?	Yes = 1 No = 0	•
R 3.2. Is the wetland along a stream or river that has TMDL limits for		0
nutrients, toxics, or pathogens?	Yes = 1 No = 0	
R 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		0
drainage in which the unit is found)	Yes = 2 No = 0	
·	in the boxes above	1
Rating of Value If score is: $\square 2 - 4 = H  \square 1 = M  \square 0 = L$	Record the rating on	the first page

RIVERINE AND FRESHWATER TIDAL FRING	E WETLANDS	
Hydrologic Functions - Indicators that site functions to reduce flood	ing and stream eros	ion
R 4.0. Does the site have the potential to reduce flooding and erosion?		
R 4.1. Characteristics of the overbank storage the wetland provides:		
Estimate the average width of the wetland perpendicular to the direction of the	flow and the width	
of the stream or river channel (distance between banks). Calculate the ratio: (a	verage width of	
wetland)/(average width of stream between banks).		
If the ratio is more than 20	points = 9	1
If the ratio is 10 - 20	points = 6	
If the ratio is 5 - < 10	points = 4	
If the ratio is 1 - < 5	points = 2	
If the ratio is < 1	points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: 7	•	
debris as forest or shrub. Choose the points appropriate for the best descriptio	n (polygons need	
to have >90% cover at person height. These are <u>NOT Cowardin</u> classes).		4
Forest or shrub for $> \frac{1}{3}$ area OR emergent plants $> \frac{2}{3}$ area	points = 7	•
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area	points = 4	
Plants do not meet above criteria	points = 0	
	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
R 5.0. Does the landscape have the potential to support the hydrologic function	ns of the site?	
R 5.1. Is the stream or river adjacent to the wetland downcut?	Yes = 0 No = 1	1
R 5.2. Does the up-gradient watershed include a UGA or incorporated area?	Yes = 1 No = 0	1
R 5.3 Is the up-gradient stream or river controlled by dams?	Yes = 0 No = 1	1
·	in the boxes above	3
Rating of Landscape Potential If score is:	Record the rating on	the first page
R 6.0. Are the hydrologic functions provided by the site valuable to society?		
R 6.1. Distance to the nearest areas downstream that have flooding problems?	>	
Choose the description that best fits the site.		
The sub-basin immediately down-gradient of the wetland has		
flooding problems that result in damage to human or natural		1
resources (e.g., houses or salmon redds)	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
R 6.2. Has the site been identified as important for flood storage or flood		0
conveyance in a regional flood control plan?	Yes = 2 No = 0	J
· ·	in the boxes above	1
Rating of Value If score is: 2 - 4 = H  1 = M  0 = L	Record the rating on	the first page

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: <i>Indicators are Cowardin classes and strata within the Forested class</i> . Check the Cowardin plant classes in the wetland. <i>Up to 10 patches may be combined for each class to meet the threshold of</i> ¼ <i>ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.</i>	
<ul> <li>□ Aquatic bed</li> <li>□ Emergent</li> <li>□ Scrub-shrub (areas where shrubs have &gt; 30% cover)</li> <li>□ Forested (areas where trees have &gt; 30% cover)</li> <li>□ If the unit has a Forested class, check if:</li> <li>□ 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</li> </ul>	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).	
<ul> <li>□ Permanently flooded or inundated</li> <li>□ Seasonally flooded or inundated</li> <li>□ Occasionally flooded or inundated</li> <li>□ Saturated only</li> <li>□ Permanently flowing stream or river in, or adjacent to, the wetland</li> <li>□ Seasonally flowing stream in, or adjacent to, the wetland</li> </ul>	1
<ul><li>□ Lake Fringe wetland</li><li>□ Freshwater tidal wetland</li><li>2 points</li><li>2 points</li></ul>	
H 1.3. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> .  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	1
< 5 species 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.	1
None = 0 points	·
All three diagrams in this row are HIGH = 3 points	

Site does not meet any of the criteria above points = 0

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

Record the rating on the first page

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds**: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above ). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). ☑ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). ☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. ☐ **Talus**: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category
0, , , ,		
	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0. E	Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and	
	With a salinity greater than 0.5 ppt	
	☐ Yes - Go to SC 1.1  ☑ No = Not an estuarine wetland	
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary	
	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific	
	Reserve designated under WAC 332-30-151?	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	
	and has less than 10% cover of non-native plant species. (If non-native species are	
	Spartina, see page 25)	
	At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
CC 2 0 V		
SC 2.0. V		
00 2.1.	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 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 to SC 2.4 ☑ No = Not 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 WHCV	
SC 3.0. E		
	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	
SC 3.1.	wetland based on its functions.  Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
30 3.1.	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	
000.2.	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,	
00.6.4	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 cappage.	
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

SC 4 D I	Forested Wetlands				
OO 4.0. I	Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these				
	criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you</i>				
	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				
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				
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 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-				
	grazed or un-mowed grassland.				
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )				
	☐ Yes = Category I ☐ No = Category II				
SC 6.0. I	nterdunal 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				
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form				
	(rates H,H,H or H,H,M for the three aspects of function)?				
	☐ Yes = Category I ☐ No - Go to SC 6.2				
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?				
	$\square$ Yes = Category II $\square$ No - Go to SC 6.3				
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and				
	1 ac?				
	☐ Yes = Category III ☐ No = Category IV				
Categor	y of wetland based on Special Characteristics				
If you an	swered No for all types, enter "Not Applicable" on Summary Form				

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):	Wetland G		Date of site visit:	6/21/2017
Rated by Stephanie Modjes	ski, Jeff Gray	Trained by Ecology? ☑ Yes ☐ No	Date of training _	3/18/2015
HGM Class used for rating	Slope	Wetland has multip	ole HGM classes? 🗹	Yes □No
	ot complete with of of base aerial photo	out the figures requested (figures can to/map	be combined ).	
OVERALL WETLAND CA	ATEGORYI	II (based on functions ⊡or specia	al characteristics   )	
1. Category of wetland	d based on FUN	CTIONS		
	Category I - Tota	Il score = 23 - 27	Score for each	
	Category II - Tota	al score = 20 - 22	function based	
X	Category III - To	tal score = 16 - 19	on three	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	ropriate rating	g (H, M, L)	
Site Potential	M	M	L	
Landscape Potential	M	M	М	
Value	Н	M	М	Total
Score Based on Ratings	7	6	5	18

Category IV - Total score = 9 - 15

# Score for each function based on three ratings (order of ratings is not important) 9 = H, H, H 8 = H, H, M 7 = H, H, L 7 = H, M, M 6 = H, M, L 6 = M, M, M 5 = H, L, L 5 = M, M, L 4 = M, L, L 3 = L, L, L

# 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	Х

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

# Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

Map of:	To answer questions:	Figure #	
Cowardin plant classes	H 1.1, H 1.4	12	
Hydroperiods	H 1.2	12	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	12	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	10	
(can be added to another figure)		12	
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	12	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	10	
polygons for accessible habitat and undisturbed habitat		13	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	11	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	3	

# **HGM Classification of Wetland in Western Washington**

For questions 1 -7, the criteria described must apply to the entire unit being rated. If 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 usua	ally controlled by tides except during floods?
☑ NO - go to 2	☐ <b>YES</b> - the wetland class is <b>Tidal Fringe</b> - go to 1.1
1.1 Is the salinity of the water during pe	eriods of annual low flow below 0.5 ppt (parts per thousand)?
	a Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. <b>Estuarine</b> wetland and is not scored. This method <b>cannot</b> be
2. The entire wetland unit is flat and precipita Groundwater and surface water runoff are No.	
☑ NO - go to 3  If your wetland can be classified as	☐ <b>YES</b> - The wetland class is <b>Flats</b> a Flats wetland, use the form for <b>Depressional</b> wetlands.
	s on the shores of a body of permanent open water (without any f the year) at least 20 ac (8 ha) in size;
☑ NO - go to 4	☐ <b>YES</b> - The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
	an be very gradual), d in one direction (unidirectional) and usually comes from seeps. w, or in a swale without distinct banks.
□ NO - go to 5	☑ YES - The wetland class is Slope
	e type of wetlands except occasionally in very small and shallow ons are usually <3 ft diameter and less than 1 ft deep).
<ul> <li>5. Does the entire wetland unit meet all of the   The unit is in a valley, or stream che from that stream or river,</li> <li>The overbank flooding occurs at least</li> </ul>	annel, where it gets inundated by overbank flooding
☑ NO - go to 6	☐ <b>YES</b> - The wetland class is <b>Riverine</b>
NOTE: The Riverine unit can contain depress	sions that are filled with water when the river is not flooding.

6. Is the entire wetland unit in a topographic depression some time during the year? This means that any outlet,	·
□ NO - go to 7	☑ YES - The wetland class is Depressional
7. Is the entire wetland unit located in a very flat area wi The unit does not pond surface water more than a few i groundwater in the area. The wetland may be ditched, b	nches. The unit seems to be maintained by high

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.

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

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

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

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

Wetland name or number G

☑ NO - go to 8

SLOPE WETLANDS	. 19	
Water Quality Functions - Indicators that the site functions to im	iprove water quality	
S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1	ft vertical drop in	
elevation for every 100 ft of horizontal distance)		
Slope is 1% or less	points = 3	2
Slope is > 1% - 2%	points = 2	
Slope is > 2% - 5%	points = 1	
Slope is greater than 5%	points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic		0
(use NRCS definitions):	Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollu		
Choose the points appropriate for the description that best fits the plants in the		
means you have trouble seeing the soil surface (>75% cover), and uncut mean	is not grazed or	
mowed and plants are higher than 6 in.	nointo - G	
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	6
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > ½ of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	_
	in the boxes above	8
Rating of Site Potential If score is: ☐ 12 = H ☐ 6 - 11 = M ☐ 0 - 5 = L	Record the rating on	the first page
S 2.0. Does the landscape have the potential to support the water quality functi	on of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in		
land uses that generate pollutants?	V 4 N 0	1
land ases that generate politicality:	Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are	Yes = 1 No = 0	1
	Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are	Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources <u>Upslope septic system</u>		
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources <u>Upslope septic system</u>	Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Upslope septic system  Total for S 2  Add the points	Yes = 1 No = 0 in the boxes above Record the rating on	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Upslope septic system  Total for S 2  Add the points  Rating of Landscape Potential If score is:  ✓1 - 2 = M □0 = L	Yes = 1 No = 0 in the boxes above Record the rating on	1  2 the first page
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Upslope septic system  Total for S 2  Add the points  Rating of Landscape Potential If score is: 1-2 = M 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society	Yes = 1 No = 0 in the boxes above Record the rating on	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Upslope septic system  Total for S 2  Add the points  Rating of Landscape Potential If score is: ☑1 - 2 = M □0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river,	Yes = 1 No = 0 in the boxes above Record the rating on?	1  2 the first page
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Upslope septic system  Total for S 2  Add the points  Rating of Landscape Potential If score is:	Yes = 1 No = 0 in the boxes above Record the rating on?	1  2 the first page
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Upslope septic system  Total for S 2  Add the points  Rating of Landscape Potential If score is: ☑1 - 2 = M □0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society S 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?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue?  At least one aquatic resource in the basin is on the 303(d) list.	Yes = 1 No = 0 in the boxes above Record the rating on ? Yes = 1 No = 0	1  2 the first page
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Upslope septic system  Total for S 2  Add the points  Rating of Landscape Potential If score is: 1-2 = M 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society S 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?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue?	Yes = 1 No = 0 in the boxes above Record the rating on ? Yes = 1 No = 0	1  2 the first page
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Upslope septic system  Total for S 2  Add the points  Rating of Landscape Potential If score is:	Yes = 1 No = 0 in the boxes above Record the rating on ? Yes = 1 No = 0	1  the first page  1  1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other Sources Upslope septic system  Total for S 2  Add the points  Rating of Landscape Potential If score is: ☑1 - 2 = M ☐0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society S 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?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue?  At least one aquatic resource in the basin is on the 303(d) list.  S 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 = 1 No = 0 in the boxes above Record the rating on ? Yes = 1 No = 0 Yes = 1 No = 0	1  the first page  1  1

SLOPE WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce floor	oding and stream er	osion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during	storms: Choose	
the points appropriate for the description that best fits conditions in the wetland	· ·	
should be thick enough (usually $> 1/8$ in), or dense enough, to remain erect du	uring surface flows.	1
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	points = 1	
All other conditions	points = 0	
Rating of Site Potential If score is:  1 = M	Record the rating on	the first page
S 5.0. Does the landscape have the potential to support hydrologic functions of	f the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land		1
uses or cover that generate excess surface runoff?	Yes = 1 No = 0	ı
Rating of Landscape Potential If score is:  1 = M 0 = L	Record the rating on	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:		
The sub-basin immediately down-gradient of site has flooding		
problems that result in damage to human or natural resources (e.g.,		
		1
houses or salmon redds)	points = 2	1
	points = 2 points = 1	1
houses or salmon redds)	•	1
houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream	points = 1	0
houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	points = 1 points = 0	

NOTES and FIELD OBSERVATIONS:

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.	
<ul> <li>□ Aquatic bed</li> <li>□ Emergent</li> <li>□ Scrub-shrub (areas where shrubs have &gt; 30% cover)</li> <li>□ Forested (areas where trees have &gt; 30% cover)</li> <li>□ If the unit has a Forested class, check if:</li> <li>□ 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</li> </ul>	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).	
<ul> <li>□ Permanently flooded or inundated</li> <li>□ Seasonally flooded or inundated</li> <li>□ Occasionally flooded or inundated</li> <li>□ Occasionally flooded or inundated</li> <li>□ Saturated only</li> <li>□ Permanently flowing stream or river in, or adjacent to, the wetland</li> <li>□ Seasonally flowing stream in, or adjacent to, the wetland</li> </ul>	0
<ul><li>□ Lake Fringe wetland</li><li>□ Freshwater tidal wetland</li><li>2 points</li><li>2 points</li></ul>	
H 1.3. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> .  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	0
in this row are HIGH = 3 points	

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.	Wetland name or number G	
of points.  □ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)  Standing snags (dbh > 4 in) within the wetland  □ Indecret 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 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 3.3 ft (10 m)  Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) QR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)  At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (Structures for egg-laying by amphibians)   Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)  Total for H 1  Total for H 1  Total for H 1  Total for H 2  Stating 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 function of the site?  H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).  Calculate:  0 % undisturbed habitat + ( 14.2 % moderate & low intensity land uses / 2) = 7.1%  If total accessible habitatis:  > ½, (33.3%) of 1 km Polygon  points = 3  20 - 33% of 1 km Polygon  points = 2  10 - 19% of 1 km Polygon  points = 0  H 2.2 Undisturbed habitat in 1 km Polygon around the wetland.  Calculate:  20.5 % undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and in 1-		
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)   Standing snags (kbh > 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 3.3 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 ( <i>cut shrubs or trees that have not yet weathered where wood is exposed</i> )   At least 1/2 ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated ( <i>structures for egg-laying by amphiblans</i> )   Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)  Total for H 1	·	
Standing snags (dbh > 4 in) within the wetland   Didercut banks are present for at least 6.8 if (2 m) and/or overhanging plants extends at least 3.3 if (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 3.3 if (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)   Add the points in the boxes above 1   Rating of Site Potential if Score is:   15 - 18 = H   7 - 14 = M   20 - 6 = L   Record the rating on the first page   H 2.0. Does the landscape have the potential to support the habitat function of the site?   H 2.1 Accessible habitat (include only habitat that directly abuts welland unit).   Calculate:   0 % undisturbed habitat + (   14.2 % moderate & low intensity land uses / 2 ) = 7.1%   If total accessible habitat is:   0   Points = 3   Points = 2   Points = 1   Points = 0   Points = 1   Points = 0   Points = 1   Points = 0	·	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (10 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)		
at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 3.3 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 ½ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphiblans)   Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)  Total for H 1  Rating of Site Potential if Score is:		
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 ( <i>cut shrubs or trees that have not yet weathered where wood is exposed</i> )   At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated ( <i>structures for egg-laying by amphibians</i> )   Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H1.1 for list of strata)   Add the points in the boxes above   1   Rating of Site Potential if Score is:   15 - 18 = H   7 - 14 = M   20 - 6 = L   Record the rating on the first page   H 2.0 Does the landscape have the potential to support the habitat function of the site?   H 2.1 Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).   Calculate:   0 % undisturbed habitat + (   14.2 % moderate & low intensity land uses / 2 ) = 7.1%   If total accessible habitat is:   0 / 3/3 (33.3%) of 1 km Polygon   points = 3 / 20 - 33% of 1 km Polygon   points = 2 / 20 - 33% of 1 km Polygon   points = 1 / 20.5 % undisturbed habitat in 1 km Polygon apoints = 0   H 2.2. Undisturbed habitat in 1 km Polygon and the wetland.   Calculate:   20.5 % undisturbed habitat 1 or 50% and in 1-3 patches   points = 2 / 20.5 % undisturbed habitat 1 or 50% and in 1-3 patches   points = 2 / 20.5 % of 1 km Polygon is intensity land use intensity in 1 km Polygon: If   50% of 1 km Polygon   points = 0   1 / 20.5 % of 1 km Polygon is high intensity land use   points = 0   2.5 0% of 1 km Polygon is high intensity land use   points = 0   2.5 0% of 1 km Polygon is high intensity land use   points = 0   2.5 0% of 1 km Polygon is high intensity land use   points = 0   2.5 0% of 1 km Polygon is high intensity land use   points = 0   2.5 0% of 1 km Polygon is high intensity land use   points = 0   2.5 0% of 1 km Polygon is high intensity land use   points = 0   2.5 0% of 1 km Polygon is high intensity land use   points		
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 ½ 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 H1.1 for list of strata)  Total for H1  Rating of Site Potential If Score is:	, , ,	0
( > 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)  At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)  Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)  Total for H 1  Rating of Site Potential If Score is:		0
that have not yet weathered where wood is exposed)  At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)  Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)  Total for H 1  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 function of the site?  H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).  Calculate:  0 % undisturbed habitat + ( 14.2 % moderate & low intensity land uses / 2) = 7.1%  If total accessible habitat is:  0 % undisturbed habitat + ( 14.2 % moderate & low intensity land uses / 2) = 7.1%  If total accessible habitat is:  0 % undisturbed habitat is:  0 % of 1 km Polygon  20 - 33% of 1 km Polygon  20 - 30% of 1 km Polygon  20 - 30% of 1 km Polygon  21 + 2.2 Undisturbed habitat in 1 km Polygon around the wetland.  22.5 % undisturbed habitat in 1 km Polygon around the wetland.  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and in 1-3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 10 - 50% and > 3 patches  Undisturbed habitat 1		
At least ½ 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)		
that are permanently or seasonally inundated (structures for egg-laying by amphibians)   Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)   Total for H 1		
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see    H 1.1 for list of strata)		
Total for H 1		
Rating of Site Potential If Score is:	H 1.1 for list of strata)	
H 2.0. Does the landscape have the potential to support the habitat function of the site?  H 2.1 Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).  Calculate:  0 % undisturbed habitat + (		
H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).  Calculate:  0 % undisturbed habitat + (	Rating of Site Potential If Score is: 15 - 18 = H 7 - 14 = M 0 - 6 = L Record the rating or	the first page
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Calculate:  0 % undisturbed habitat + (		1
If total accessible habitat is:    14.2 % moderate & low intensity land uses / 2 ) = 7.1%		
If total accessible habitat is:    1/3 (33.3%) of 1 km Polygon   points = 3		
> ¹/₃ (33.3%) of 1 km Polygon 20 - 33% of 1 km Polygon 30 - 10 - 19% of 1 km Polygon 4 - 10 % of 1 km Polygon 5 - 10 - 19% of 1 km Polygon 5 - 10 - 19% of 1 km Polygon 7 - 10 % of 1 km Polygon 8 - 10 - 10 % of 1 km Polygon 9 - 10 - 10 % of 1 km Polygon 9 - 10 - 10 % of 1 km Polygon 10 - 10 % of 1 km Polygon 11	will disturbed habital + ( 14.2 % moderate & low intensity failuluses / 2 ) = 7.1%	
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20 - 33% of 1 km Polygon		
10 - 19% of 1 km Polygon		
Calculate:   20.5 % undisturbed habitat in 1 km Polygon around the wetland.	,	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  Calculate:  20.5 % undisturbed habitat + (		
Calculate:  20.5 % undisturbed habitat + ( 55 % moderate & low intensity land uses / 2 ) = 48%  Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0  H 2.3 Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (-2) 0 ≤ 50% of 1 km Polygon is high intensity points = 0  Total for H 2 Add the points in the boxes above 1  Rating of Landscape Potential: If Score is: □ 4 - 6 = H □ 1 - 3 = M □ < 1 = 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 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) with in 100m points = 1  Site does not meet any of the criteria above		
Undisturbed habitat > 50% of Polygon     Undisturbed habitat 10 - 50% and in 1-3 patches     Undisturbed habitat 10 - 50% and in 1-3 patches     Undisturbed habitat 10 - 50% and > 3 patches     Undisturbed habitat < 10% of 1 km Polygon     Points = 0  H 2.3 Land use intensity in 1 km Polygon: If     > 50% of 1 km Polygon is high intensity land use	, -	
Undisturbed habitat > 50% of Polygon     Undisturbed habitat 10 - 50% and in 1-3 patches     Undisturbed habitat 10 - 50% and in 1-3 patches     Undisturbed habitat 10 - 50% and > 3 patches     Undisturbed habitat < 10% of 1 km Polygon     Points = 0  H 2.3 Land use intensity in 1 km Polygon: If     > 50% of 1 km Polygon is high intensity land use     ≤ 50% of 1 km Polygon is high intensity     Points = 0  Total for H 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 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) with in 100m points = 1 Site does not meet any of the criteria above points = 0	20.5 % undisturbed habitat + ( 55 % moderate & low intensity land uses / 2 ) = 48%	
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Undisturbed habitat < 10% of 1 km Polygon points = 0  H 2.3 Land use intensity in 1 km Polygon: If  > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1km Polygon is high intensity  Total for H 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 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) with in 100m points = 1 Site does not meet any of the criteria above points = 0	· ·	
H 2.3 Land use intensity in 1 km Polygon: If  > 50% of 1 km Polygon is high intensity land use  ≤ 50% of 1 km Polygon is high intensity  Total for H 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:  □ 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 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) with in 100m points = 1  Site does not meet any of the criteria above points = 0		
> 50% of 1 km Polygon is high intensity land use ≤ 50% of 1km Polygon is high intensity  Total for H 2  Rating of Landscape Potential If Score is:		
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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:  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) with in 100m points = 1 Site does not meet any of the criteria above	H 3.0. Is the habitat provided by the site valuable to society?	
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Wetland Rating System for Western WA: 2014 Update Rating Form - Effective January 1, 2015

### **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds**: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above ). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). ☐ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). ☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. ☐ **Talus**: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category
Chook of	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
	Estuarine Wetlands	
30 1.0.1	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 <b>= Category I</b> □ No - Go to <b>SC 1.2</b>	
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 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
00.00	☐ Yes = Category I ☐ No = Category II	
SC 2.1.	Wetlands of High Conservation Value (WHCV)  Has the WA Department of Natural Resources updated their website to include the list	
00 2.1.	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 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 to SC 2.4 ☑ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website?	
SC 3.0. I		
	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	
SC 3.1.	wetland based on its functions.  Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
30 3.1.	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	
00 0.2.	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,	
000	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 20% of the sever under the capacity?	
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

# SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? \[ \text{Yes} = \text{Category II} \] \[ \text{No} - \text{Go to SC 6.3} \] SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? \[ \text{Yes} = \text{Category III} \] \[ \text{No} = \text{Category IV} \] Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form

☐ Yes = Category I

(rates H.H.H or H.H.M for the three aspects of function)?

☐ No - Go to SC 6.2

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):	Wetland H		Date of site visit: _	6/21/2017
Rated by Stephanie Modjes	ki, Jeff Gray	Trained by Ecology? ☑ Yes ☐	No Date of training _	3/18/2015
HGM Class used for rating	Slope	Wetland has mu	ultiple HGM classes? 🗵	Yes □No
	ot complete with of base aerial pho	out the figures requested (figures of to/map_	can be combined).	
OVERALL WETLAND CA	TEGORY	(based on functions ☑or sp	ecial characteristics   )	
1. Category of wetland	d based on FUN	CTIONS		
	Category I - Tota	al score = 23 - 27	Score for each	
<u></u>	Category II - Tot	tal score = 20 - 22	function based	
<u> </u>	Category III - To	ntal score = 16 - 19	on three	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	ropriate rating	g (H, M, L)	
Site Potential	M	M	L	
Landscape Potential	M	M	М	
Value	Н	M	Н	Total
Score Based on Ratings	7	6	6	19

Category IV - Total score = 9 - 15

# Score for each function based on three ratings (order of ratings is not important) 9 = H, H, H 8 = H, H, M 7 = H, H, L 7 = H, M, M 6 = H, M, L 6 = M, M, M 5 = H, L, L 5 = M, M, L 4 = M, L, L 3 = L, L, L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	Х

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

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	12
Hydroperiods	H 1.2	12
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	12
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	12
(can be added to another figure)		12
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	12
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	13
polygons for accessible habitat and undisturbed habitat		13
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	11
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	3

### **HGM Classification of Wetland in Western Washington**

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

i. Are the wat	ter levels in the entire unit usual	ly controlled by tides	s except during floods?
☑ NO -	go to 2	☐ <b>YES</b> - the wetla	nd class is <b>Tidal Fringe</b> - go to 1.1
1.1 Is the	e salinity of the water during per	riods of annual low f	low below 0.5 ppt (parts per thousand)?
If you If it is		a Freshwater Tidal F <b>Estuarine</b> wetland	☐ <b>YES - Freshwater Tidal Fringe</b> Fringe use the forms for <b>Riverine</b> wetlands. and is not scored. This method <b>cannot</b> be
	vetland unit is flat and precipitat and surface water runoff are NC		
	go to 3 ur wetland can be classified as	a Flats wetland, use	☐ <b>YES</b> - The wetland class is <b>Flats</b> the form for <b>Depressional</b> wetlands.
☐ The plant	ntire wetland unit <b>meet all</b> of the vegetated part of the wetland is ts on the surface at any time of ast 30% of the open water area	on the shores of a the year) at least 20	
☑ NO -	go to 4	☐ <b>YES</b> - The wetla	and class is <b>Lake Fringe</b> (Lacustrine Fringe)
<ul><li>✓ The</li><li>✓ The</li><li>It ma</li></ul>	ntire wetland unit <b>meet all</b> of the wetland is on a slope ( <i>slope cal</i> water flows through the wetland by flow subsurface, as sheetflow water leaves the wetland witho	n be very gradual), I in one direction (un v, or in a swale witho	
□ NO -	go to 5		☑ YES - The wetland class is Slope
			cept occasionally in very small and shallow diameter and less than 1 ft deep).
☐ The from	ntire wetland unit <b>meet all</b> of the unit is in a valley, or stream cha that stream or river, overbank flooding occurs at lea	innel, where it gets i	•
☑ NO -	go to 6		☐ YES - The wetland class is Riverine
NOTE: The Ri	verine unit can contain depress	ions that are filled w	ith water when the river is not flooding.

	c depression in which water ponds, or is saturated to the surface, at any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	☑ YES - The wetland class is Depressional
The unit does not pond surface water more	y flat area with no obvious depression and no overbank flooding? than a few inches. The unit seems to be maintained by high be ditched, but has no obvious natural outlet.

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.

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

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

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

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

Wetland name or number H

☑ NO - go to 8

OLODE WETLANDO		
SLOPE WETLANDS		
Water Quality Functions - Indicators that the site functions to in	nprove water quality	
S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1	ft vertical drop in	
elevation for every 100 ft of horizontal distance)		
Slope is 1% or less	points = 3	1
Slope is > 1% - 2%	points = 2	
Slope is > 2% - 5%	points = 1	
Slope is greater than 5%	points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic		0
(use NRCS definitions ):	Yes = 3  No = 0	U
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollu		
Choose the points appropriate for the description that best fits the plants in the		
means you have trouble seeing the soil surface (>75% cover), and uncut mean	ns not grazed or	
mowed and plants are higher than 6 in.		
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	6
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > 1/4 of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	
	in the boxes above	7
Rating of Site Potential If score is: ☐ 12 = H ☐ 6 - 11 = M ☐ 0 - 5 = L	Record the rating on	the first page
S 2.0. Does the landscape have the potential to support the water quality funct	ion of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in		1
land uses that generate pollutants?	Yes = 1 No = 0	'
S 2.2. Are there other sources of pollutants coming into the wetland that are		
not listed in question S 2.1?		0
Other Sources	Yes = 1 No = 0	
Total for S 2 Add the points	in the boxes above	1
Rating of Landscape Potential If score is:	Record the rating on	the first page
S 3.0. Is the water quality improvement provided by the site valuable to society	?	
S 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	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue?		
At least one aquatic resource in the basin is on the 303(d) list.	Yes = 1 No = 0	1
S 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		2
which the unit is found?	Yes = 2 No = 0	
Total for S 3 Add the points	in the boxes above	4
Rating of Value If score is: 2 - 4 = H 1 = M 0 = L	Record the rating on	the first ness

SLOPE WETLANDS			
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion			
S 4.0. Does the site have the potential to reduce flooding and stream erosion?			
S 4.1. Characteristics of plants that reduce the velocity of surface flows during	storms: Choose		
the points appropriate for the description that best fits conditions in the wetland	l. Stems of plants		
should be thick enough (usually > $^{1}/_{8}$ in), or dense enough, to remain erect du	uring surface flows.	1	
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	points = 1		
All other conditions	points = 0		
Rating of Site Potential If score is:  1 = M	Record the rating on	the first page	
S 5.0. Does the landscape have the potential to support hydrologic functions of	f the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land		1	
uses or cover that generate excess surface runoff?	Yes = 1 No = 0	1	
Rating of Landscape Potential If score is:	Record the rating on	the first page	
S 6.0. Are the hydrologic functions provided by the site valuable to society?			
S 6.1. Distance to the nearest areas downstream that have flooding problems:			
The sub-basin immediately down-gradient of site has flooding			
problems that result in damage to human or natural resources (e.g.,		1	
houses or salmon redds)	points = 2	I	
Surface flooding problems are in a sub-basin farther down-gradient	points = 1		
No flooding problems anywhere downstream	points = 0		
S 6.2. Has the site been identified as important for flood storage or flood	-	0	
conveyance in a regional flood control plan?	Yes = 2 No = 0	0	
Total for S 6 Add the points	in the boxes above	1	
Rating of Value If score is: 2 - 4 = H  1 = M  0 = L	Record the rating on	the first name	

NOTES and FIELD OBSERVATIONS:

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.	
<ul> <li>□ Aquatic bed</li> <li>□ Emergent</li> <li>□ Scrub-shrub (areas where shrubs have &gt; 30% cover)</li> <li>□ Forested (areas where trees have &gt; 30% cover)</li> <li>□ If the unit has a Forested class, check if:</li> <li>□ 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</li> </ul>	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).	
<ul> <li>□ Permanently flooded or inundated</li> <li>□ Seasonally flooded or inundated</li> <li>□ Occasionally flooded or inundated</li> <li>□ Occasionally flooded or inundated</li> <li>□ Saturated only</li> <li>□ Permanently flowing stream or river in, or adjacent to, the wetland</li> <li>□ Seasonally flowing stream in, or adjacent to, the wetland</li> </ul>	0
<ul><li>□ Lake Fringe wetland</li><li>□ Freshwater tidal wetland</li><li>2 points</li><li>2 points</li></ul>	
H 1.3. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> .  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	0
All three diagrams in this row are HIGH = 3 points	

Wetland name or numberH	
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 ½ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)  Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)  Total for H 1	0
Rating of Site Potential If Score is: 15 - 18 = H 7 - 14 = M 0 - 6 = L Record the rating on	
The state of the s	are met page
H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate:  0 % undisturbed habitat + ( 14 % moderate & low intensity land uses / 2 ) = 7%	
If total accessible habitat is:	0
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20 - 33% of 1 km Polygon points = 2	
10 - 19% of 1 km Polygon points = 1	
< 10 % of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  Calculate:  20 % undisturbed habitat + (55 % moderate & low intensity land uses / 2 ) = 47.5%	
Undisturbed habitat > 50% of Polygon points = 3	1
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches  points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3 Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (-2)	0
≤ 50% of 1km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	1
Rating of Landscape Potential If Score is: 4 - 6 = H  1 - 3 = M  1 - 3 = M  1 - 3 = L Record the rating on	the first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose</i>	
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	2
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) with in 100m points = 1	
Site does not meet any of the criteria above points = 0  Rating of Value If Score is:  2 = H  1 = M  0 = L Record the rating on	the first neces
- 120 HOLD AND A ROUGH TO TAKE THE TOTAL TO THE TOTAL TO THE TOTAL TOTAL TO THE TOTAL TOTAL TOTAL TOTAL TOTAL TO THE TOTAL TO THE TOTAL TO	uie iiist Daue

### **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf\_or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds**: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above ). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). ☑ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). ☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. ☐ **Talus**: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category
Chook of	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
	Estuarine Wetlands	
30 1.0.1	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 <b>= Category I</b> □ No - Go to <b>SC 1.2</b>	
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 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	•
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
00.00	☐ Yes = Category I ☐ No = Category II	
SC 2.1.	Wetlands of High Conservation Value (WHCV)  Has the WA Department of Natural Resources updated their website to include the list	
00 2.1.	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 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 to SC 2.4 ☑ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website?	
SC 3.0. I		
	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	
SC 3.1.	wetland based on its functions.  Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
30 3.1.	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	
00 0.2.	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,	
000	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 20% of the sever under the capacity?	
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

	, , , , , , , , , , , , , , , , , , , ,	
	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).	
SC F O	☐ Yes = Category I ☑ No = Not a forested wetland for this section	
SC 5.0.	Wetlands in Coastal Lagoons  Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	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)	
00.5.4	☐ Yes - Go to SC 5.1 ☑ No = Not a wetland in a coastal lagoon	
	Does the wetland meet all of the following three conditions?  The wetland is relatively undisturbed (hee no diving disching filling cultivation grazing)	
	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 <sup>2</sup> )	
	☐ Yes = Category I ☐ No = Category II	
SC 6.0.	Interdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland	
	based on its habitat functions. In practical terms that means the following geographic areas:	
	Grayland-Westport: Lands west of SR 105	
	•	
	☐ Yes - Go to SC 6.1 ☐ No = Not an interdunal wetland for rating	
SC 6.1.	<u> </u>	
	(rates H,H,H or H,H,M for the three aspects of function)?	
00.00	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
SC 6.3.	$\square$ Yes = Category II $\square$ No - Go to 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	
0.5.	1 ac?	
	☐ Yes = Category III ☐ No = Category IV	
Categor	y of wetland based on Special Characteristics	
	swered No for all types, enter "Not Applicable" on Summary Form	

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):	Wetland I		Date of site visit:	6/21/2017
Rated by Stephanie Modjes	ski, Jeff Gray	Trained by Ecology? ☑ Yes ☐ No	Date of training _	3/18/2015
HGM Class used for rating	Slope	Wetland has multi	ple HGM classes? 🗌	Yes ☑No
	ot complete with of base aerial pho	out the figures requested (figures car oto/map	n be combined ).	
OVERALL WETLAND CA	ATEGORY	III (based on functions ☑or speci	al characteristics	
1. Category of wetland	d based on FUN	CTIONS		
Category I - Total score = 23 - 27			Score for each	
	Category II - To	tal score = 20 - 22	function based	
X	Category III - To	otal score = 16 - 19	on three	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	ropriate rating	g (H, M, L)	
Site Potential	M	M	L	
Landscape Potential	M	M	М	
Value	Н	M	Н	Total
Score Based on Ratings	7	6	6	19

Category IV - Total score = 9 - 15

# Score for each function based on three ratings (order of ratings is not important) 9 = H, H, H 8 = H, H, M 7 = H, H, L 7 = H, M, M 6 = H, M, L 6 = M, M, M 5 = H, L, L 5 = M, M, L 4 = M, L, L 3 = L, L, L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	Х

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

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	12
Hydroperiods	H 1.2	12
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	12
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	10
(can be added to another figure)		12
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	12
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	10
polygons for accessible habitat and undisturbed habitat		13
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	11
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	3

### **HGM Classification of Wetland in Western Washington**

For questions 1 -7, the criteria described must apply to the entire unit being rated. If 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	☐ <b>YES</b> - the wetla	nd class is <b>Tidal Fringe</b> - go to 1.1
1.1 Is the salinity of the water of	during periods of annual low fl	ow below 0.5 ppt (parts per thousand)?
	ssified as a Freshwater Tidal F ge it is an <b>Estuarine</b> wetland g	☐ YES - Freshwater Tidal Fringe Fringe use the forms for <i>Riverine</i> wetlands. and is not scored. This method <i>cannot</i> be
2. The entire wetland unit is flat and Groundwater and surface water runc		
☑ NO - go to 3  If your wetland can be clas	ssified as a Flats wetland, use	☐ YES - The wetland class is Flats the form for <b>Depressional</b> wetlands.
	wetland is on the shores of a burner of the year) at least 20	
☑ NO - go to 4	☐ <b>YES</b> - The wetla	and class is <b>Lake Fringe</b> (Lacustrine Fringe)
	(slope can be very gradual), ne wetland in one direction (un sheetflow, or in a swale witho	
□ NO - go to 5		☑ YES - The wetland class is Slope
<b>NOTE</b> : Surface water does not pond depressions or behind hummocks (d		eept occasionally in very small and shallow liameter and less than 1 ft deep).
<ul><li>5. Does the entire wetland unit meet</li><li>The unit is in a valley, or st from that stream or river,</li><li>The overbank flooding occ</li></ul>	tream channel, where it gets i	nundated by overbank flooding
☑ NO - go to 6		☐ <b>YES</b> - The wetland class is <b>Riverine</b>
NOTE: The Riverine unit can contain	n depressions that are filled w	th water when the river is not flooding.

	nic depression in which water ponds, or is saturated to the surface, a hat any outlet, if present, is higher than the interior of the wetland.
☑ NO - go to 7	☐ <b>YES</b> - The wetland class is <b>Depressional</b>
The unit does not pond surface water mo	ery flat area with no obvious depression and no overbank flooding? re than a few inches. The unit seems to be maintained by high y 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	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	ESTUARINE

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

Wetland name or number I

SLOPE WETLANDS		
Water Quality Functions - Indicators that the site functions to im	nrove water quality	
S 1.0. Does the site have the potential to improve water quality?	iprove water quality	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1	ft vertical drop in	
elevation for every 100 ft of horizontal distance)	it vertical drop iii	
Slope is 1% or less	points = 3	
Slope is > 1% of less	points = 2	1
Slope is > 1% - 2% Slope is > 2% - 5%	•	
·	points = 1	
Slope is greater than 5%	points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic	V 0 N 0	0
(use NRCS definitions):	Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollu Choose the points appropriate for the description that best fits the plants in the		
means you have trouble seeing the soil surface (>75% cover), and uncut mean		
mowed and plants are higher than 6 in.	is not grazed or	
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	6
Dense, uncut, herbaceous plants > ½ of area	points = 3	Ö
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > 1/4 of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	
	in the boxes above	7
Rating of Site Potential If score is: 12 = H	Record the rating on	-
Training of Site Potential in Score is.   12 - 11   0 - 11 - M   0 - 3 - E	Necora the rating on	ine msi page
S 2.0. Does the landscape have the potential to support the water quality funct	ion of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in		1
land uses that generate pollutants?	Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are		
not listed in question S 2.1?		0
Other Sources	Yes = 1 No = 0	
Total for S 2 Add the points	in the boxes above	1
Rating of Landscape Potential If score is:  1 - 2 = M  0 = L	Record the rating on	the first page
	0	
S 3.0. Is the water quality improvement provided by the site valuable to society	·?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river,		1
lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue?		1
At least one aquatic resource in the basin is on the 303(d) list.	Yes = 1 No = 0	•
S 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		2
which the unit is found?	Yes = 2 No = 0	
Total for S 3 Add the points	in the boxes above	4
Rating of Value If score is: 2 - 4 = H 1 = M 0 = L	Record the rating on	the first page

SLOPE WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce floor	oding and stream er	osion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during	storms: Choose	
the points appropriate for the description that best fits conditions in the wetland	. Stems of plants	
should be thick enough (usually $> 1/8$ in), or dense enough, to remain erect du	ıring surface flows.	1
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	points = 1	
All other conditions	points = 0	
Rating of Site Potential If score is:  1 = M	Record the rating on	the first page
S 5.0. Does the landscape have the potential to support hydrologic functions of	f the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land		1
uses or cover that generate excess surface runoff?	Yes = 1 No = 0	ı
Rating of Landscape Potential If score is:	Record the rating on	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:		
The sub-basin immediately down-gradient of site has flooding		
problems that result in damage to human or natural resources (e.g.,		1
houses or salmon redds)	points = 2	ı
Surface flooding problems are in a sub-basin farther down-gradient		
gradient gradient gradient	points = 1	
No flooding problems anywhere downstream	points = 1 points = 0	
	•	0
No flooding problems anywhere downstream	•	0
No flooding problems anywhere downstream S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	points = 0	

### NOTES and FIELD OBSERVATIONS:

Depressional portion of wetland does not meet 10% threshold.

### 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 0 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 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 1/4 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 O ☐ Occasionally flooded or inundated 2 types present: points = 1 1 types present: points = 0 ☑ 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 H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. 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 0 If you counted: > 19 species points = 25 - 19 species points = 1< 5 species points = 0H 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. O None = 0 points Low = 1 pointModerate = 2 points All three diagrams in this row are **HIGH** = 3 points

Wetland name or number I	
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)	
<ul> <li>☐ Standing snags (dbh &gt; 4 in) within the wetland</li> <li>☐ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends</li> </ul>	
at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at	
least 3.3 ft (10 m)	0
Stable steep banks of fine material that might be used by beaver or muskrat for denning	
(> 30 degree slope) OR signs of recent beaver activity are present ( <i>cut shrubs or trees</i>	
that have not yet weathered where wood is exposed)	
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas	
that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see	
H 1.1 for list of strata)	
Total for H 1 Add the points in the boxes above	
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 netential to support the habitat function of the site?	
H 2.0. Does the landscape have the potential to support the habitat function of the site?  H 2.1 Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).	<u> </u>
Calculate:	
0 % undisturbed habitat + ( 14 % moderate & low intensity land uses / 2 ) = 7%	
70 undisturbed habitat 1 ( 14 70 moderate & low intensity land does / 2 ) = 1 /0	
If total accessible habitat is:	0
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20 - 33% of 1 km Polygon points = 2	
10 - 19% of 1 km Polygon points = 1	
< 10 % of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate:	
20 % undisturbed habitat + ( 55 % moderate & low intensity land uses / 2 ) = 47.5%	
<u> </u>	1
Undisturbed habitat > 50% of Polygon points = 3	1
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3 Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (-2)	
≤ 50% of 1km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	
Rating of Landscape Potential If Score is: 4 - 6 = H  1 - 3 = M  1 - 3 = M  1 - 1 = L  Record the rating on	the first page
II 2.0. In the hebitet previded by the site velveble to esciet 0	
H 3.0. Is the habitat provided by the site valuable to society? H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose</i>	T
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	2
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) with in 100m points = 1	
Site does not meet any of the criteria above points = 0	L
Rating of Value If Score is: 2 = H 1 = M 0 = L Record the rating or	the first page

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

Wetland	nama		number	1	
vvetland	name	or	number	I	

### **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds**: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above ). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). ☑ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). ☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. ☐ **Talus**: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category
Chook of	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
	Estuarine Wetlands	
30 1.0.1	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 <b>= Category I</b> □ No - Go to <b>SC 1.2</b>	
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 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	•
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
00.00	☐ Yes = Category I ☐ No = Category II	
SC 2.1.	Wetlands of High Conservation Value (WHCV)  Has the WA Department of Natural Resources updated their website to include the list	
00 2.1.	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 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 to SC 2.4 ☑ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website?	
SC 3.0. I		
	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	
SC 3.1.	wetland based on its functions.  Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
30 3.1.	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	
00 0.2.	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,	
000	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 20% of the sever under the capacity?	
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

## ☐ Long Beach Peninsula: Lands west of SR 103 ☐ Grayland-Westport: Lands west of SR 105 ☐ Ocean Shores-Copalis: Lands west of SR 115 and SR 109 ☐ Yes - Go to **SC 6.1** ☑ No = Not an interdunal wetland for rating SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H.H.H or H.H.M for the three aspects of function)? ☐ Yes = Category I ☐ No - Go to SC 6.2 SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = Category II ☐ No - Go to **SC 6.3** 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 Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form

## **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):	Wetland J		Date of site visit:	6/22/2017
Rated by Stephanie Modjes	ki, Jeff Gray Trained	by Ecology? ☑ Yes ☐ No	Date of training	3/18/2015
HGM Class used for rating	Depressional & Flats	Wetland has multip	ole HGM classes? ☐	Yes ☑No
	ot complete with out the figu of base aerial photo/map	res requested (figures can	be combined).	
OVERALL WETLAND CA	TEGORY II (base	ed on functions  or special	al characteristics	
1. Category of wetland	based on FUNCTIONS			
	Category I - Total score = 23	- 27	Score for each	
X	Category II - Total score = 20	) - 22	function based	
Category III - Total score = 16 - 19 on three				
Category IV - Total score = 9 - 15 ratings				

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
List appropriate rating (H, M, L)				
Site Potential	M	M	М	
Landscape Potential	M	M	М	
Value	Н	M	Н	Total
Score Based on Ratings	7	6	7	20

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	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	х

# 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	14
Hydroperiods	D 1.4, H 1.2	14
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	14
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	14
Map of the contributing basin	D 4.3, D 5.3	15
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	13
polygons for accessible habitat and undisturbed habitat	D 0.4 D 0.0	44
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	11
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	3

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

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

### **HGM Classification of Wetland in Western Washington**

For questions 1 -7, the criteria described must apply to the entire unit being rated. If 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	s entire unit usually controlle	d by tides except during noods?	
☑ NO - go to 2	☐ YES -	the wetland class is <b>Tidal Fringe</b> - go to 1.	.1
1.1 Is the salinity of the	e water during periods of an	nual low flow below 0.5 ppt (parts per thous	and)?
If your wetland car If it is Saltwater Tid		☐ YES - Freshwater Tidal Frin ter Tidal Fringe use the forms for Riverine wetland and is not scored. This method c	wetlands.
2. The entire wetland unit is Groundwater and surface wa		only source (>90%) of water to it. of water to the unit.	
☑ NO - go to 3  If your wetland car	n be classified as a Flats wet	$\square$ <b>YES</b> - The wetland class is <b>FI</b> tland, use the form for <b>Depressional</b> wetla	
plants on the surfa		ores of a body of permanent open water (wi it least 20 ac (8 ha) in size;	ithout any
☑ NO - go to 4	☐ YES -	The wetland class is Lake Fringe (Lacustr	ine Fringe)
☐ The water flows th It may flow subsur	a slope ( <i>slope can be very</i> g	<i>tradual</i> ), ection (unidirectional) and usually comes frow vale without distinct banks.	om seeps.
☑ NO - go to 5		$\square$ <b>YES</b> - The wetland class is <b>SI</b>	ope
		tlands except occasionally in very small and ally <3 ft diameter and less than 1 ft deep).	wollads t
from that stream o	ley, or stream channel, wher	e it gets inundated by overbank flooding	
☑ NO - go to 6		☐ <b>YES</b> - The wetland class is <b>Ri</b>	iverine
NOTE: The Riverine unit car	n contain depressions that a	re filled with water when the river is not floo	odina

	c depression in which water ponds, or is saturated to the surface, a at any outlet, if present, is higher than the interior of the wetland.
□ NO - go to 7	☑ YES - The wetland class is Depressional
The unit does not pond surface water more	y flat area with no obvious depression and no overbank flooding? than a few inches. The unit seems to be maintained by high 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	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	ESTUARINE

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

NOTES and FIELD OBSERVATIONS:

Wetland name or number J

TMDL for East Fork Lewis River status is Under Development.

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). Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing stream or ditch, OR highly constricted permanently flowing outlet.  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing quitet.  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.  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  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 > 95% of area points = 3 Wetland has persistent, ungrazed plants < 1/1,10 of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonall	DEPRESSIONAL AND FLATS WETLANDS					
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).  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing outlet.  Points = 1  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.  D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (wes NRCS definitions).  Yes = 4 No = 0  1 .3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or  Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed plants > 1/1,0 of area points = 3  Wetland has persistent, ungrazed plants > 1/1,0 of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation: This is the area that is ponded for at least 2 months. See description in manual. Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is > 1/2 total area of wetland D 2.1. 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  Total for D 2  Rating of Site Potential If score is: 3 or 4 = 1 /2 or 2 = 1 /2 es = 1 /2	Water Quality Functions - Indicators that the site functions to in	nprove wate	er quality			
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  □ Wetland has an unconstricted, or slightly constricted, surface outlet that its permanently flowing outlet that its permanently flowing points = 1  □ 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).  □ 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 > 95% of area points = 3  Wetland has persistent, ungrazed, plants > 1/2, or of area points = 3  Wetland has persistent, ungrazed plants < 1/2, or of area points = 0  □ 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is pended for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ½ total area of wetland  Total for D 1 Add the points in the boxes above 9  Rating of Site Potential If score is: □ 12 - 16 = H  ○ 6 - 11 = M  ○ - 5 = L  Record the rating on the first page  D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0  D 2.3. Are there septic systems within 150 ft of the wetland? Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source Yes = 1 No = 0  Total for D 2 Add the points in the boxes above 2  Rating of Landscape Potential If score is: □ 3 or 4 = H  ○ 1 or 2 = M  ○ 0 = L Record the rating on the first page  D 3.0. Is the water quality improvement pro	D 1.0. Does the site have the potential to improve water quality?					
with no surface water leaving it (no outlet).  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing  Wetland has a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.  D1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).  D1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed plants > ½ of area points = 5 Wetland has persistent, ungrazed plants > ⅓ of area wetland has persistent, ungrazed plants > ⅓ of area wetland has persistent, ungrazed plants > ⅓ of area points = 0  D1.4. 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 > ⅓ total area of wetland Area seasonally ponded is > ⅓ total area of wetland Area seasonally ponded is > ⅓ total area of wetland Area seasonally ponded is > ⅓ total area of wetland Area seasonally ponded is > ⅓ total area of wetland Total for D 1 Add the points in the boxes above  Pating of Site Potential If score is: □12-16 = H □6-11 = M □0-5 = L Record the rating on the first page  D2.0. Does the landscape have the potential to support the water quality function of the site?  D2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0  D2.3. 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  D2.4. 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  D2.3. Is the wetland discharge directly (i.e., within 1 mi) to a stream, river, l	D 1.1. Characteristics of surface water outflows from the wetland:					
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  □ 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.  □ D.1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (uses NRCS definitions).  □ 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 > 95% of area points = 3  Wetland has persistent, ungrazed plants > ½ of area points = 3  Wetland has persistent, ungrazed plants > ½, of area points = 0  D.1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland points = 2  Area seasonally ponded is > ½ total area of wetland points = 2  Total for D.1  Total for D.1  D.2.0. Does the landscape have the potential to support the water quality function of the site?  D.2.1. Does the welland unit receive stormwater discharges? Yes = 1 No = 0  D.2.2. Is > 10% of the area within 150 ft of the wetland? Yes = 1 No = 0  D.2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0  Total for D.2  Rating of Star 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 welland 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  Total for D.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 wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0  Total fo	Wetland is a depression or flat depression (QUESTION 7 on key)					
constricted permanently flowing outlet.  □ 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.  □ 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).  □ 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 > 95% 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 = 1  Wetland has persistent, ungrazed plants < 1/10 of area points = 0  □ 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is < ½ total area of wetland  Area seasonally ponded is < ½ total area of wetland  Area seasonally ponded is < ½ total area of wetland  Area seasonally ponded is < ½ total area of wetland  Area seasonally ponded is < ½ total area of wetland  D 2.0. Does the landscape have the potential to support the water quality function of the site?  □ 2.1. Does the wetland unit receive stormwater discharges?  □ 2.2. Is > 10% of the area within 150 ft of the wetland?  □ 2.3. Are there septic systems within 250 ft of the wetland?  □ 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    Ves = 1   No = 0	,	p	oints = 3			
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	· · ·					
that is permanently flowing   Points = 1   Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.   Points = 1   D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).   Yes = 4   No = 0   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 > % 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 = 1   Wetland has persistent, ungrazed plants > 1/10 of area   points = 0   D 1.4. Characteristics of seasonal ponding or inundation:   This is the area that is ponded for at least 2 months. See description in manual.   Area seasonally ponded is > ½ total area of wetland   points = 4   Area seasonally ponded is > ½ total area of wetland   points = 0   D 2.1. 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?   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   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   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   1   D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer Y	· · · · · · · · · · · · · · · · · · ·	p	oints = 2	2		
□ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.  D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).  D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 1  D 2.2. Is of the area within 150 of to the wetland in land uses that generate points in the boxes above 1  D 2.3. Are there septic systems within 250 ft of the wetland in land uses that generate po						
a permanently flowing ditch.  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  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 > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is > ½ total area of wetland points = 0  Total for D 1 Add the points in the boxes above 9  Pating of Site Potential If score is:		pc	oints = 1			
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).  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 = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is > ½ total area of wetland points in the boxes above 9  Rating of Site Potential if score is:						
(use NRCS definitions).  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 > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Points = 0  Total for D 1 Add the points in the boxes above 9  Rating of Site Potential If score is: □12 - 16 = H ○6 - 11 = M ○0 - 5 = L Record the rating on the first page  D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source Yes = 1 No = 0  Total for D 2 Add the points in the boxes above 2  Rating of Landscape Potential If score is: □ 3 or 4 = H ○ 1 or 2 = M ○ 1 L Record the rating on the first page  D 3.0. Is the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0  Total for D 3 Add the points in the boxes above 4		pc	oints = 1			
Use NYCS definitions   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				0		
Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area  Wetland has persistent, ungrazed, plants > ½ of area  Wetland has persistent, ungrazed plants > ½ of area  Wetland has persistent, ungrazed plants > ½ of area  Wetland has persistent, ungrazed plants > ½ of area  Wetland has persistent, ungrazed plants < ½ of area  Wetland has persistent, ungrazed plants < ½ of area  Wetland has persistent, ungrazed plants < ½ of area  Wetland has persistent, ungrazed plants < ½ of area  Wetland has persistent, ungrazed plants < ½ of area  Wetland has persistent, ungrazed plants < ½ of area  Points = 1  Wetland has persistent, ungrazed plants < ½ of area  Points = 0  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ½ total area of wetland  Points = 0  Total for D 1  Add the points in the boxes above  9  Rating of Site Potential If score is:	,			0		
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Wetland has persistent, ungrazed, plants > ½ of area  Wetland has persistent, ungrazed plants > 1/10 of area  Wetland has persistent, ungrazed plants < 1/10 of area  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is < ½ total area of wetland  Area seasonally ponded is < ½ total area of wetland  Points = 2  Area seasonally ponded is < ½ total area of wetland  Total for D 1  Add the points in the boxes above  Pating 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?  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  Total for D 2  Add the points in the boxes above  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  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  Total for D 3  Add the points in the boxes above 4	,					
Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants > ½ of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is < ½ total area of wetland points = 0  Total for D 1  Add the points in the boxes above 9  Rating of Site Potential If score is: □12-16=H □6-11=M □0-5=L Record the rating on the first page  D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source Yes = 1 No = 0  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  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  Total for D 3  Add the points in the boxes above 4	· · · · · · · · · · · · · · · · · · ·	-		5		
Wetland has persistent, ungrazed plants < 1/10 of area points = 0  D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is > ½ total area of wetland points = 0  Total for D 1  Rating of Site Potential If score is:		p	oints = 3	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  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is < ½ total area of wetland  Points = 2  Area seasonally ponded is < ½ total area of wetland  Points = 0  Total for D 1  Add the points in the boxes above  Pating of Site Potential If score is:	Wetland has persistent, ungrazed plants > 1/10 of area	p	oints = 1			
This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is < 1/2 total area of wetland Points = 0  Total for D 1  Add the points in the boxes above  Pating of Site Potential If score is:	Wetland has persistent, ungrazed plants < 1/10 of area	p	oints = 0			
Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Doints = 2 Area seasonally ponded is < ½ total area of wetland  Total for D 1  Add the points in the boxes above  9  Rating of Site Potential If score is: □12-16 = H □6-11 = M □0-5 = L Record the rating on the first page  D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3? Source Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  2  Rating of Landscape Potential If score is: □ 3 or 4 = H □ 1 or 2 = M □ 0 = L Record the rating on the first page  D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?  Yes = 2 No = 0  Total for D 3  Add the points in the boxes above	D 1.4. Characteristics of seasonal ponding or inundation:					
Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is < ½ total area of wetland Points = 2 Points = 0  Total for D 1  Rating of Site Potential If score is:	This is the area that is ponded for at least 2 months. See description in manual.					
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Area seasonally ponded is < 1/4 total area of wetland  Total for D 1  Rating of Site Potential If score is:	• •	•				
Total for D 1  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?  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  Total for D 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?  D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  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)?  Total for D 3  Add the points in the boxes above 4	• •	•				
Rating of Site Potential If score is: □ 12 - 16 = H	· ·			9		
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Total for D 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?  D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?  Total for D 3  Add the points in the boxes above  4				_		
D 2.1. Does the wetland unit receive stormwater discharges?  D 2.1. Does the wetland unit receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 - D 2.3?  Source  Yes = 1 No = 0  Total for D 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?  D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?  Total for D 3  Add the points in the boxes above 4				and mot page		
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Rating of Landscape Potential If score is: □ 3 or 4 = H □ 1 or 2 = M □ 0 = L Record the rating on the first page  □ 3.0. Is the water quality improvement provided by the site valuable to society?  □ 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?  □ 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  □ 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)?  □ 3.4 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 Yes = 2 No = 0  □ 3.6 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 Yes = 2 No = 0  □ 3.7 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 Yes = 2 No = 0  □ 3.6 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 Yes = 2 No = 0	Source	Yes = 1	No = 0			
D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?  Yes = 2 No = 0  Total for D 3  Add the points in the boxes above	Total for D 2 Add the points	in the boxe	es above	2		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?  Yes = 2 No = 0  Total for D 3  Add the points in the boxes above	Rating of Landscape Potential If score is:   3 or 4 = H   1 or 2 = M   0 = L	Record the	rating on	the first page		
lake, or marine water that is on the 303(d) list?  D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?  Yes = 1 No = 0  Yes = 2 No = 0  Total for D 3  Add the points in the boxes above	D 3.0. Is the water quality improvement provided by the site valuable to society	?				
lake, or marine water that is on the 303(d) list?  D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?  Yes = 1 No = 0  Yes = 2 No = 0  Add the points in the boxes above	D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river,			4		
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in  which the unit is found)?  Yes = 2 No = 0  Total for D 3  Add the points in the boxes above		Yes = 1	No = 0	1		
Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in  which the unit is found)?  Yes = 1 No = 0  Yes = 2 No = 0  Add the points in the boxes above		he 303(d) lis	st?			
for maintaining water quality (answer YES if there is a TMDL for the basin in  which the unit is found)?  Yes = 2 No = 0  Total for D 3  Add the points in the boxes above	'	. ,		1		
for maintaining water quality (answer YES if there is a TMDL for the basin in  which the unit is found)?  Yes = 2 No = 0  Total for D 3  Add the points in the boxes above	D 3.3. Has the site been identified in a watershed or local plan as important					
which the unit is found)?Yes = 2 No = 0Total for D 3Add the points in the boxes above	· · · · · · · · · · · · · · · · · · ·			2		
Total for D 3 Add the points in the boxes above 4		Yes = 2	No = 0	_		
	· · · · · · · · · · · · · · · · · · ·			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	I				
leaving it (no outlet) points = 4	I				
Wetland has an intermittently flowing stream or ditch, OR highly	l .				
constricted permanently flowing outlet points = 2	2				
Wetland is a flat depression (QUESTION 7 on key), whose outlet is	1				
a permanently flowing ditch points = 1	I				
Wetland has an unconstricted, or slightly constricted, surface outlet	I				
that is permanently flowing points = 0	<del> </del>				
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of	I				
the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the	I				
deepest part.  Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7	1				
, ,	3				
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5  Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3	3 				
☐ The wetland is a "headwater" wetland points = 3	I				
	I				
Wetland is flat but has small depressions on the surface that trap water points = 1	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.	1				
'	I				
<u> </u>	3				
l l	I				
The area of the basin is more than 100 times the area of the unit points = 0	1				
☐ Entire wetland is in the Flats class points = 5					
Total for D 4 Add the points in the boxes above	8				
Rating of Site Potential If score is: 12 - 16 = H	tne tirst page				
D 5.0. Does the landscape have the potential to support hydrologic function of the site?					
D 5.1. Does the wetland unit 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?	1				
Yes = 1 No = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human	1				
land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	0				
Yes = 1 No = 0					
Total for D 5  Add the points in the boxes above					
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on the first					
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	1				
matches conditions around the wetland unit being rated. Do not add points. Choose the highest	1				
score if more than one condition is met.	I				
The wetland captures surface water that would otherwise flow down-gradient into areas	I				
where flooding has damaged human or natural resources (e.g., houses or salmon redds):	1				
<ul> <li>Flooding occurs in a sub-basin that is immediately down-</li> </ul>	1				
gradient of unit. points = 2	1				
<ul> <li>Surface flooding problems are in a sub-basin farther down-</li> </ul>					
gradient. points = 1	I				
☐ Flooding from groundwater is an issue in the sub-basin. points = 1	1				
☐ The existing or potential outflow from the wetland is so constrained	Ì				
by human or natural conditions that the water stored by the wetland	Ì				
cannot reach areas that flood. Explain why points = 0	Ì				
☐ 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	0				
conveyance in a regional flood control plan? Yes = 2 No = 0					
Total for D 6 Add the points in the boxes above	1				
Rating of Value If score is: 2 - 4 = H  1 = M  0 = L  Record the rating on	the first page				

# 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 3 structures: points = 2 Emergent ☐ 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 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 1/4 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 2 ☑ Occasionally flooded or inundated 2 types present: points = 1 1 types present: points = 0 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 H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. 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 1 If you counted: > 19 species points = 25 - 19 species points = 1< 5 species points = 0H 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. 2 None = 0 points Low = 1 pointModerate = 2 points All three diagrams in this row are **HIGH** = 3 points

Wetland name or number J	
H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i>	
<ul> <li>☐ Standing snags (dbh &gt; 4 in) within the wetland</li> <li>☐ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends</li> </ul>	
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	2
(> 30 degree slope) OR signs of recent beaver activity are present ( <i>cut shrubs or trees</i>	
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 ( <i>structures for egg-laying by amphibians</i> )	
✓ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see	
H 1.1 for list of strata)	_
Total for H 1  Add the points in the boxes above  Rating of Site Potential If Score is: 15 - 18 = H 7 - 14 = M 0 - 6 = L Record the rating on	
Rating of Site Potential if Score is. 115 - 16 - H 7 - 14 - M 10 - 6 - L Record the rating on	trie iirst page
H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate:  8 % undisturbed habitat + (	
If total accessible, helpitation	4
If total accessible habitat is: $> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	1
20 - 33% of 1 km Polygon points = 2	
10 - 19% of 1 km Polygon points = 1	
< 10 % of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  Calculate:	
19 % undisturbed habitat + (52 % moderate & low intensity land uses / 2 ) = 45%	
Undisturbed habitat > 50% of Polygon points = 3	1
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches  Points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0 H 2.3 Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (-2)	0
≤ 50% of 1km Polygon is high intensity points = 0	
Total for H 2  Add the points in the boxes above	
Rating of Landscape Potential If Score is: 4 - 6 = H  1 - 3 = M  1 - 3 = M  1 - 4 - 6 = H  1 - 3 = M	the first page
H 3.0. Is the habitat provided by the site valuable to society? H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose</i>	
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	2
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) with in 100m points = 1	
Site does not meet any of the criteria above points = 0	
Rating of Value If Score is: 2 = H 1 = M 0 = L Record the rating on	the first page

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

	ow many of the following priority habitats are within 330 ft (100 m) of the wetland unit: <b>NOTE</b> : This 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).
	<b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.
	Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 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.
	<b>Oregon White Oak</b> : Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important ( <i>full descriptions in WDFW PHS report p. 158</i> – see web link above).
<b>V</b>	<b>Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
	<b>Westside Prairies</b> : Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie ( <i>full descriptions in WDFW PHS report p. 161</i> – see web link above).
<b>V</b>	<b>Instream</b> : The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
	<b>Nearshore</b> : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. ( <i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page</i> ).
	<b>Caves</b> : 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.
	<b>Talus</b> : 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.
<b>V</b>	<b>Snags and Logs</b> : Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category
Chook of	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
	Estuarine Wetlands	
30 1.0.1	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 <b>= Category I</b> □ No - Go to <b>SC 1.2</b>	
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 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
00.00	☐ Yes = Category I ☐ No = Category II	
SC 2.1.	Wetlands of High Conservation Value (WHCV)  Has the WA Department of Natural Resources updated their website to include the list	
00 2.1.	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 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 to SC 2.4 ☑ No = Not WHCV	
SC 2.4.	Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation	
	Value and listed it on their website?	
SC 3.0. I		
	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,	
30 3.1.	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	
	<b>NOTE</b> : 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,	
00.0.4	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 sover under the capacity?	
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

SC 4.0. F	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? <i>If you</i>				
	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).				
	DV Octobrill DN Notes formed and for the confine				
	☐ Yes = Category I ☑ No = Not a forested wetland for this section				
SC 5.0. \	Netlands 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				
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 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-				
	grazed or un-mowed grassland.				
	The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )				
	• , , , , , , , , , , , , , , , , , , ,				
	☐ Yes = Category I ☐ No = Category II				
SC 6.0. I	nterdunal 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				
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form				
	(rates H,H,H or H,H,M for the three aspects of function)?				
	☐ Yes = Category I ☐ No - Go to SC 6.2				
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?				
	☐ Yes = Category II ☐ No - Go to SC 6.3				
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				
3.0.	1 ac?				
	☐ Yes = Category III ☐ No = Category IV				
Categor	y of wetland based on Special Characteristics				
	swered No for all types, enter "Not Applicable" on Summary Form				
,	and a contract of the contract				

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland K/L	Date of site visit:	6/22/2017
Rated by Stephanie Modjeski, Jeff Gray Trained by Ecology?	Date of training	3/18/2015
HGM Class used for rating Riverine & Fresh Water Tidal Wetland has multi	ple HGM classes?	Yes ☑No
NOTE: Form is not complete with out the figures requested (figures can Source of base aerial photo/map	n be combined).	
OVERALL WETLAND CATEGORY III (based on functions	ial characteristics	
1. Category of wetland based on FUNCTIONS		
Category I - Total score = 23 - 27	Score for each	
Category II - Total score = 20 - 22	function based	
X Category III - Total score = 16 - 19	on three	
Category IV - Total score = 9 - 15	ratings	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	ropriate rating	g (H, M, L)	
Site Potential	M	M	L	
Landscape Potential	M	Н	М	
Value	M	M	Н	Total
Score Based on Ratings	6	7	6	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	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	х

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

## Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	16
Hydroperiods	H 1.2	16
Ponded depressions	R 1.1	16
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	16
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	16
Width of unit vs. width of stream (can be added to another figure)	R 4.1	16
Map of the contributing basin	R 2.2, R 2.3, R 5.2	10
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	13
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	11

### Lake Fringe Wetlands

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

### Slope Wetlands

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

# **HGM Classification of Wetland in Western Washington**

For questions 1 -7, the criteria described must apply to the entire unit being rated. If 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 durir	ng periods of annual low flow below 0.5 ppt (parts per thousand)?
	ed as a Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. is an <b>Estuarine</b> wetland and is not scored. This method <b>cannot</b> be
2. The entire wetland unit is flat and pred Groundwater and surface water runoff at	sipitation is the only source (>90%) of water to it. re NOT sources of water to the unit.
☑ NO - go to 3  If your wetland can be classifie	☐ <b>YES</b> - The wetland class is <b>Flats</b> as a Flats wetland, use the form for <b>Depressional</b> wetlands.
	and is on the shores of a body of permanent open water (without any ne of the year) at least 20 ac (8 ha) in size;
☑ NO - go to 4	☐ <b>YES</b> - The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
	be can be very gradual), etland in one direction (unidirectional) and usually comes from seeps. etflow, or in a swale without distinct banks.
☑ NO - go to 5	$\square$ <b>YES</b> - The wetland class is <b>Slope</b>
	hese type of wetlands except occasionally in very small and shallow essions are usually <3 ft diameter and less than 1 ft deep).
<ul> <li>5. Does the entire wetland unit meet all of the unit is in a valley, or stream from that stream or river,</li> <li>The overbank flooding occurs of the control of the unit meet all of the un</li></ul>	m channel, where it gets inundated by overbank flooding
□ NO - go to 6	☑ YES - The wetland class is Riverine
NOTE: The Riverine unit can contain de	pressions that are filled with water when the river is not flooding.

	c depression in which water ponds, or is saturated to the surface, a at any outlet, if present, is higher than the interior of the wetland.
☑ NO - go to 7	$\square$ <b>YES</b> - The wetland class is <b>Depressional</b>
The unit does not pond surface water more	ry flat area with no obvious depression and no overbank flooding? e than a few inches. The unit seems to be maintained by high be ditched, but has no obvious natural outlet.

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.

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

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

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

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

NOTES and FIELD OBSERVATIONS:

Wetland name or number K/L

☑ NO - go to 8

RIVERINE AND FRESHWATER TIDAL FRING	E WETLANDS	
Water Quality Functions - Indicators that the site functions to in	nprove water quality	
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap se	ediments during a	
flooding event:		
Depressions cover > 3/4 area of wetland	points = 8	2
Depressions cover > ½ area of wetland	points = 4	2
Depressions present but cover < ½ area of wetland	points = 2	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person heigh	ght, <b>not</b> Cowardin	
classes)		
Trees or shrubs $> \frac{2}{3}$ area of the wetland	points = 8	
$\Box$ Trees or shrubs > $^{1}/_{3}$ area of the wetland	points = 6	6
$\Box$ Herbaceous plants (> 6 in high) > $^2/_3$ area of the wetland	points = 6	
Herbaceous plants (> 6 in high) > $^{1}/_{3}$ area of the wetland	points = 3	
Trees, shrubs, and ungrazed herbaceous < 1/3 area of the wetland	points = 0	
	in the boxes above	8
Rating of Site Potential If score is: $\Box 12 - 16 = H$ $\bigcirc 6 - 11 = M$ $\Box 0 - 5 = L$	Record the rating on	the first page
R 2.0. Does the landscape have the potential to support the water quality funct	tion of the site?	
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin to the wetland include a UGA or	100 2 110 0	
incorporated area?	Yes = 1 No = 0	1
R 2.3. Does at least 10% of the contributing basin contain tilled fields,		4
pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	1
R 2.4. Is > 10% of the area within 150 ft of the wetland in land uses that		0
generate pollutants?	Yes = 1 No = 0	U
R 2.5. Are there other sources of pollutants coming into the wetland that are		
not listed in questions R 2.1 - R 2.4?		0
Other Sources	Yes = 1 No = 0	
Total for R 2 Add the points	in the boxes above	2
Rating of Landscape Potential If score is: 3 - 6 = H  1 or 2 = M  1 or 2 = L	Record the rating on	the first page
R 3.0. Is the water quality improvement provided by the site valuable to society	?	
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a		1
tributary that drains to one within 1 mi?	Yes = 1 No = 0	1
R 3.2. Is the wetland along a stream or river that has TMDL limits for		0
nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 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		0
drainage in which the unit is found)	Yes = 2 No = 0	
Total for R 3 Add the points	in the boxes above	1
Rating of Value If score is: 2 - 4 = H  1 = M  0 = L	Record the rating on	the first page

RIVERINE AND FRESHWATER TIDAL FRINGI	E WETLANDS	
Hydrologic Functions - Indicators that site functions to reduce flood	ing and stream eros	sion
R 4.0. Does the site have the potential to reduce flooding and erosion?		
R 4.1. Characteristics of the overbank storage the wetland provides:		
Estimate the average width of the wetland perpendicular to the direction of the	flow and the width	
of the stream or river channel (distance between banks). Calculate the ratio: (a	verage width of	
wetland)/(average width of stream between banks).		
If the ratio is more than 20	points = 9	2
If the ratio is 10 - 20	points = 6	
If the ratio is 5 - < 10	points = 4	
If the ratio is 1 - < 5	points = 2	
If the ratio is < 1	points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: 7	•	
debris as forest or shrub. Choose the points appropriate for the best description	n (polygons need	
to have >90% cover at person height. These are <u>NOT Cowardin</u> classes).		7
Forest or shrub for $> \frac{1}{3}$ area OR emergent plants $> \frac{2}{3}$ area	points = 7	
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area	points = 4	
Plants do not meet above criteria	points = 0	
	in the boxes above	9
Rating of Site Potential If score is: 12 - 16 = H  6 - 11 = M  0 - 5 = L	Record the rating on	the first page
R 5.0. Does the landscape have the potential to support the hydrologic function	ns of the site?	
R 5.1. Is the stream or river adjacent to the wetland downcut?	Yes = 0 No = 1	1
R 5.2. Does the up-gradient watershed include a UGA or incorporated area?	Yes = 1 No = 0	1
R 5.3 Is the up-gradient stream or river controlled by dams?	Yes = 0 No = 1	1
	in the boxes above	3
Rating of Landscape Potential If score is:	Record the rating on	the first page
R 6.0. Are the hydrologic functions provided by the site valuable to society?		
R 6.1. Distance to the nearest areas downstream that have flooding problems?	)	
Choose the description that best fits the site.		
The sub-basin immediately down-gradient of the wetland has		
flooding problems that result in damage to human or natural		1
resources (e.g., houses or salmon redds)	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
R 6.2. Has the site been identified as important for flood storage or flood		0
conveyance in a regional flood control plan?	Yes = 2 No = 0	J
<u> </u>	in the boxes above	1
Rating of Value If score is: $\square 2 - 4 = H \square 1 = M \square 0 = L$	Record the rating on	the first name

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: <i>Indicators are Cowardin classes and strata within the Forested class</i> . Check the Cowardin plant classes in the wetland. <i>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.</i>	
<ul> <li>□ Aquatic bed</li> <li>□ Emergent</li> <li>□ Scrub-shrub (areas where shrubs have &gt; 30% cover)</li> <li>□ Forested (areas where trees have &gt; 30% cover)</li> <li>□ If the unit has a Forested class, check if:</li> <li>□ 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</li> </ul>	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).	
<ul> <li>□ Permanently flooded or inundated</li> <li>□ Seasonally flooded or inundated</li> <li>□ Occasionally flooded or inundated</li> <li>□ Occasionally flooded or inundated</li> <li>□ Saturated only</li> <li>□ Permanently flowing stream or river in, or adjacent to, the wetland</li> <li>□ Seasonally flowing stream in, or adjacent to, the wetland</li> <li>□ Lake Fringe wetland</li> <li>□ Lake Fringe wetland</li> </ul>	2
☐ Freshwater tidal wetland 2 points 2 points	
H 1.3. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> .  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	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.	1
None = 0 points Low = 1 point Moderate = 2 points	
All three diagrams in this row are HIGH = 3 points	

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

Rating of Value If Score is: 2 = H 1 = M

Record the rating on the first page

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf\_or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds**: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above ). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). ☑ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). ☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. ☐ **Talus**: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category
Observe set		
	any criteria that apply to the wetland. List the category when the appropriate criteria are met.  Estuarine Wetlands	
SC 1.0. I	Does the 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?	
00.4	☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are	
	Spartina, see page 25)	
	At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
	☐ Yes = Category I ☐ No = Category II	
	Netlands of High Conservation Value (WHCV)	
SC 2.1.	Has the WA Department of Natural Resources updated their website to include the list	
	of Wetlands of High Conservation Value?	
SC 2.2.	☐ Yes - Go to SC 2.2 ☐ No - Go to SC 2.3	
30 2.2.	Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  \[ \subseteq \text{Yes} = \text{Category I}  \subseteq \text{No} = \text{Not WHCV} \]	
SC 2.3.	Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
00 2.0.	http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
	☐ Yes - Contact WNHP/WDNR and to SC 2.4	
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 WHCV	
SC 3.0.		
	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	
00.04	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	
SC 3.2.	Does an area within the wetland unit have organic soils, either peats or mucks, that are	
00 0.2.	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,	
SC 3.4.	the wetland is a bog. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir,	
0.4.	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	

	(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.	
	,	
	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	
SC 5.0.	Wetlands in Coastal Lagoons	
	Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
	, , , , , , , , , , , , , , , , , , , ,	
	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)	
00 -	☐ Yes - Go to SC 5.1 ☑ No = Not a wetland in a coastal lagoon	
	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 ungrazed or un-mowed grassland.	
20.00	☐ Yes = Category I ☐ No = Category II	
SC 6.0.	Interdunal Wetlands	
	Is the wetland west of the 1889 line (also called the Western Boundary of Upland	
	Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.	
	In practical terms that means the following geographic areas:  Long Beach Peninsula: Lands west of SR 103	
	Grayland-Westport: Lands west of SR 105	
	•	
	☐ Yes - Go to SC 6.1 ☑ No = Not an interdunal wetland for rating	
SC 6.1.		
	(rates H,H,H or H,H,M for the three aspects of function)?	
	☐ Yes = Category I ☐ No - Go to SC 6.2	
SC 6.2.		
	$\square$ Yes = Category II $\square$ No - Go to SC 6.3	
SC 6.3.	Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and	
	1 ac?	
	☐ Yes = Category III ☐ No = Category IV	
	y of wetland based on Special Characteristics	
If you an	swered No for all types, enter "Not Applicable" on Summary Form	
ii you ai	swered No for all types, efficient Not Applicable of Suffilliary Form	

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #):	Wetland M/N/O			Date of site visit:	6/22/2017
Rated by Stephanie Modjes	ski, Jeff Gray	Trained by Ec	ology? ☑ Yes ☐ No	Date of training _	3/18/2015
HGM Class used for rating	Riverine & Fresh W	ater Tidal	Wetland has multip	le HGM classes? 🗌 `	Yes ☑No
	ot complete with ou of base aerial photo	•	quested (figures can	be combined).	
OVERALL WETLAND CA	ATEGORYII	(based on f	unctions  or specia	al characteristics   )	
1. Category of wetland	d based on FUNC1	ΓIONS			
	Category I - Total s	score = 23 - 27		Score for each	
X	Category II - Total	score = 20 - 22		function based	
	Category III - Total			on three	
	Category IV - Total			ratings	

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	List app	ropriate rating	g (H, M, L)	
Site Potential	M	M	L	
Landscape Potential	Н	Н	М	
Value	M	M	Н	Total
Score Based on Ratings	7	7	6	20

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	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	х

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

## Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	16
Hydroperiods	H 1.2	16
Ponded depressions	R 1.1	16
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	16
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	16
Width of unit vs. width of stream (can be added to another figure)	R 4.1	16
Map of the contributing basin	R 2.2, R 2.3, R 5.2	10
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	13
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	11

## Lake Fringe Wetlands

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

## Slope Wetlands

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

# **HGM Classification of Wetland in Western Washington**

For questions 1 -7, the criteria described must apply to the entire unit being rated. If 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 us	sually controlled by tides except during floods?
☑ NO - go to 2	☐ <b>YES</b> - the wetland class is <b>Tidal Fringe</b> - 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)?
	as a Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. an <b>Estuarine</b> wetland and is not scored. This method <b>cannot</b> be
2. The entire wetland unit is flat and precip Groundwater and surface water runoff are	itation is the only source (>90%) of water to it.  NOT sources of water to the unit.
☑ NO - go to 3  If your wetland can be classified	☐ <b>YES</b> - The wetland class is <b>Flats</b> as a Flats wetland, use the form for <b>Depressional</b> wetlands.
	d is on the shores of a body of permanent open water (without any of the year) at least 20 ac (8 ha) in size;
☑ NO - go to 4	☐ <b>YES</b> - The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe
	can be very gradual), and in one direction (unidirectional) and usually comes from seeps. flow, or in a swale without distinct banks.
☑ NO - go to 5	$\square$ <b>YES</b> - The wetland class is <b>Slope</b>
	ese type of wetlands except occasionally in very small and shallow sions are usually <3 ft diameter and less than 1 ft deep).
<ul> <li>5. Does the entire wetland unit meet all of</li> <li>The unit is in a valley, or stream from that stream or river,</li> <li>The overbank flooding occurs at</li> </ul>	channel, where it gets inundated by overbank flooding
□ NO - go to 6	
NOTE: The Riverine unit can contain depre	essions that are filled with water when the river is not flooding.

	ic depression in which water ponds, or is saturated to the surface, at any outlet, if present, is higher than the interior of the wetland.
☑ NO - go to 7	$\square$ <b>YES</b> - The wetland class is <b>Depressional</b>
The unit does not pond surface water more	ry flat area with no obvious depression and no overbank flooding? e than a few inches. The unit seems to be maintained by high 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	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream	Depressional
within boundary of depression	
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other	Treat as
class of freshwater wetland	ESTUARINE

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

NOTES and FIELD OBSERVATIONS:

Wetland name or number M/N/O

RIVERINE AND FRESHWATER TIDAL FRING	E WETLANDS	
Water Quality Functions - Indicators that the site functions to in		
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap se flooding event:	ediments during a	
	pointo - 9	
Depressions cover > <sup>3</sup> / <sub>4</sub> area of wetland Depressions cover > ½ area of wetland	points = 8 points = 4	2
Depressions cover > 72 area of wetland  Depressions present but cover < ½ area of wetland	points = 2	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person heigh	•	
classes)	gnt, <b>not</b> Cowardin	
Trees or shrubs > $^{2}$ / <sub>3</sub> area of the wetland	points = 8	
☐ Trees or shrubs > ¹/₃ area of the wetland	points = 6	6
$\Box$ Herbaceous plants (> 6 in high) > $^2/_3$ area of the wetland	points = 6	
Herbaceous plants (> 6 in high) > $\frac{1}{3}$ area of the wetland	points = 3	
Trees, shrubs, and ungrazed herbaceous < 1/3 area of the wetland	points = 0	
	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. O. Done the landscape have the notantial to connect the water wells, five	tion of the cite?	
R 2.0. Does the landscape have the potential to support the water quality functions and the state of the stat		•
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin to the wetland include a UGA or incorporated area?	Vaa – 4 - Na – 0	1
'	Yes = 1 No = 0	
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	1
R 2.4. Is > 10% of the area within 150 ft of the wetland in land uses that		4
generate pollutants?	Yes = 1 No = 0	1
R 2.5. Are there other sources of pollutants coming into the wetland that are		
not listed in questions R 2.1 - R 2.4?		0
Other Sources	Yes = 1 No = 0	
Total for R 2 Add the points	in the boxes above	3
Rating of Landscape Potential If score is: 3 - 6 = H 1 or 2 = M 0 = L	Record the rating on	the first page
R 3.0. Is the water quality improvement provided by the site valuable to society	<i>?</i> ?	
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a		1
tributary that drains to one within 1 mi?	Yes = 1 No = 0	1
R 3.2. Is the wetland along a stream or river that has TMDL limits for		0
nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 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		0
drainage in which the unit is found)	Yes = 2 No = 0	
· · · · · · · · · · · · · · · · · · ·	in the boxes above	1
Rating of Value If score is: $\square 2 - 4 = H  \square 1 = M  \square 0 = L$	Record the rating on	the first page

RIVERINE AND FRESHWATER TIDAL FRING	E WETLANDS	
Hydrologic Functions - Indicators that site functions to reduce floor	ding and stream eros	sion
R 4.0. Does the site have the potential to reduce flooding and erosion?		
R 4.1. Characteristics of the overbank storage the wetland provides:		
Estimate the average width of the wetland perpendicular to the direction of the		
of the stream or river channel (distance between banks). Calculate the ratio: (a	average width of	
wetland)/(average width of stream between banks).		
If the ratio is more than 20	points = 9	2
If the ratio is 10 - 20	points = 6	
If the ratio is 5 - < 10	points = 4	
If the ratio is 1 - < 5	points = 2	
If the ratio is < 1	points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: 7		
debris as forest or shrub. Choose the points appropriate for the best description	on (polygons need	
to have >90% cover at person height. These are <u>NOT Cowardin</u> classes).		7
Forest or shrub for $> \frac{1}{3}$ area OR emergent plants $> \frac{2}{3}$ area	points = 7	•
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area	points = 4	
Plants do not meet above criteria	points = 0	
	in the boxes above	9
Rating of Site Potential If score is: $\Box 12 - 16 = H$ $\Box 6 - 11 = M$ $\Box 0 - 5 = L$	Record the rating on	the first page
R 5.0. Does the landscape have the potential to support the hydrologic function	ns of the site?	
R 5.1. Is the stream or river adjacent to the wetland downcut?	Yes = 0 No = 1	1
R 5.2. Does the up-gradient watershed include a UGA or incorporated area?	Yes = 1 No = 0	1
R 5.3 Is the up-gradient stream or river controlled by dams?	Yes = 0 No = 1	1
Total for R 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
R 6.0. Are the hydrologic functions provided by the site valuable to society?		
R 6.1. Distance to the nearest areas downstream that have flooding problems	?	
Choose the description that best fits the site.		
The sub-basin immediately down-gradient of the wetland has		
flooding problems that result in damage to human or natural		1
resources (e.g., houses or salmon redds)	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
R 6.2. Has the site been identified as important for flood storage or flood		0
conveyance in a regional flood control plan?	Yes = 2 No = 0	<u> </u>
	in the boxes above	1
Rating of Value If score is: $\square 2 - 4 = H \square 1 = M \square 0 = I$	Record the rating on	the first nage

# 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 0 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 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 1/4 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 2 ☑ Occasionally flooded or inundated 2 types present: points = 1 1 types present: points = 0 ☑ 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 H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. 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 1 If you counted: > 19 species points = 25 - 19 species points = 1< 5 species points = 0H 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. 1 None = 0 points Low = 1 pointModerate = 2 points All three diagrams in this row are **HIGH** = 3 points

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

Rating of Value If Score is: 2 = H 1 = M

Record the rating on the first page

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds**: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above ). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 - see web link above). ☑ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). ☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. ☐ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. ☐ **Talus**: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

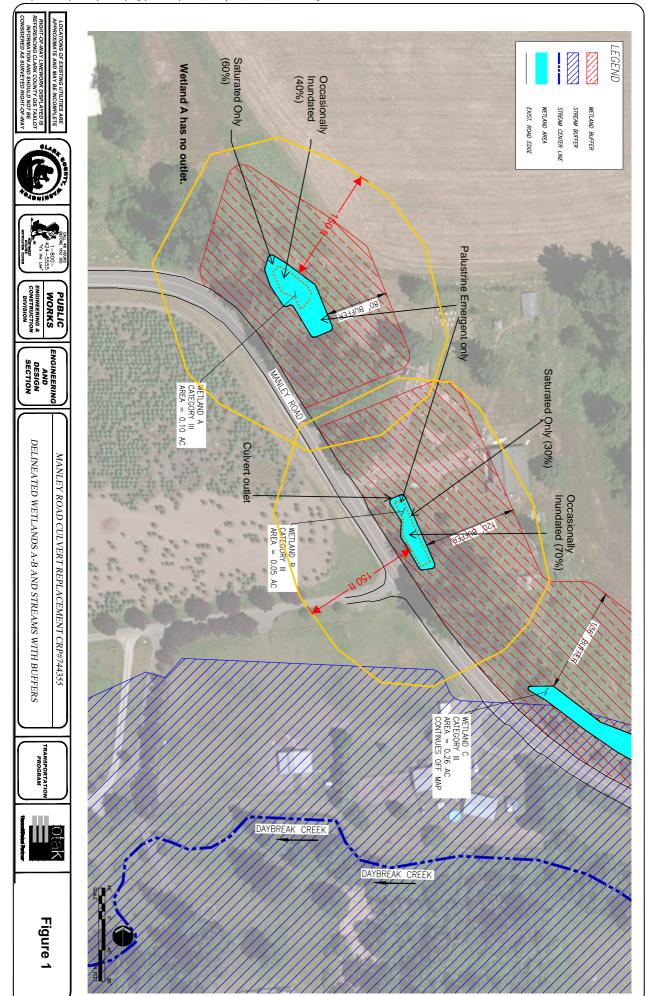
**Note**: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland	Туре	Category
0, , , ,		
	any criteria that apply to the wetland. List the category when the appropriate criteria are met.	
SC 1.0. E	Does the wetland meet the following criteria for Estuarine wetlands?	
	The dominant water regime is tidal,	
	Vegetated, and	
	With a salinity greater than 0.5 ppt	
	☐ Yes - Go to SC 1.1  ☑ No = Not an estuarine wetland	
SC 1.1.	Is the wetland within a National Wildlife Refuge, National Park, National Estuary	
	Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific	
	Reserve designated under WAC 332-30-151?	
SC 1.2.	Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
	The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing,	
	and has less than 10% cover of non-native plant species. (If non-native species are	
	Spartina, see page 25)	
	At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-	
	grazed or un-mowed grassland.	
	The wetland has at least two of the following features: tidal channels, depressions with	
	open water, or contiguous freshwater wetlands.	
CC 2 0 V		
SC 2.0. V		
00 2.1.	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 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 to SC 2.4 ☑ No = Not 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 WHCV	
SC 3.0. E		
	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	
SC 3.1.	wetland based on its functions.  Does an area within the wetland unit have organic soil horizons, either peats or mucks,	
30 3.1.	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	
000.2.	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,	
00.6.4	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 cappage.	
	in Table 4 provide more than 30% of the cover under the canopy?	
	☐ Yes = Is a Category I bog ☐ No = Is not a bog	

SC 6.0. I	nterdunal 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
SC 6.1.	Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form
	(rates H,H,H or H,H,M for the three aspects of function)?
	☐ Yes = Category I ☐ No - Go to SC 6.2
SC 6.2.	Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?
	☐ Yes = Category II ☐ No - Go to SC 6.3
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
Categor	y of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form



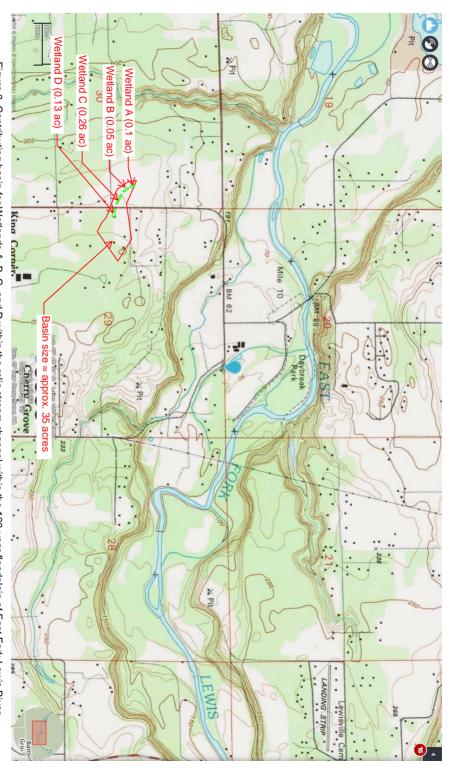


Figure 2. Contributing basin for Wetlands A, B, C, and D within the relic stream channel within the 100-year floodplain of East Fork Lewis River

# Water Quality Improvement Projects (TMDLs)

Water Quality Improvement > Water Quality Improvement Projects by WRIA > WRIA 27: Lewis

Figure 3

WRIA 27: Lewis

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

# 22 COMPLIATE AND ADMINISTRATION OF THE PARTY OF THE PARTY

# Counties

- · Clark
- Cowlitz

360-690-4660		Temperature	
Brett Rauniq	Under Development	Fecal Coliform	Lewis River, E. Fork
TMDL Lead	Status**	Pollutant(s)	Waterbody Name

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

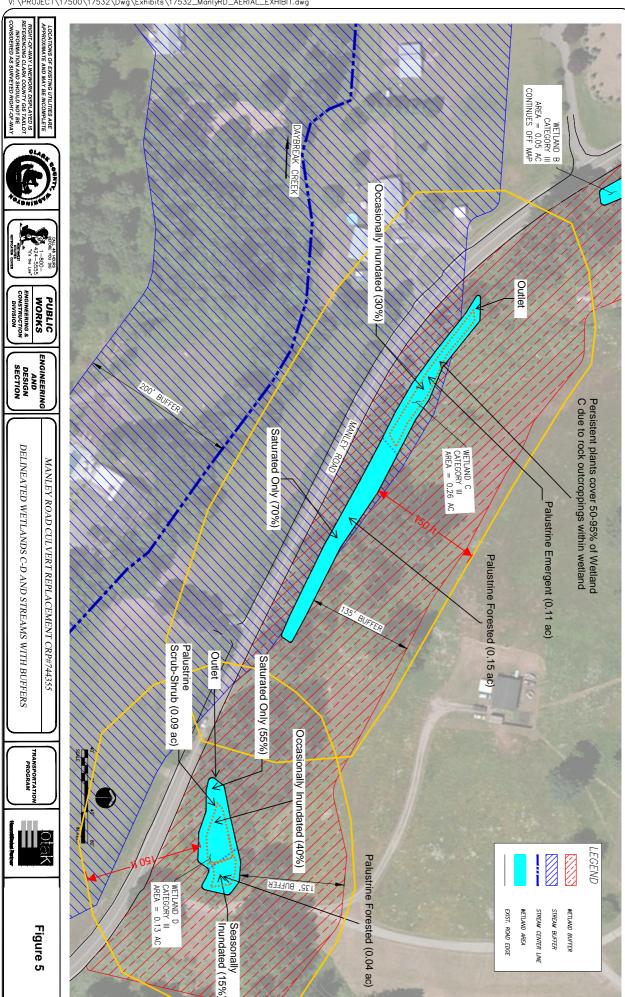
# For more information about WRIA 27:

- Waterbodies in WRIA 27 using the Water Quality Assessment Query Tool
- Watershed Information for WRIA 27 (Water website)

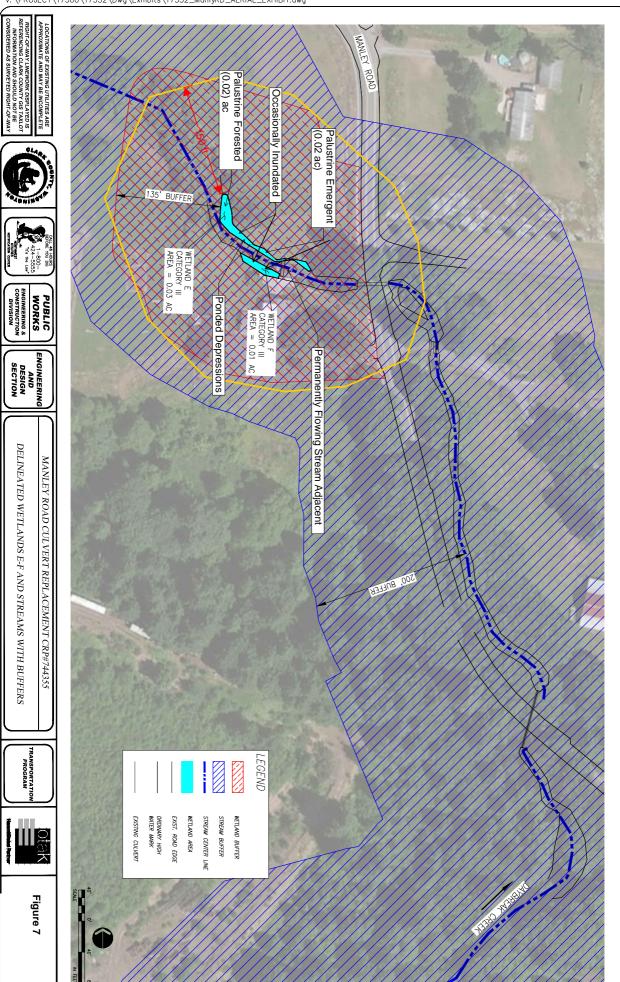
Contact us for more information

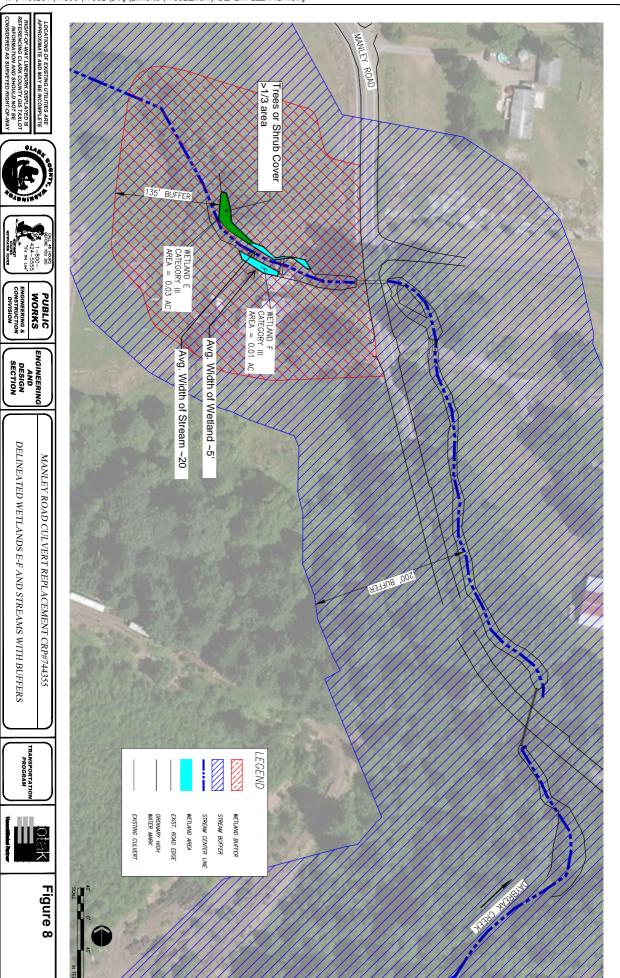
<sup>&</sup>quot;WRIAs" to refer to the state's major watershed basins. \* The Department of Ecology and other state resource agencies frequently use a system of 62 "Water Resource Inventory Areas" or



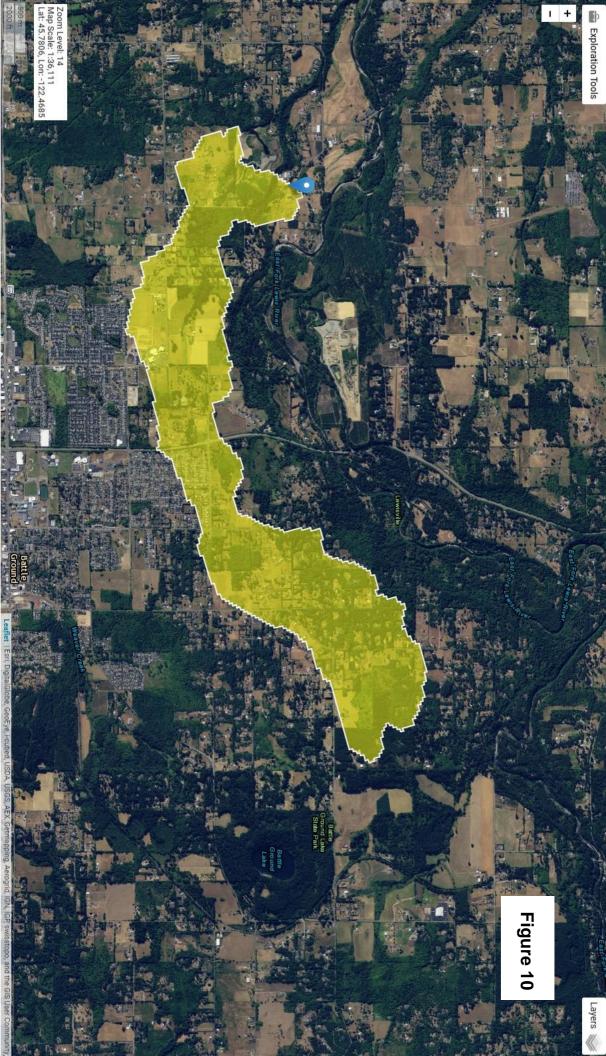












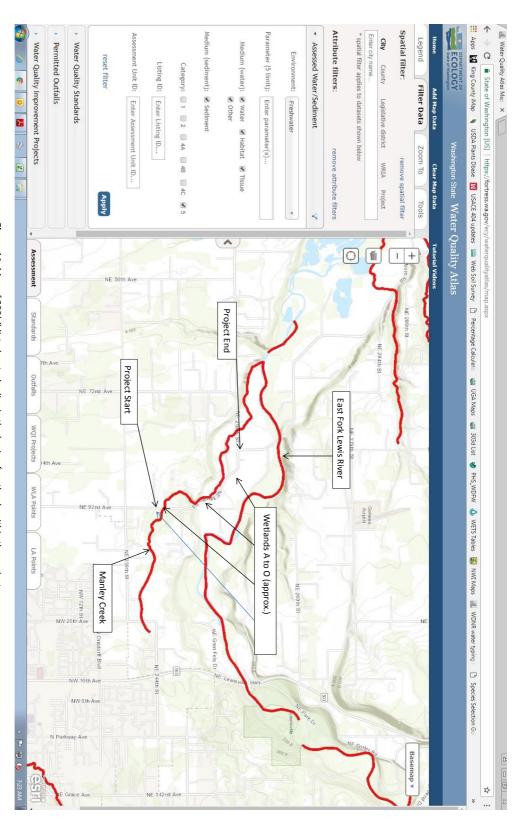
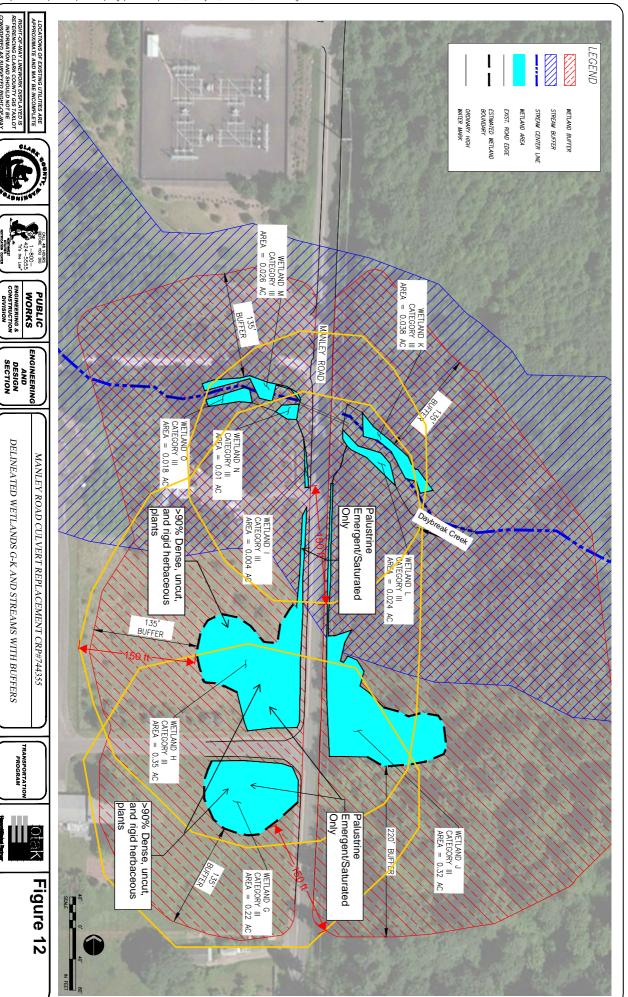
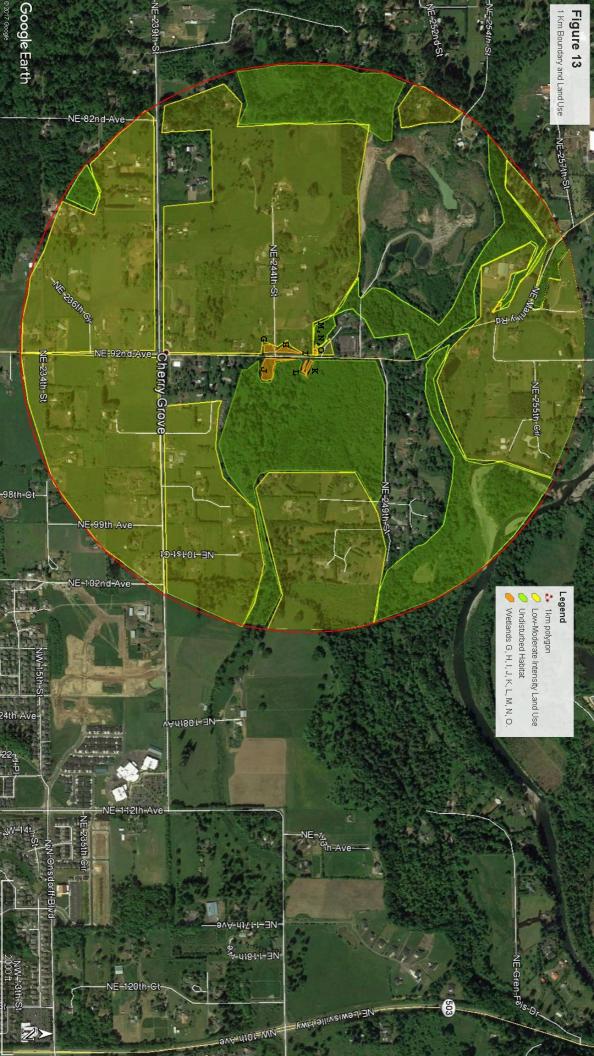


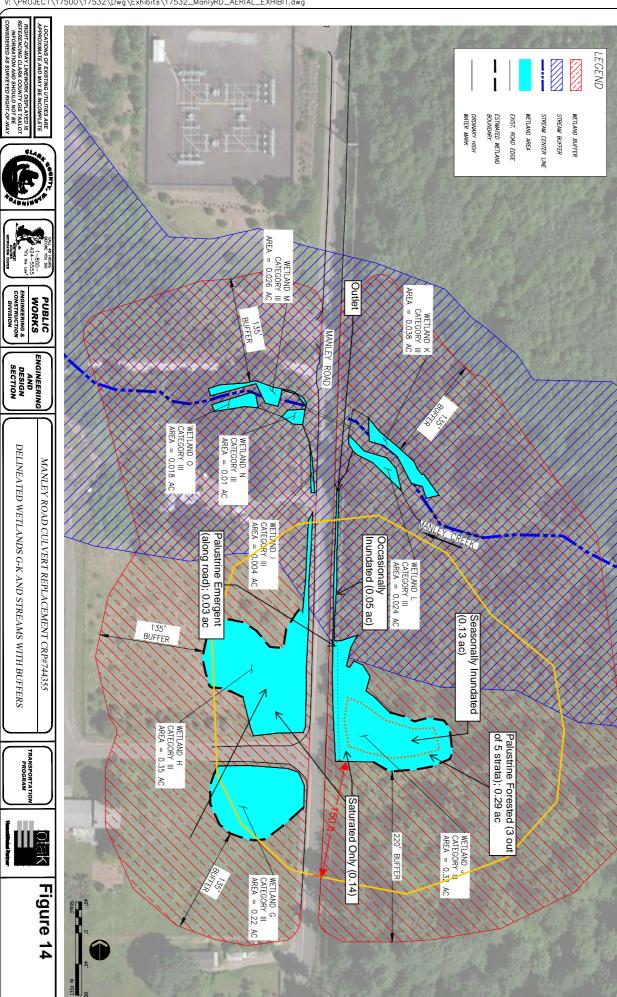
Figure 11. Map of 303(d) listed waterbodies in the basin of wetlands within the project area.

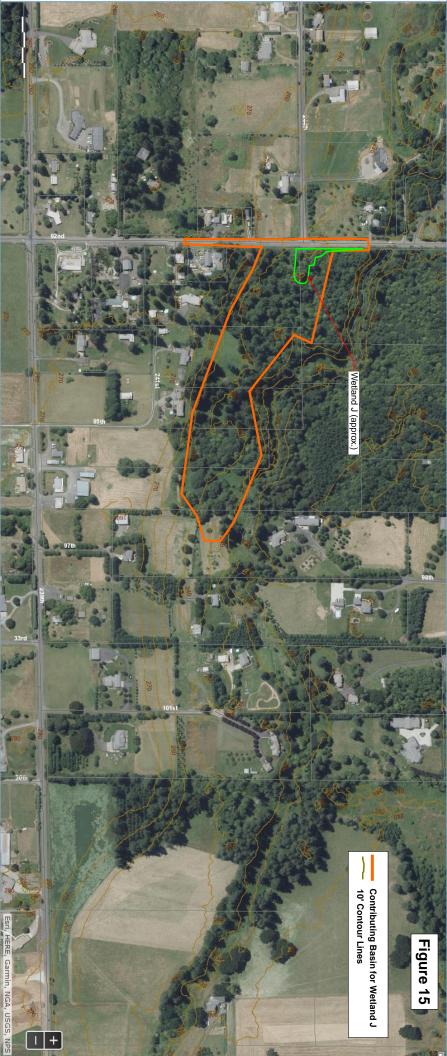
ENGINEERING & CONSTRUCTION DIVISION

DELINEATED WETLANDS G-K AND STREAMS WITH BUFFERS

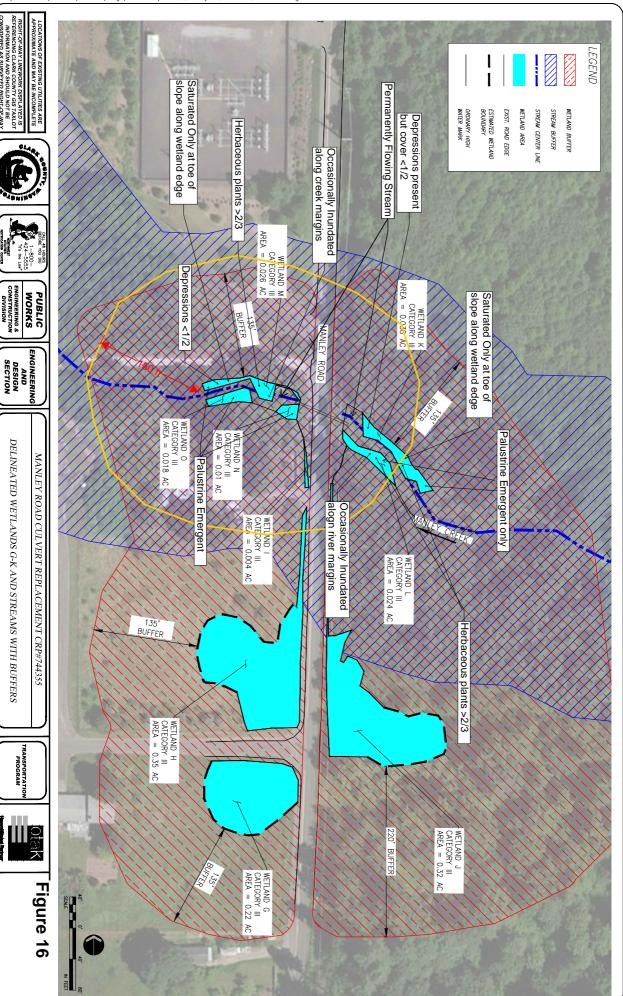








DELINEATED WETLANDS G-K AND STREAMS WITH BUFFERS



# **Appendix E — Plant Species Observed within the Study Area**

Table E-1. Plant Species Observed within the Study Area

Genus	Species	Common Name	WIS*
Acer	circinatum	vine maple	FAC
Acer	macrophyllum	big-leaf maple	FACU
Adiantum	aleuticum	maidenhair fern	FAC
Agrostis	capillaris	bentgrass	FAC
Alopecurus	sp.	Foxtail	NI
Alnus	rubra	red alder	FAC
Athyrium	cyclosorum	lady fern	FAC
Buxus	sp.	boxwood species	NI
Callitrche	stagnalis	pond water starwort	OBL
Carex	brevior	short-beaked sedge	FAC
Carex	obnupta	slough sedge	OBL
Carex	stipata	sawbeak sedge	OBL
Claytonia	siberica	Siberian miner's lettuce	FAC
Convulvus	arvensis	field bindweed	NI
Cornus	alba	red osier dogwood	FACW
Cornus	sericea	redstem dogwood	FACW
Corylus	cornuta	beaked hazelnut	FACU
Dactylis	glomerata	orchard grass	FACU
Dicentra	deltoides	Pacific bleeding heart	FACU
Echinocystis	lobata	wild cucumber	FACU
Eleocharis	palustris	common spike-rush	OBL
Epilobium	watsonii	willowherb	NI
Equisetum	arvense	field horsetail	FAC
Frangula	purshiana	cascara	FAC
Fraxinus	latifolia	Oregon ash	FACW
Galium	trifidium	three-petal bedstraw	FACW
Geranium	robertianum	Herb robert	FACU
Geum	macrophyllum	large-leaf avens	FAC
Glyceria	elata	mannagrass	FACW
Gnaphalium	uliginosium	marsh cudweed	FAC
Hedera	helix	English ivy	FACU
Hemerocallis	sp.	daylily species	NI
Holcus	lanatus	common velvetgrass	FAC
Hydrocotyle	sibthorpioides	lawn marsh pennywort	FACW
Hydrophyllum	tenuipes	Pacific waterleaf	FAC
llex	aquifolium	English holly	FACU
Impatiens	capensis	jewelweed	FACW
Juncus	bufonius	toadrush	FACW
Juncus	Effuse	soft rush	FACW
Lamium	galeobdolon	yellow archangel	NI

Lonicera	sp.	honeysuckle species	NI
Lotus	corniculatus	garden bird's-foot trefoil	FAC
Maianthemum	canadense	false lily-of-the-valley	FACU
Maianthemum	dilatatum	false Soloman's-seal	FAC
Myosotis	scorpiodes	true forget-me-not	FACW
Oemleria	cerasiformis	osoberry	FACU
Oenanthe	sarmentosa	water parsley	OBL
Oxalis	oregana	redwood-sorrel	FACU
Phalaris	arundinacea	reed canarygrass	FACW
Physocarpus	capitatus	Pacific nine-bark	FACW
Polystichum	munitum	sword fern	FACU
Populus	balsamifera spp. trichocarpa	black cottonwood	FAC
Pseudotsuga	menziesii	Douglas fir	FAC
Pteridium	aquilinum	bracken fern	FACU
Ranunculus	repens	creeping buttercup	FAC
Rosa	nutkana	Nootka rose	FAC
Rorippa	curvisiliqua	Curve-pod yellowcress	OBL
Rubus	armeniacus	Himalayan blackberry	FACU
Rubus	parviflorus	thimbleberry	FACU
Rubus	laciniatus	evergreen blackberry	FACU
Rubus	spectabilis	salmonberry	FAC
Rubus	ursinus	trailing blackberry	FACU
Rumex	crispus	curly dock	FAC
Salix	lasiandra	Pacific willow	FACW
Salix	sitchensis	Sitka willow	FACW
Sambucus	racemosa	red elderberry	FACU
Scirpus	microcarpus	small-fruited bulrush	OBL
Solanum	dulcamara	creeping nightshade	FAC
Sonchus	arvensis	field sow-thistle	FACU
Spiraea	douglasii	Douglas spirea	FACW
Stachys	cooleyae	Cooley's hedge nettle	NI
Symphoricarpos	albus	common snowberry	FACU
Taraxacum	officinale	common dandelion	FACU
Tellima	grandiflora	fringecup	FACU
Thaloctrum	occidentale	Western meadow-rue	FACU
Thuja	plicata	Western red cedar	FAC
Tolmiea	menziesii	piggy-back plant	FAC
Ulmus	alata	winged elm	NI
Urtica	dioica	stinging nettle	FAC
Vaccinium	parvifolium	red huckleberry	FACU
Vancouveria	hexandra	inside-out flower	NI

<sup>\*</sup> Wetland Indicator Status (WIS) per Lichivar, et al. (2016):

OBL = occurs in wetlands > 99% of time FACU = occurs in wetlands 1-33% of time UPL = occurs in uplands > 99% of time

FAC = occurs in wetlands 34-66% of time NI = no indicator