



**CRITICAL AREA
TECHNICAL MEMORANDUM**

FOR

BURN ROAD RESERVOIR
12820 150TH STREET NE
SNOHOMISH, WA

Wetland Resources, Inc. Project #22229

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1.0 INTRODUCTION

Wetland Resources, Inc. (WRI) conducted a site visit on August 31, 2022 to determine critical areas on and within the vicinity of the project area located at 12820 1505th Street NE. The 5.3 acre subject parcel (Parcel #31063200101300) is located to the east of Burn Rd south of Arlington, within unincorporated Snohomish County. Wetland resources also observed off-site features within an approximate 500 foot radius from the proposed project

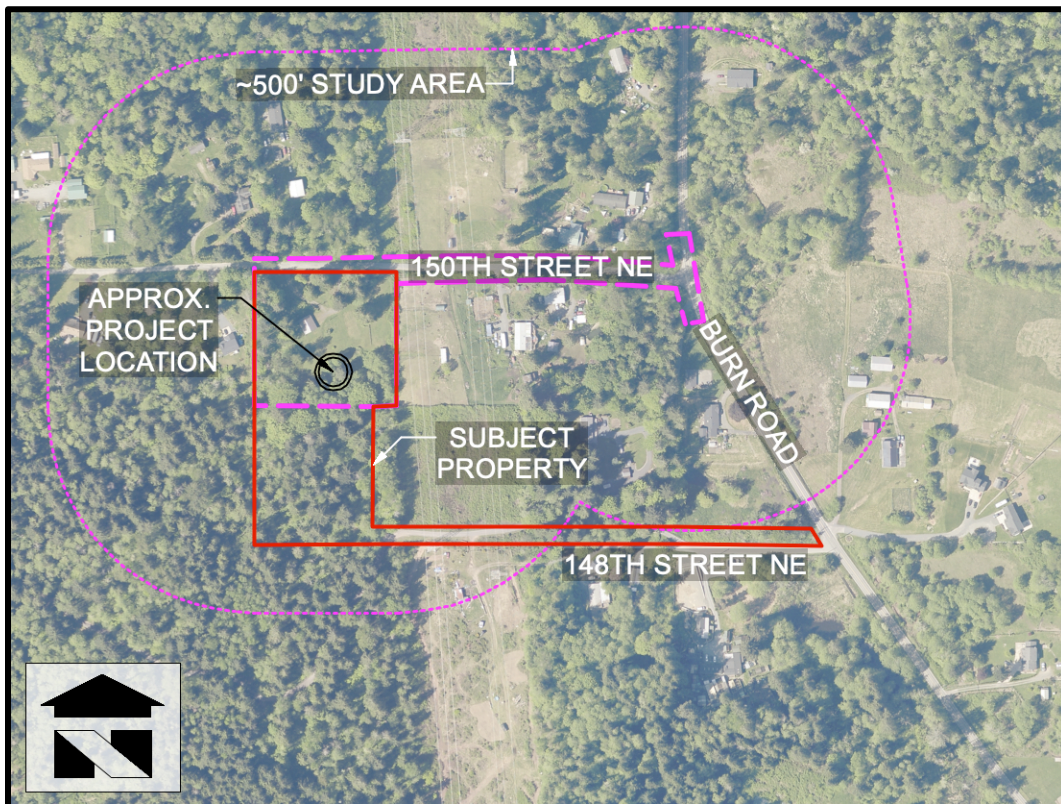


Figure 1 – Aerial View of the Subject Property. Not to scale.

1.1 SITE DESCRIPTION

The study area is limited to Snohomish County parcel 31063200101300 and the right of way east of the property along 150th Street NE, and within the right of way of a portion of Burn Road. The subject parcel is currently developed with a 1-story structure within the northern portion and is surrounded by maintained lawn. The southern portion of the subject parcel consists of a dense native forest dominated by a canopy of western hemlock (*Tsuga heterophylla*), western red cedar (*Thuja plicata*), red alder (*Alnus rubra*), and black cottonwood (*Populus balsamifera*), with an understory of salmonberry (*Rubus spectabilis*), red huckleberry (*Vaccinium parvifolium*), vine maple (*Acer circinatum*), sword fern (*Polystichum munitum*), dull Oregon grape (*Mahonia nervosa*), salal (*Gaultheria shallon*), and pacific trailing blackberry (*Rubus ursinus*).

| Critical Area Name | HGM Rating Class | Functions Score | Habitat Score | Critical Area Classification | Buffer |
|---------------------------|-------------------------|------------------------|----------------------|-------------------------------------|---------------|
| Wetland A | Depressional | 21 | High (8) | II | 225' |
| Wetland B | Depressional | 22 | Moderate (7) | II | 110' |
| Wetland C | Depressional | 23 | High(9) | I | 225' |
| Wetland D | Depressional | 21 | Moderate (7) | II | 110' |
| Stream A | Riverine | N/A | N/A | Ns | 50' |
| Stream B | Riverine | N/A | N/A | Ns | 50' |

Four wetlands (Wetlands A-D) and two streams were identified within 500 feet of the approximate project location. Per Snohomish County Code (SCC) 30.62A.230 wetlands were evaluated under the Washington State Wetland Rating System for Western Washington (Hruby 2014) and streams were classified per the Washington Administrative Code (WAC 222-16-030). Wetland and stream buffers are determined per SCC 30.62A.320(1)(a).

2.0 CRITICAL AREAS DELINEATION REPORT

2.1 WETLANDS AND FWHCAs

The proposed project occurs in the vicinity of a fish and wildlife habitat conservation area (FWHCA), and its associated buffer. SCC 30.62A.140 requires that applicants submit a critical area report for all development activities or actions that require a permit that contain or are affected by a critical area or buffer. This report meets the minimum requirements for critical area reports as defined in SCC 30.62A.140(1)-(13).

2.2 LIMIT OF STUDY

The proposed project occurs within the northern portion of Snohomish County parcel 31063200101300 and along 150th Street NE. Lack of legal access beyond the right of way prevents Wetland Resources, Inc. (WRI) staff from performing routine wetland and stream determinations in surrounding areas. Wetland and stream boundaries depicted outside of the subject parcels are based on visual observation from the edge of legal access, publicly available resources, fine-scale elevation contours, and using best professional judgment.

2.3 RELEVANT CRITICAL AREA SITE PLANS (CASP)

Wetlands B-D as well as Streams A and B are located off-site; therefore, WRI could not conduct a routine investigation. Due to lack of legal access the shape, location, and buffer for off-site features will be consistent with previously recorded Critical Area Site Plans (CASPs).

Table 1 CASP summary table. Location of referenced CASPs shown below in figure 2

| Ref. No. | CASP No. | Tax ID | Year Recorded | Significance |
|-----------------|-----------------|-----------------------------------|----------------------|---|
| 1 | 200411300697 | 31063200101400 | 2004 | This CASP is adjacent to the subject property to the west. Wetland A is shown expanding from 150 th Street NE to the south beyond the limit of study with a buffer of approximately 50 feet. The boundary of Wetland A is consistent with this CASP, however its buffer has been updated to current regulations. |
| 2 | 9607310539 | 32310610070000 | 1996 | This CASP is located northwest of the intersection of Burn Road and 150 th Street NE. Wetland B is depicted as having a different shape than what was determined by WRI. |
| 3 | 201909050184 | 31063300301800, 31063300300400 | 2019 | This CASP is located south of the project area, south of the intersection of Burn Road and 148 th Street NE. One wetland (Wetland D) and one stream (Stream B) are depicted. None of the buffers projected from these features land within the vicinity of the project area. |
| 4 | 201606010661 | 31063300202100 | 2016 | This CASP is located across Burn Road to the southeast of the project area. Two wetlands are shown on site however none of the 110 foot buffers project within the vicinity of the project area. |

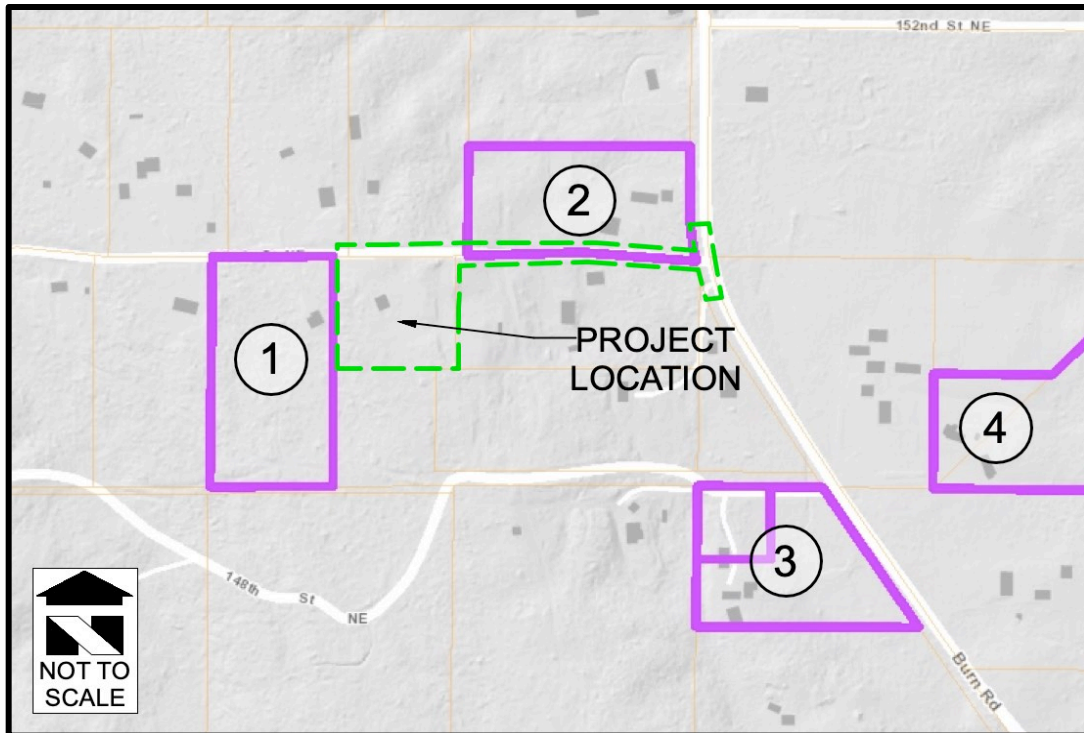


Figure 2 Locations of referenced CASPs within vicinity of proposed project area.

2.4 REVIEW OF EXISTING INFORMATION

Prior to conducting the site investigation, public resource information was reviewed to gather background information on the subject property and the surrounding area in regards to wetlands, streams, and other critical areas. These sources included the following:

- USDA/Natural Resources Conservation Service (NRCS) Web Soil Survey: The Web Soil Survey indicates that the subject property is underlain by Tokul gravelly medial loam, 0 to 8 percent slopes (72) within the majority of the property. A small portion of the northwestern property corner is mapped as the same soil unit with 8-15 percent slopes (73). A small portion of the northeast corner of the property and the center of the panhandle is mapped as the same unit with 15-30 percent slopes (74). Tokul is not listed as a hydric soil.
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory: The NWI maps a riverine (R4SBC) feature crossing the eastern portion of the property's panhandle near the intersection of Burn Road and 148th Street. This feature originates approximately 600 feet to the north, flows under Burn Road, then across the panhandle under 148th Street before draining into a ponded feature (PUBHh) approximately 120 feet south of 148th Street. The stream continues south adjacent to Burn Road before ultimately draining into the South Fork Stillaguamish River approximately 3.5 miles downstream from the subject property. The next closest feature is a tributary to Little Pilchuck Creek flowing northwest to southeast, approximately 1,000 feet to the southwest of the property corner at its closest point.
- Washington Department of Natural Resources (WA DNR) Forest Practices Application Mapping Tool: This resource documents the same features depicted by NWI. The stream that

flows across the panhandle is mapped as a non-fish bearing stream. There is a mapped fish-passage break approximately 1,300 feet downstream from the property boundary where this feature becomes a Type F stream. The entire property is mapped as being within the Lower South Fork Stillaguamish River subbasin of the Stillaguamish watershed, Water Inventory Resources Area (WRIA) 5.

- Snohomish County Planning and Development (PDS) Map Portal: The PDS Map Portal shows the same stream feature shown by NWI and FPAMT in approximately the same location. This feature is mapped by the county as non-fish habitat and is seasonal. This resource maps a series of modeled wetlands along its banks near the property. However, these are derived from contour data and is not indicative of actual wetland conditions.
- WDFW Priority Habitat and Species (PHS) Interactive Map: This resource does not map any features on the subject property. The stream to the east is mapped as starting 450 feet to the southeast of the property boundary. The parcel is mapped as being in a township containing vester bat (*Myotis yumanensis*).
- Washington Department of Fish and Wildlife (WDFW) SalmonScape Interactive Mapping System: The SalmonScape interactive map displays the stream crossing the panhandle under the Hydrography tab but is not mapped by WDFW as containing salmonids.

3.0 CRITICAL AREAS DELINEATION REPORT

3.1 WETLAND DELINEATION METHODOLOGY

Wetland conditions were identified using the methodologies described in the *Corps of Engineers Wetlands Delineation Manual (Final Report; January 1987)*, except where superseded by the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0, referred to as 2010 Regional Supplement)*. Our findings are consistent with these manuals. The following criteria descriptions were used in the wetland boundary determination:

- 1.) Examination of the site for hydrophytic vegetation (species present and percent cover);
- 2.) Examination of the site for hydric soils;
- 3.) Determining the presence of wetland hydrology

3.1.1 Hydrophytic Vegetation Criteria

The manuals define hydrophytic vegetation as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present. One of the most common indicators for hydrophytic vegetation is when more than 50 percent of a plant community consists of species rated “Facultative” and wetter on lists of plant species that occur in wetlands.

3.1.2 Soils Criteria and Mapped Description

The manuals define hydric soils as those that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Field indicators are used for determining whether a given soil meets the definition for hydric soils.

The soils underlying the site are mapped in the Soil Survey of Snohomish County Area Washington as Tokul gravelly medial loam. Soils sampled on-site appear to match the description for these soils.

3.1.3 Hydrology Criteria

The 2010 Regional Supplement defines wetland hydrology as “areas that are inundated (flooded or ponded) or the water table is less than or equal to 12 inches below the soil surface for 14 or more consecutive days during the growing season at a minimum frequency of 5 years in 10.” During the early growing season, wetland hydrology determinations are made based on physical observation of surface water, a high water table, or saturation in the upper 12 inches. Outside of the early growing season, wetland hydrology determinations are made based on physical evidence of recent inundation or saturation (i.e. water marks, surface soil cracks, water-stained leaves).

3.2 STREAM DELINEATION METHODOLOGY

The ordinary high water mark (OHWM) of streams was determined using the methodology described in the Washington State Department of Ecology document *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et. al. 2016). Streams are classified according to the water typing system provided in the Washington Administrative Code (WAC), section 222-16-031, SCC 30.91S.640, and SCC 30.62A.230. Lack of legal access prevented WRI from determining the OHWM of Stream A, therefore its boundary was determined using CASPs, publicly available resources, fine-scale contours, and best professional judgement.

3.3 CRITICAL AREA BOUNDARY DETERMINATION FINDINGS

Four wetlands (Wetlands A-D) and two streams (Stream A and B) were identified within approximately 500 feet from the proposed project area.

3.3.1 Wetland A

Jurisdiction: Snohomish County

HGM Class: Depressional

Cowardin Classification: Palustrine, Forested, Saturated only + Seasonally Flooded (PFOE)

Snohomish County Classification: Category II

Buffer Requirement: 225 feet

Wetland A is a large depressional wetland that extends onto the southwestern subject property corner. This wetland drains north into a culvert under 150th Street NE, acting as a headwater wetland to Stream A.



Figure 3 On-site portion of Wetland A.

Vegetation within the on-site portion of this wetland consists of a canopy dominated by Western red cedar (*Thuja plicata*; FAC), black cottonwood (*Populus balsamifera*; FAC), and red alder (*Alnus rubra*; FAC), with an understory of hardhack (*Spirea douglasii*; FACW), salmonberry (*Rubus spectabilis*; FAC), Himalayan blackberry (*Rubus armeniacus*; FAC), ladyfern (*Athyrium filix-femina*; FACW), and skunk cabbage (*Lysichiton americanus*; OBL), with occasional hummocks vegetated by red huckleberry (*Vaccinium parvifolium*; FACU), sword fern (*Polystichum munitum*; FACU), and pacific trailing berry (*Rubus ursinus*; FACU).

Soils within the surface layer of the on-site portion of Wetland A are typically black (10YR 2/1) loam to a depth of approximately three inches below the surface. From three inches to approximately eight inches below the surface, soils are primarily black (10YR 2/1) clay loam with portions of very dark gray (10YR 3/1) clay loam appearing. From eight to 10 inches below the surface, soils are solely very dark gray (10YR 3/1) clay loam. From approximately 10 to 18 inches below the surface, soils vary from very dark gray (10YR 3/1) to dark gray (4/1) clay loam with approximately 15 percent of dark yellowish-brown (10YR 3/6) redoximorphic concentrations. Soil saturation was observed starting at approximately six inches below the surface during the August 2022 inspection.

Wetland A received a total of 21 points for functions with a high (8) habitat score. Wetland A is a Category II wetland with a standard buffer of 225 feet measured horizontally from its delineated boundary.

3.3.2 Wetland B

Jurisdiction: Snohomish County

HGM Class: Depressional

Cowardin Classification: Palustrine, Forested, Saturated only + Seasonally Flooded (PFOE)

Snohomish County Classification: Category II

Buffer Requirement: 110 feet

Wetland B is a depressional wetland located northwest of the intersection of 150th Street NE and Burn Road. This feature is located entirely outside of the subject property.

Vegetation observed from the legal right of way consists of a canopy dominated by black cottonwood (*Populus balsamifera*; FAC), Western red cedar (*Thuja plicata*; FAC), and Sitka spruce (*Picea sitchensis*; FAC), with an understory of Sitka willow (*Salix sitchensis*; FAC), vine maple (*Acer circinatum*; FAC), salmonberry (*Rubus spectabilis*; FAC), Himalayan blackberry (*Rubus armeniacus*; FAC), twinberry (*Lonicera involucrata*; FAC), lady fern (*Athyrium filix-femina*; FACW), field horsetail (*Equisetum arvense*; FAC), and reed canarygrass (*Phalaris arundinacea*; FACW).

Lack of legal access prohibited WRI from collecting soil and hydrology data. The location of this wetland is consistent with CASP 9607310539. Wetland B received a total of 22 points for functions with a moderate (7) habitat score. Wetland B requires a standard buffer of 110 feet measured horizontally from its determined boundary.

Wetland B received a total of 22 points for functions with a moderate (7) habitat score. Wetland B is a Category II wetland with a standard buffer of 110 feet measured horizontally from its determined boundary.

3.3.3 Wetland C

Jurisdiction: Snohomish County

HGM Class: Depressional

Cowardin Classification: Palustrine, Forested, Saturated only + Seasonally Flooded (PFOE)

Snohomish County Classification: Category I

Buffer Requirement: 225 feet

Wetland C is a large depressional wetland located along the eastern side of Burn Road. This feature is located entirely outside of the subject property. No CASPS depict this feature, therefore its boundary was estimated from field observations, aerial imagery, high-precision topographic contours, and best professional judgement. This wetland acts as a headwater wetland to Stream B.

Vegetation observed from the legal right of way consists of a canopy dominated by black cottonwood (*Populus balsamifera*; FAC) and red alder (*Alnus rubra*; FAC), with an understory of Pacific willow (*Salix lasiandra*; FAC), salmonberry (*Rubus spectabilis*; FAC), Himalayan blackberry (*Rubus armeniacus*; FAC), ladyfern (*Athyrium filix-femina*; FACW), field horsetail (*Equisetum arvense*; FAC), common rush (*Juncus effusus*; FACW), slough sedge (*Carex obnupta*; OBL), and reed canarygrass (*Phalaris arundinacea*; FACW).

Lack of legal access prohibited WRI from collecting soil and hydrology data. Wetland C received a total of 23 points for functions with a high (9) habitat score. Wetland C is a Category I wetland with a standard buffer of 225 feet measured horizontally from its determined boundary.

3.3.4 Wetland D

Jurisdiction: Snohomish County

HGM Class: Depressional

Cowardin Classification: Palustrine, Forested, Saturated only + Seasonally Flooded (PFOE)

Snohomish County Classification: Category II

Buffer Requirement: 110 feet

Wetland D is a depressional wetland located northwest of the intersection of the 148th Street NE and Burn Road. The boundary this wetland is consistent with the work of WRI from a recent nearby project (18-152167-000-00-LDA).

Vegetation observed from the legal right-of-way consists of a canopy of black cottonwood (*Populus balsamifera*; FAC), and red alder (*Alnus rubra*; FAC), with an understory of Sitka willow (*Salix sitchensis*; FAC), pacific willow (*Salix lasiandra*; FACW), salmonberry (*Rubus spectabilis*; FAC), Himalayan blackberry (*Rubus armeniacus*; FAC), hardhack (*Spirea douglasii*; FACW), and reed canarygrass (*Phalaris arundinacea*; FACW).

Lack of legal access prohibited WRI from collecting soil and hydrology data. Wetland D received a total of 21 points for functions with a moderate (7) habitat score. Wetland D is a Category II wetland with a standard buffer of 110 feet measured horizontally from its determined boundary.

3.3.5 Non-Wetland Areas Determination

Areas described as non-wetland are typically dominated by a canopy western hemlock (*Tsuga heterophylla*; FACU), Douglas fir (*Pseudotsuga menziesii*; FACU), western red cedar (*Thuja plicata*; FAC), and red alder (*Alnus rubra*; FAC), with an understory of vine maple (*Acer circinatum*; FAC), salmonberry (*Rubus spectabilis*; FAC), red huckleberry (*Vaccinium parvifolium*; FACU), salal (*Gaultheria shallon*; FACU), sword fern (*Polystichum munitum*; FACU), and pacific trailing blackberry (*Rubus ursinus*; FACU).

Soils in non-wetland areas vary but are typically dark brown (10YR 3/3) sandy loam with portions of dark yellowish-brown (10YR 4/6) sandy loam from the surface to a depth of approximately 14 inches. From 14 inches to 18 inches below the surface, soils are dark grayish brown (10YR 4/2) clay loam with approximately two percent of dark yellowish-brown redoximorphic concentrations. Soils in non-wetland areas were moist in some areas, however lacked hydrology indicators during the August 2023 inspection.

Due to the lack of facultative species, hydric soils, or hydrology indicators; areas described as non-wetland do not meet criteria for wetland conditions.



Figure 4 Maintained portion of property described as non-wetland.



Figure 5 Forested on-site area described as non-wetland.

3.3.6 Stream A

Jurisdiction: Snohomish County

Cowardin Classification: Riverine, Upper Perennial, Streamed, Cobble-Gravel

Snohomish County Classification: Type Ns

Buffer Requirement: 50 feet

Stream A originates on the north side of 150th Street NE at the drainage of Wetland A. This feature continues off-site to the north before turning east under Jordan Trails road, ultimately draining into the South Fork Stillaguamish River. Multiple resources map a fish type break from F to Ns near Jordan Trails Road; therefore, the portion of Stream A within the study area is Type Ns and requires a standard buffer of 50 feet measured horizontally from its determined boundary.

3.3.7 Stream B

Jurisdiction: Snohomish County

Cowardin Classification: Riverine, Upper Perennial, Streamed, Cobble-Gravel

Snohomish County Classification: Type Ns

Buffer Requirement: 50 feet

Stream B originates in the center of Wetland C and flows south before crossing to the west side under burn road near the intersection at 148th Street NE. This feature continues south and ultimately drains into the South Fork Stillaguamish River. CASP no. 201909050184 as well as multiple publicly available resources map this stream as being seasonal non-fish bearing. Therefore, Stream B is classified as a Type Ns Stream and requires a standard buffer of 50 feet from its determined boundary.

4.0 PROJECT DESCRIPTION, IMPACTS, AND BUFFER MITIGATION PLAN

PUD No. 1 of Snohomish County, hereby named “the applicant”, is proposing to construct a new water reservoir. To achieve this, the applicant proposes to reduce the standard buffer of Wetland A by 15 percent by installing split-rail fencing along the proposed buffer per SCC 30.62A.320(1)(f)(ii). By reducing the buffer of Wetland A from 225 feet to 191.25 feet, no permanent disturbance to buffer area is proposed.

4.1 PERMANENT FENCING AND CAPA SIGNAGE

As part of the proposed buffer reduction described above, the applicant proposes to install permanent fencing between the buffer edge and development. Type 1 Critical Area Protection Area (CAPA) signs will be affixed to the fence. The location of the fencing and signage is depicted on the Critical Area Study Map in Appendix C. A signage and fencing detail is provided below.

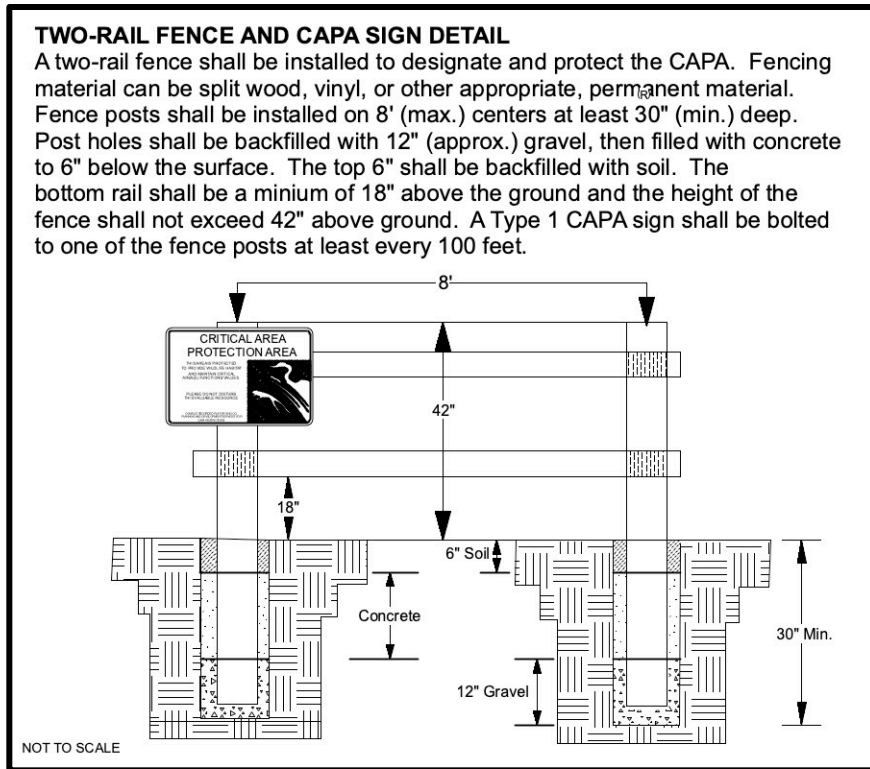


Figure 6 – CAPA sign and fencing detail

4.2 TEMPORARY IMPACTS AND BUFFER RESTORATION

Any temporarily disturbed areas in buffer area are expected to be composed of maintained lawn and shall be reseeded to the recommended grass seed mixture below, or similar approved mixture. The county shall approve any change in species or concentration. Fertilizer shall only be used if absolutely necessary due to potential runoff into adjacent waters. If deemed absolutely necessary by the consulting biologist and/or the county, an appropriate fertilizer will be recommended for the particular situation.

Table 2 - Native Grass Seed Buffer Mix

| COMMON NAME | LATIN NAME | LBS/1,000 S.F. |
|--------------------|----------------------------|----------------|
| Tall fescue | <i>Festuca arundinacea</i> | 0.4 |
| Colonial bentgrass | <i>Agrostis tenuis</i> | 0.4 |
| Annual ryegrass | <i>Lolium multiflorum</i> | 0.5 |
| Red clover | <i>Trifolium repens</i> | 0.2 |

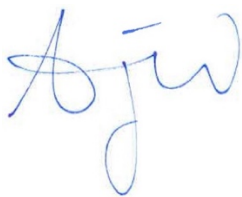
5.0 USE OF THIS REPORT

This Critical Area Technical Memorandum is supplied to PUD No. 1 of Snohomish County as a means of determining the presence of on-site and nearby critical areas, as required by Snohomish County. This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

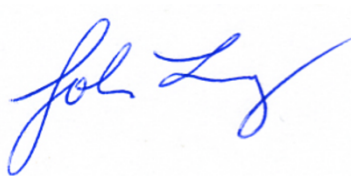
The laws applicable to critical areas are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

This report conforms to the standard of care employed by wetland ecologists. No other representation or warranty is made concerning the work or this report and any implied representation or warranty is disclaimed.

Wetland Resources, Inc.



Alex Wachter
Associate Ecologist



John Laufenberg, PWS
Principal Ecologist

6.0 REFERENCES

- Anderson, P.S., Meyer, S., Olson, P., and E. Stockdale. 2016. *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State*. Washington State Department of Ecology. Publication #16-06-029.
- Brinson, M.M. 1993. *A Hydrogeomorphic Classification for Wetlands*. Technical Report WRPDE-4. US Army Engineers Waterways Experiment Station, Vicksburg, MS.
- Cowardin, et al. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior. FWS/OBS-79/31. December 1979.
- Hruby, T. 2014. *Washington State Wetland Rating System for Western Washington: 2014 Update*. Washington State Department of Ecology. Publication #14-06-029. October 2014.
- Munsell Color. 2012. *Munsell Soil Color Book*. Munsell Color, Grand Rapids, MI.
- Natural Resources Conservation Service (NRCS). 2022. *Web Soil Survey*. United States Department of Agriculture. <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.
- Snohomish, County of. 2023a. 30.62A. Wetlands and Fish & Wildlife Habitat Conservation Areas. Title 30 Environmentally Critical Areas. Title 30 Unified Development Code.
- Snohomish, County of. 2023b. *PDS Map Portal*.
<https://snohomishcountywa.gov/3752/PDS-Map-Portal>
- U.S. Army Corps of Engineers. 2018. *National Wetland Plant List, version 3.4*. Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH.
<http://wetland-plants.usace.army.mil/>
- 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)*. Environmental Laboratory, Vicksburg, MS. Publication # ERDC/EL TR-10-3.
- U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. Environmental Laboratory, Vicksburg, MS.
- U.S. Fish & Wildlife Service. 2023. *National Wetlands Inventory (NWI)* online mapper.
<http://www.fws.gov/wetlands/Data/Mapper.html>.
- WA Department of Fish & Wildlife. 2023a. *Priority Habitat and Species (PHS)* interactive map.
<http://apps.wdfw.wa.gov/phsontheweb/>
- WA Department of Fish & Wildlife. 2023b. *SalmonScape* online mapping application.
<http://apps.wdfw.wa.gov/salmonscape/map.html>.
- WA Department of Natural Resources. 2023. *Forest Practices Application Mapping Tool*.
<https://fpamt.dnr.wa.gov/default.aspx>

APPENDIX A

USACE WETLAND DETERMINATION DATA FORMS

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

Project/Site: #22229 Burn Rd Reservoir City/County: Snohomish County Sampling Date: 8/31/22
 Applicant/Owner: PUD No. 1 of SnoCo State: WA Sampling Point: S1
 Investigator(s): AW,EC Section, Township, Range: Sec 32, Twp 31N, Rge 06E, W.M.
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): ~2%
 Subregion (LRR): LRR A Lat: 48.13116 Long: -122.05843 Datum: NAD83
 Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

| | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | |
| Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | |
| Remarks: WRA - In near WRA5 | |

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 5m ²) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B) |
|--|------------------|-------------------|-------------------|---|
| 1. Populus balsamifera | 40 | Y | FAC | |
| 2. Thuja plicata | 10 | N | FAC | |
| 3. Alnus rubra | 5 | N | FAC | |
| 4. **Tsuga heterophylla / *Pseudotsuga menziesii | 5/5 | N | FACU | |
| | | | 65 = Total Cover | Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u>0</u> FACW species <u> </u> x 2 = <u>0</u> FAC species <u> </u> x 3 = <u>0</u> FACU species <u> </u> x 4 = <u>0</u> UPL species <u> </u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u> </u> |
| Sapling/Shrub Stratum (Plot size: 3m ²) | | | | |
| 1. Rubus spectabilis | 30 | Y | FAC | |
| 2. *Vaccinium parvifolium | 10 | Y | FACU | |
| 3. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| | | | 40 = Total Cover | |
| Herb Stratum (Plot size: 1m ²) | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. Athyrium filix-femina | 80 | Y | FAC | |
| 2. *Gaultheria shallon | 30 | N | FACU | |
| 3. Phalaris arundinacea | 25 | N | FACW | |
| 4. Lysichiton americanus | 15 | N | OBL | |
| 5. *Rubus ursinus | 10 | N | FACU | |
| 6. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 7. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 8. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 9. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| | | | 160 = Total Cover | |
| Woody Vine Stratum (Plot size: 3m ²) | | | | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| 1. None | <u> </u> | <u> </u> | <u> </u> | |
| 2. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| | | | 0 = Total Cover | |
| % Bare Ground in Herb Stratum <u> </u> | | | | |
| Remarks: **Tsuga heterophylla and Pseudotsuga menziesii are rooted out of Wetland A, however provide canopy coverage. *Vaccinium parvifolium, Gaultheria shallon, and Rubus ursinus are rooted on stumps/hummocks. | | | | |

SOIL

Sampling Point: S1

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

| Depth (inches) | Matrix | | Redox Features | | Type ¹ | Loc ² | Texture | Remarks |
|-------------------|---------------|----|----------------|----|-------------------|------------------|-----------|---------|
| | Color (moist) | % | Color (moist) | % | | | | |
| 0-3 | 10YR 2/1 | | | | | | Loam | |
| 3-8 | 10YR 2/1 | 80 | | | | | | |
| | 10YR 3/1 | 20 | | | | | Clay loam | |
| 8-10 | 10YR 3/1 | | | | | | Clay loam | |
| 10-15 | 10YR 3/1 | 85 | 10YR 3/6 | 15 | C | M | Clay loam | |
| 15-18 | 10YR 4/1 | 80 | 10YR 3/6 | 15 | C | M | Clay loam | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☒ No ☐ Depth (inches): 6"

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: #22229 Burn Rd Reservoir City/County: Snohomish County Sampling Date: 8/31/22
 Applicant/Owner: PUD No. 1 of SnoCo State: WA Sampling Point: S2
 Investigator(s): AW,EC Section, Township, Range: Sec 32, Twp 31N, Rge 06E, W.M.
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): ~2%
 Subregion (LRR): LRR A Lat: 48.13119 Long: -122.05840 Datum: NAD83
 Soil Map Unit Name: Tokul gravelly medial loam, 0 to 8 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

| | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Remarks: WRA - Out near WRA5 | |

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 5m ²) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A) Total Number of Dominant Species Across All Strata: 3 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B) |
|--|------------------|-------------------|------------------|---|
| 1. <u>Alnus rubra</u> | 60 | Y | FAC | |
| 2. <u>Tsuga heterophylla</u> | 10 | N | FACU | |
| 3. <u>Thuja plicata</u> | 5 | N | FAC | |
| 4. _____ | | | | |
| | 75 | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: 3m²) | | | | |
| 1. <u>Rubus spectabilis</u> | 80 | Y | FAC | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = 0 FACW species _____ x 2 = 0 FAC species _____ x 3 = 0 FACU species _____ x 4 = 0 UPL species _____ x 5 = 0 Column Totals: 0 (A) 0 (B) Prevalence Index = B/A = _____ |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| | 80 | = Total Cover | | |
| Herb Stratum (Plot size: 1m²) | | | | |
| 1. <u>Polystichum munitum</u> | 20 | Y | FACU | Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| 6. _____ | | | | |
| 7. _____ | | | | |
| 8. _____ | | | | |
| 9. _____ | | | | |
| 10. _____ | | | | |
| 11. _____ | | | | |
| | 20 | = Total Cover | | |
| Woody Vine Stratum (Plot size: 3m²) | | | | |
| 1. <u>None</u> | | | | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| 2. _____ | | | | |
| | 0 | = Total Cover | | |
| % Bare Ground in Herb Stratum _____ | | | | |
| Remarks: | | | | |

SOIL

Sampling Point: S2

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

| Depth (inches) | Matrix | | Redox Features | | Type ¹ | Loc ² | Texture | Remarks |
|-------------------|---------------|----|----------------|---|-------------------|------------------|------------|---------|
| | Color (moist) | % | Color (moist) | % | | | | |
| 0-14 | 10YR 3/3 | 80 | | | | | Sandy loam | |
| | 10YR 4/6 | 20 | | | | | Sandy loam | |
| 14-18 | 10YR 4/2 | 97 | 10YR 4/6 | 3 | C | M | Clay loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

Soil moist at 14 inches below surface.

APPENDIX B

DEPARTMENT OF ECOLOGY (2014)
WETLAND RATING FORMS AND FIGURES

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 8/31/22

Rated by AW Trained by Ecology? ☒ Yes ☐ No Date of training 6/22

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes? ☐ Y ☒ N

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

Source of base aerial photo/map ESRI, SnoCo

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

1. Category of wetland based on FUNCTIONS

 Category I – Total score = 23 - 27

☒ Category II – Total score = 20 - 22

 Category III – Total score = 16 - 19

 Category IV – Total score = 9 - 15

| FUNCTION | Improving Water Quality | Hydrologic | Habitat | |
|--------------------------------|--|--|--|--------------|
| Circle the appropriate ratings | | | | |
| Site Potential | H <input type="checkbox"/> <input checked="" type="checkbox"/> L | H <input type="checkbox"/> <input checked="" type="checkbox"/> L | H <input type="checkbox"/> <input checked="" type="checkbox"/> L | |
| Landscape Potential | H <input type="checkbox"/> <input checked="" type="checkbox"/> L | H <input type="checkbox"/> <input checked="" type="checkbox"/> L | <input checked="" type="checkbox"/> M L | |
| Value | <input checked="" type="checkbox"/> M L | H <input type="checkbox"/> <input checked="" type="checkbox"/> L | <input checked="" type="checkbox"/> M L | TOTAL |
| Score Based on Ratings | 7 | 6 | 8 | 21 |

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC | CATEGORY |
|------------------------------------|-------------------------------------|
| Estuarine | I II |
| Wetland of High Conservation Value | I |
| Bog | I |
| Mature Forest | I |
| Old Growth Forest | I |
| Coastal Lagoon | I II |
| Interdunal | I II III IV |
| None of the above | <input checked="" type="checkbox"/> |

Wetland name or number A

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 (<i>can be added to map of hydroperiods</i>) | D 1.1, D 4.1 | 1 |
| Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>) | 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 | 2 |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website) | D 3.1, D 3.2 | 3 |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web) | D 3.3 | 4 |

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

Wetland name or number **A**_____

HGM Classification of Wetlands in Western Washington

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

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

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

NO – go to 2

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

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

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

YES – **Freshwater Tidal Fringe**

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

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

NO – go to 3

YES – The wetland class is **Flats**

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

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

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

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

NO – go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

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

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

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

NO – go to 5

YES – The wetland class is **Slope**

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

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

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

._The overbank flooding occurs at least once every 2 years.

Wetland name or number A**NO** – go to 6**YES** – The wetland class is **Riverine****NOTE:** The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

NO – go to 7

YES – The wetland class is **Depressional**

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

NO – go to 8

YES – The wetland class is **Depressional**

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

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

| HGM classes within the wetland unit being rated | | HGM class to use in rating |
|--|--------------------------|----------------------------|
| Slope + Riverine | <input type="checkbox"/> | Riverine |
| Slope + Depressional | <input type="checkbox"/> | Depressional |
| Slope + Lake Fringe | <input type="checkbox"/> | Lake Fringe |
| Depressional + Riverine along stream within boundary of depression | <input type="checkbox"/> | Depressional |
| Depressional + Lake Fringe | <input type="checkbox"/> | Depressional |
| Riverine + Lake Fringe | <input type="checkbox"/> | Riverine |
| Salt Water Tidal Fringe and any other class of freshwater wetland | <input type="checkbox"/> | Treat as ESTUARINE |

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

Wetland name or number A

| 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: <input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 <input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 <input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 <input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1 | 2 | |
| D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 | No = 0 | 0 |
| D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): <input checked="" type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5 <input type="checkbox"/> Wetland has persistent, ungrazed, plants > ½ of area points = 3 <input type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1 <input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0 | 5 | |
| D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> <input checked="" type="checkbox"/> Area seasonally ponded is > ½ total area of wetland points = 4 <input type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland points = 2 <input type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland points = 0 | 4 | |
| Total for D 1 | | 11 |

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

| | | |
|---|-----------------------|----------|
| D 2.0. Does the landscape have the potential to support the water quality function of the site? | | |
| D 2.1. Does the wetland unit receive stormwater discharges? | Yes = 1 No = 0 | 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 | 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 not listed in questions D 2.1-D 2.3? Source _____ | Yes = 1 No = 0 | 0 |
| Total for D 2 | | 2 |

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

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

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

Wetland name or number A**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:**

- | | | |
|---|------------|----------|
| <input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet) | points = 4 | 2 |
| <input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 | |
| <input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch | points = 1 | |
| <input type="checkbox"/> 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.

- | | | |
|---|------------|----------|
| <input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet | points = 7 | 3 |
| <input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet | points = 5 | |
| <input type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 | |
| <input checked="" type="checkbox"/> The wetland is a "headwater" wetland | points = 3 | |
| <input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water | points = 1 | |
| <input type="checkbox"/> 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.

- | | | |
|--|------------|----------|
| <input checked="" type="checkbox"/> The area of the basin is less than 10 times the area of the unit | points = 5 | 5 |
| <input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit | points = 3 | |
| <input type="checkbox"/> The area of the basin is more than 100 times the area of the unit | points = 0 | |
| <input type="checkbox"/> Entire wetland is in the Flats class | points = 5 | |

Total for D 4

Add the points in the boxes above

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

Record the rating on the first page

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

| | | |
|---|--|----------|
| D 5.1. Does the wetland receive stormwater discharges? | Yes = 1 <input type="text" value="No = 0"/> | 0 |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? | <input checked="" type="text" value="Yes = 1"/> No = 0 | 1 |
| D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? | Yes = 1 <input type="text" value="No = 0"/> | 0 |
| Total for D 5 | Add the points in the boxes above | 1 |

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):

- | | | |
|--|------------|----------|
| <input type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit. | points = 2 | 1 |
| <input checked="" type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient. | points = 1 | |
| <input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin. | points = 1 | |
| <input type="checkbox"/> 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 | |
| <input type="checkbox"/> 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 **0**

Total for D 6

Add the points in the boxes above

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

Record the rating on the first page

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

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

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

H 1.2. Hydroperiods

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

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

H 1.3. Richness of plant species

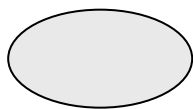
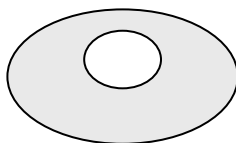
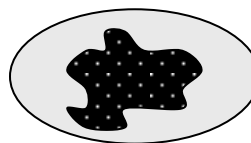
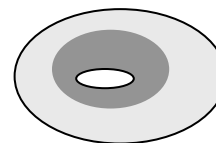
Count the number of plant species in the wetland that cover at least 10 ft².

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

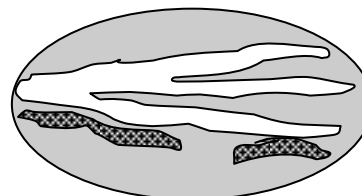
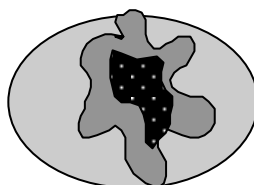
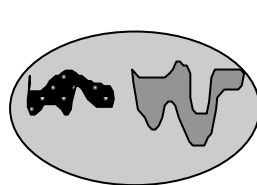
- | | | |
|--|-------------------|----------|
| If you counted: > 19 species | points = 2 | 2 |
| 5 - 19 species | points = 1 | |
| < 5 species | points = 0 | |

H 1.4. Interspersion of habitats

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

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

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



Wetland name or number A

| | | |
|--|-----------------------------------|----------|
| H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). <input checked="" type="checkbox"/> Standing snags (dbh > 4 in) within the wetland <input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) <input checked="" type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>) | | 3 |
| Total for H 1 | Add the points in the boxes above | 7 |

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

Record the rating on the first page

| | | |
|--|-----------------------------------|----------|
| H 2.0. Does the landscape have the potential to support the habitat functions of the site? | | |
| H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> % undisturbed habitat <u>34</u> + [(% moderate and low intensity land uses)/2] <u>15</u> = <u>50</u> % If total accessible habitat is: <input checked="" type="checkbox"/> > 1/3 (33.3%) of 1 km Polygon points = 3 <input type="checkbox"/> 20-33% of 1 km Polygon points = 2 <input type="checkbox"/> 10-19% of 1 km Polygon points = 1 <input type="checkbox"/> < 10% of 1 km Polygon points = 0 | | 3 |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> % undisturbed habitat <u>40</u> + [(% moderate and low intensity land uses)/2] <u>23</u> = <u>62</u> % <input checked="" type="checkbox"/> Undisturbed habitat > 50% of Polygon points = 3 <input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2 <input type="checkbox"/> Undisturbed habitat 10-50% and > 3 patches points = 1 <input type="checkbox"/> Undisturbed habitat < 10% of 1 km Polygon points = 0 | | 3 |
| H 2.3. Land use intensity in 1 km Polygon: If <input type="checkbox"/> > 50% of 1 km Polygon is high intensity land use points = (- 2) <input checked="" type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0 | | 0 |
| Total for H 2 | Add the points in the boxes above | 6 |

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

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

Record the rating on the first page

Wetland name or number A

WDFW Priority Habitats

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

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

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

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

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

Wetland name or number A

| | |
|---|---|
| <p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</p> <p style="text-align: right;">Yes = Category I No = Not a forested wetland for this section</p> | Cat. I |
| <p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p style="text-align: right;">Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft²)</p> <p style="text-align: right;">Yes = Category I No = Category II</p> | Cat. I Cat. II |
| <p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to SC 6.1 No = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p> | Cat I Cat. II Cat. III Cat. IV |
| <p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p> | N/A |

PUD - BURN RD RESERVOIR
WETLAND RATING FIGURE 1- WETLAND A

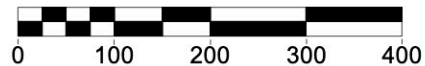


LEGEND

-  FORESTED VEGETATION
-  SATURATED ONLY
-  SEASONALLY FLOODED
-  INTERMITTENT STREAM
-  150' FROM WL BOUNDARY



Scale 1" = 200'

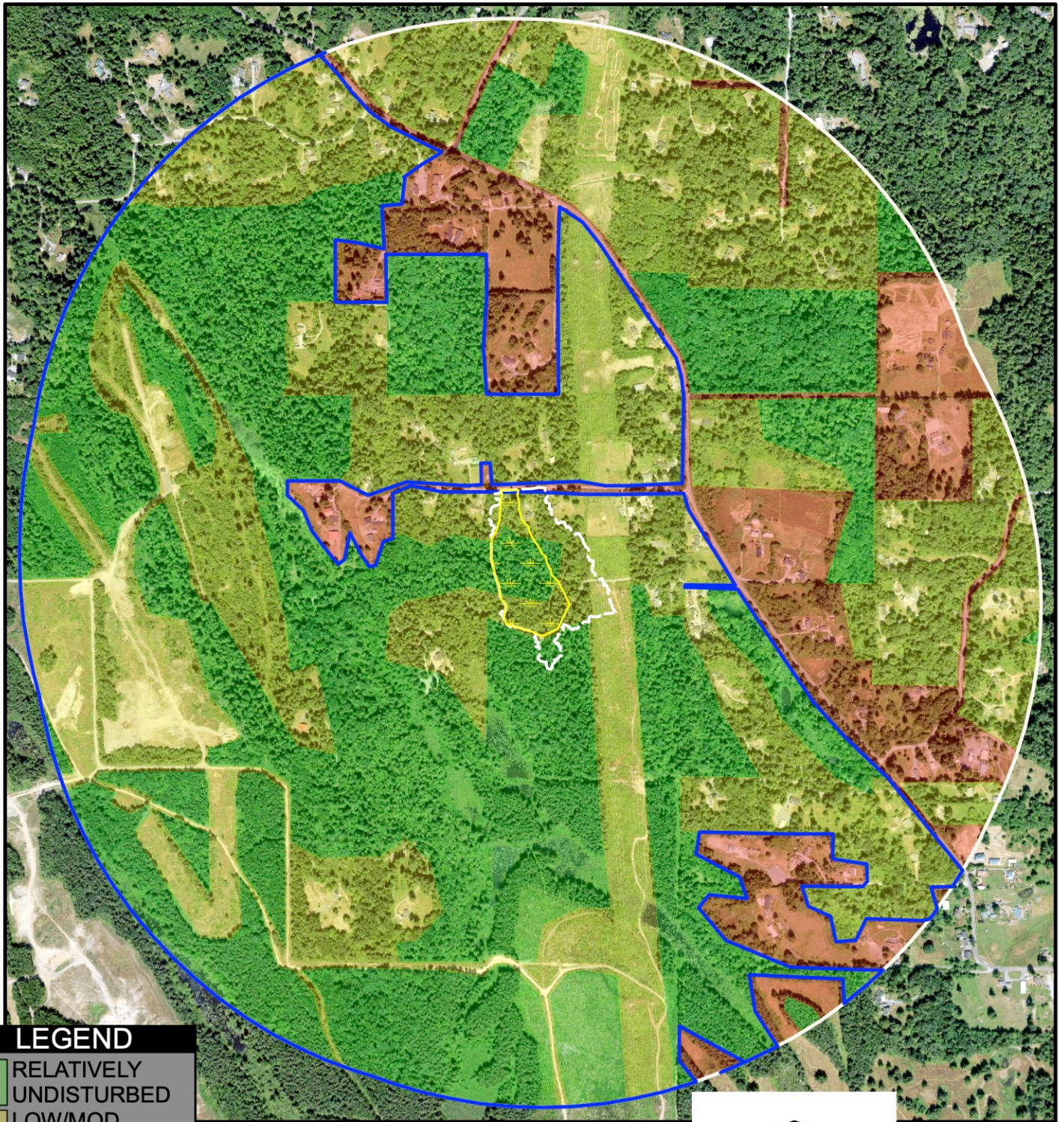


Wetland Resources, Inc.
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Email: mailbox@wetlandresources.com

**WETLAND RATING
Wetland A**

Figure A-1
WRI Job # 22229
Rated by: AW

PUD - BURN RD RESERVOIR
WETLAND RATING FIGURE 2- WETLAND A



LEGEND

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

**CONTRIBUTING BASIN
AREA RELATIVE TO
WETLAND UNIT IS 2:1**



Scale 1" = 1,000'

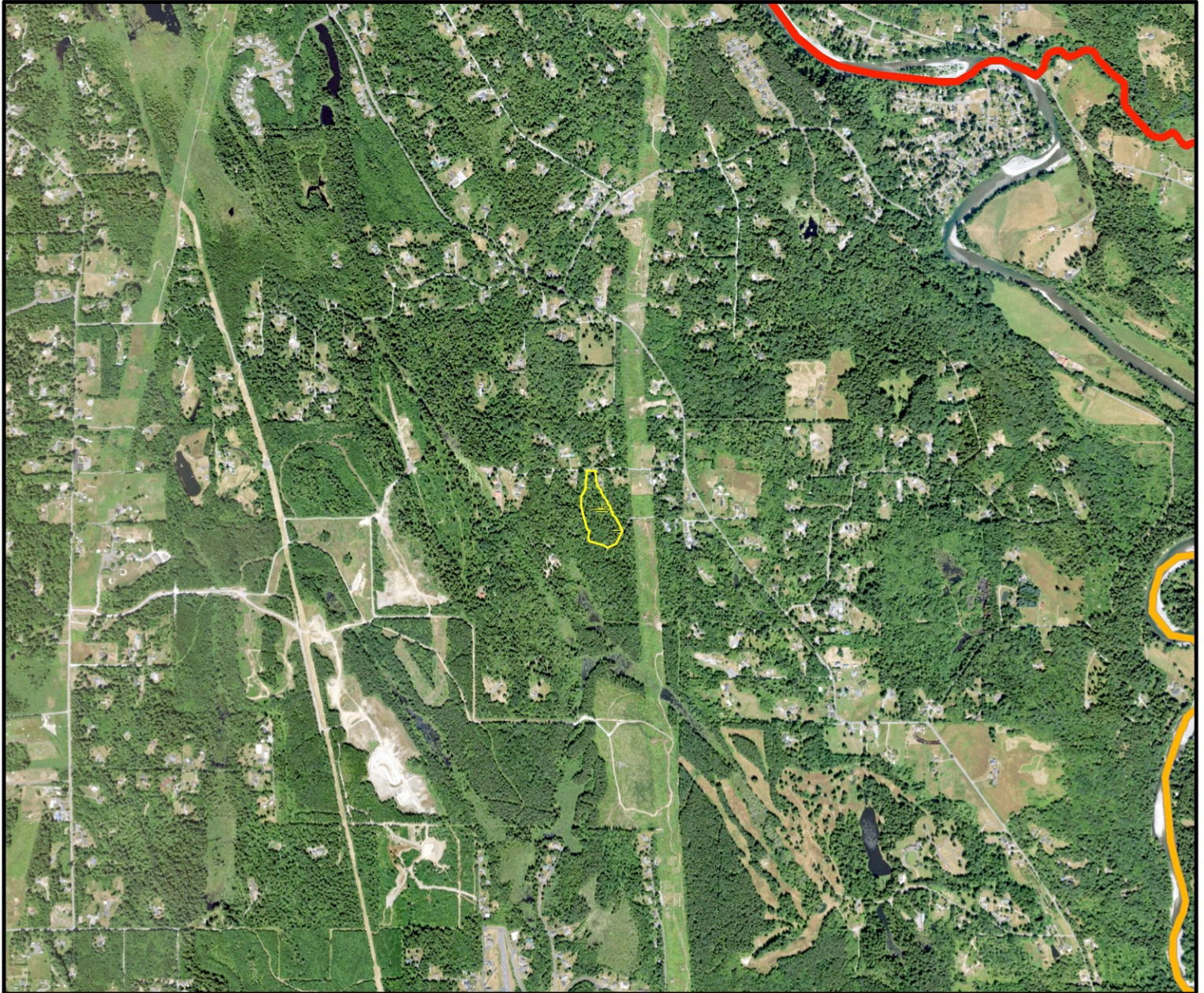


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**WETLAND RATING
Wetland A**

Figure A-2
WRI Job # 22229
Rated by: AW

PUD - BURN RD RESERVOIR
WETLAND RATING FIGURE 3- WETLAND A



LEGEND



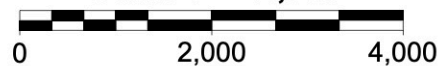
WETLAND



AQUATIC RESOURCES
ON THE 303(d) LIST



Scale 1" = 2,000'



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WETLAND RATING
Wetland A

Figure A-3
WRI Job # 22229
Rated by: AW

PUD - BURN RD RESERVOIR

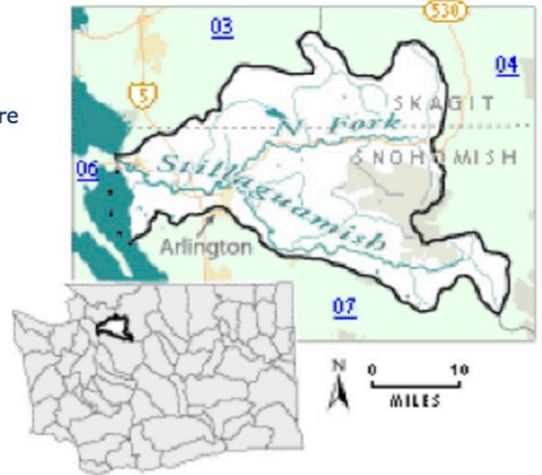
WETLAND RATING FIGURE 4- WETLAND A

WRIA 5: Stillaguamish

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

Counties

- [Skagit](#)
- [Snohomish](#)



| Waterbody Name | Pollutant(s) | Status** | TMDL Lead |
|-------------------------------------|---|---|--|
| Old Stillaguamish Channel | Dissolved Oxygen | On hold | Ralph Svrcek 425-649-7165 |
| Stillaguamish River | Arsenic Dissolved Oxygen Fecal Coliform Mercury pH Temperature | Approved by EPA Has an implementation plan | Ralph Svrcek 425-649-7165 |

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

Wetland name or number B

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland B Date of site visit: 8/31/22

Rated by AW Trained by Ecology? ☒ Yes ☐ No Date of training 6/22

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes? ☐ Y ☒ N

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

Source of base aerial photo/map ESRI, SnoCo

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

1. Category of wetland based on FUNCTIONS

 Category I – Total score = 23 - 27

☒ Category II – Total score = 20 - 22

 Category III – Total score = 16 - 19

 Category IV – Total score = 9 - 15

| FUNCTION | Improving Water Quality | Hydrologic | Habitat | |
|--------------------------------|--|--|--|--------------|
| Circle the appropriate ratings | | | | |
| Site Potential | H <input type="checkbox"/> <input checked="" type="checkbox"/> L | H <input type="checkbox"/> <input checked="" type="checkbox"/> L | H M <input type="checkbox"/> <input checked="" type="checkbox"/> | |
| Landscape Potential | <input checked="" type="checkbox"/> M L | <input checked="" type="checkbox"/> M L | <input checked="" type="checkbox"/> M L | |
| Value | <input checked="" type="checkbox"/> M L | H <input type="checkbox"/> <input checked="" type="checkbox"/> L | <input checked="" type="checkbox"/> M L | TOTAL |
| Score Based on Ratings | 8 | 7 | 7 | 22 |

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC | CATEGORY |
|------------------------------------|-------------------------------------|
| Estuarine | I II |
| Wetland of High Conservation Value | I |
| Bog | I |
| Mature Forest | I |
| Old Growth Forest | I |
| Coastal Lagoon | I II |
| Interdunal | I II III IV |
| None of the above | <input checked="" type="checkbox"/> |

Wetland name or number B

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 (<i>can be added to map of hydroperiods</i>) | D 1.1, D 4.1 | 1 |
| Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>) | 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 | 2 |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website) | D 3.1, D 3.2 | 3 |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web) | D 3.3 | 4 |

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

Wetland name or number **B**_____

HGM Classification of Wetlands in Western Washington

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

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

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

NO – go to 2

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

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

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

YES – **Freshwater Tidal Fringe**

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

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

NO – go to 3

YES – The wetland class is **Flats**

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

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

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

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

NO – go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

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

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

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

NO – go to 5

YES – The wetland class is **Slope**

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

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

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

 The overbank flooding occurs at least once every 2 years.

Wetland name or number B**NO** – go to 6**YES** – The wetland class is **Riverine****NOTE:** The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

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

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

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

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

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

| HGM classes within the wetland unit being rated | | HGM class to use in rating |
|--|--------------------------|----------------------------|
| Slope + Riverine | <input type="checkbox"/> | Riverine |
| Slope + Depressional | <input type="checkbox"/> | Depressional |
| Slope + Lake Fringe | <input type="checkbox"/> | Lake Fringe |
| Depressional + Riverine along stream within boundary of depression | <input type="checkbox"/> | Depressional |
| Depressional + Lake Fringe | <input type="checkbox"/> | Depressional |
| Riverine + Lake Fringe | <input type="checkbox"/> | Riverine |
| Salt Water Tidal Fringe and any other class of freshwater wetland | <input type="checkbox"/> | Treat as ESTUARINE |

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

Wetland name or number B

| 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: <input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 <input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 <input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 <input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1 | 2 | |
| D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0 | 0 | |
| D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): <input type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5 <input checked="" type="checkbox"/> Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 <input type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1 <input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0 | 3 | |
| D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> <input checked="" type="checkbox"/> Area seasonally ponded is > 1/2 total area of wetland points = 4 <input type="checkbox"/> Area seasonally ponded is > 1/4 total area of wetland points = 2 <input type="checkbox"/> Area seasonally ponded is < 1/4 total area of wetland points = 0 | 4 | |
| Total for D 1 | Add the points in the boxes above | 9 |

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

| | | |
|---|--|----------|
| D 2.0. Does the landscape have the potential to support the water quality function of the site? | | |
| D 2.1. Does the wetland unit receive stormwater discharges? | Yes = 1 No = 0 | 1 |
| D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? | Yes = 1 No = 0 | 1 |
| D 2.3. Are there septic systems within 250 ft of the wetland? | Yes = 1 No = 0 | 1 |
| D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source _____ Yes = 1 No = 0 | | 0 |
| Total for D 2 | Add the points in the boxes above | 3 |

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

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

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

| | | |
|--|--|--|
| | | |
|--|--|--|

Wetland name or number B**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:

- | | | |
|---|------------|----------|
| <input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet) | points = 4 | 2 |
| <input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 | |
| <input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch | points = 1 | |
| <input type="checkbox"/> 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.

- | | | |
|--|------------|----------|
| <input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet | points = 7 | 3 |
| <input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet | points = 5 | |
| <input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 | |
| <input type="checkbox"/> The wetland is a "headwater" wetland | points = 3 | |
| <input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water | points = 1 | |
| <input type="checkbox"/> 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.

- | | | |
|--|------------|----------|
| <input checked="" type="checkbox"/> The area of the basin is less than 10 times the area of the unit | points = 5 | 5 |
| <input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit | points = 3 | |
| <input type="checkbox"/> The area of the basin is more than 100 times the area of the unit | points = 0 | |
| <input type="checkbox"/> Entire wetland is in the Flats class | points = 5 | |

Total for D 4

Add the points in the boxes above

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

Record the rating on the first page

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

D 5.1. Does the wetland receive stormwater discharges?

Yes = 1 No = 0

1

D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?

Yes = 1 No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?

Yes = 1 No = 0

1

Total for D 5

Add the points in the boxes above

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

Record the rating on the first page

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

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

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- | | | |
|--|------------|----------|
| <input type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit. | points = 2 | 1 |
| <input checked="" type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient. | points = 1 | |
| <input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin. | points = 1 | |
| <input type="checkbox"/> 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 | |
| <input type="checkbox"/> There are no problems with flooding downstream of the wetland. | points = 0 | |

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

Yes = 2 No = 0

0

Total for D 6

Add the points in the boxes above

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

Record the rating on the first page

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

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

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

H 1.2. Hydroperiods

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

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

H 1.3. Richness of plant species

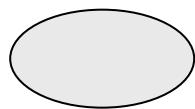
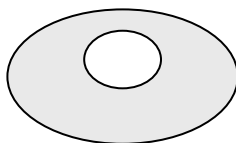
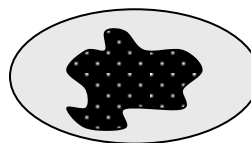
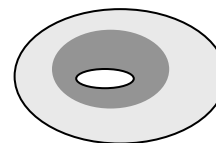
Count the number of plant species in the wetland that cover at least 10 ft².

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

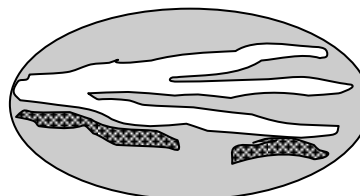
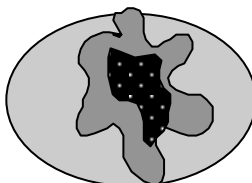
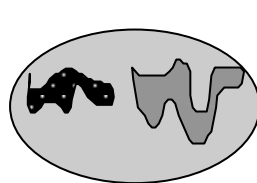
- | | | |
|------------------------------|-------------------|----------|
| If you counted: > 19 species | points = 2 | 1 |
| 5 - 19 species | points = 1 | |
| < 5 species | points = 0 | |

H 1.4. Interspersion of habitats

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

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

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



Wetland name or number **B**

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

| | | |
|--|-----------------------------------|----------|
| H 2.0. Does the landscape have the potential to support the habitat functions of the site? | | |
| H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> % undisturbed habitat <u>22</u> + [(% moderate and low intensity land uses)/2] <u>11</u> = <u>33</u> % If total accessible habitat is: <input type="checkbox"/> > 1/3 (33.3%) of 1 km Polygon points = 3 <input checked="" type="checkbox"/> 20-33% of 1 km Polygon points = 2 <input type="checkbox"/> 10-19% of 1 km Polygon points = 1 <input type="checkbox"/> < 10% of 1 km Polygon points = 0 | | 2 |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> % undisturbed habitat <u>37</u> + [(% moderate and low intensity land uses)/2] <u>23</u> = <u>60</u> % <input checked="" type="checkbox"/> Undisturbed habitat > 50% of Polygon points = 3 <input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2 <input type="checkbox"/> Undisturbed habitat 10-50% and > 3 patches points = 1 <input type="checkbox"/> Undisturbed habitat < 10% of 1 km Polygon points = 0 | | 3 |
| H 2.3. Land use intensity in 1 km Polygon: If <input type="checkbox"/> > 50% of 1 km Polygon is high intensity land use points = (- 2) <input checked="" type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0 | | 0 |
| Total for H 2 | Add the points in the boxes above | 5 |

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

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

Record the rating on the first page

Wetland name or number B

WDFW Priority Habitats

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

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

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

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

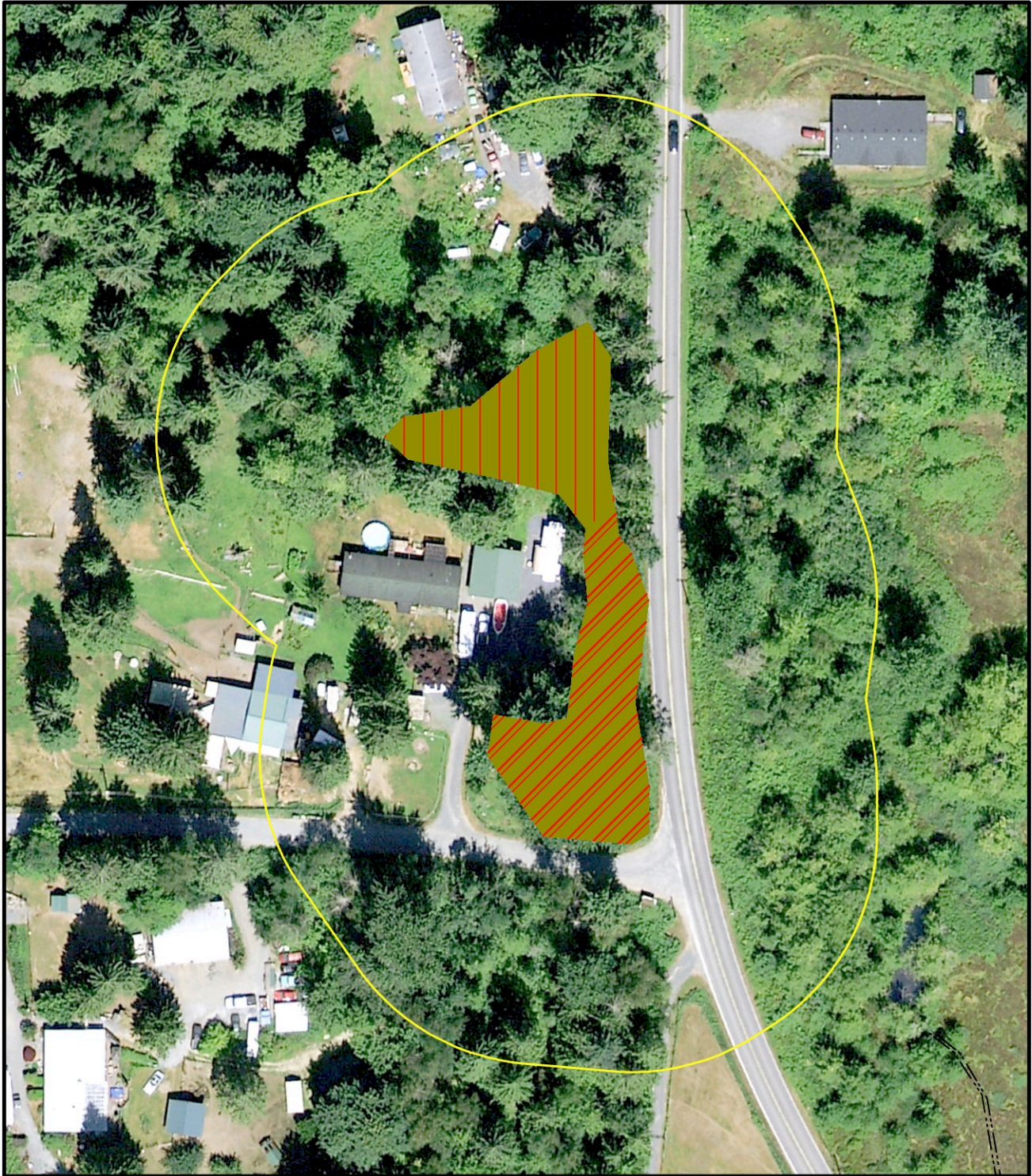
Wetland name or number B**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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





Wetland name or number B

| | |
|---|---|
| <p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</p> <p style="text-align: right;">Yes = Category I No = Not a forested wetland for this section</p> | Cat. I |
| <p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p style="text-align: right;">Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft²)</p> <p style="text-align: right;">Yes = Category I No = Category II</p> | Cat. I Cat. II |
| <p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to SC 6.1 No = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p> | Cat I Cat. II Cat. III Cat. IV |
| <p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p> | N/A |

PUD - BURN RD RESERVOIR
WETLAND RATING FIGURE 1- WETLAND B



LEGEND

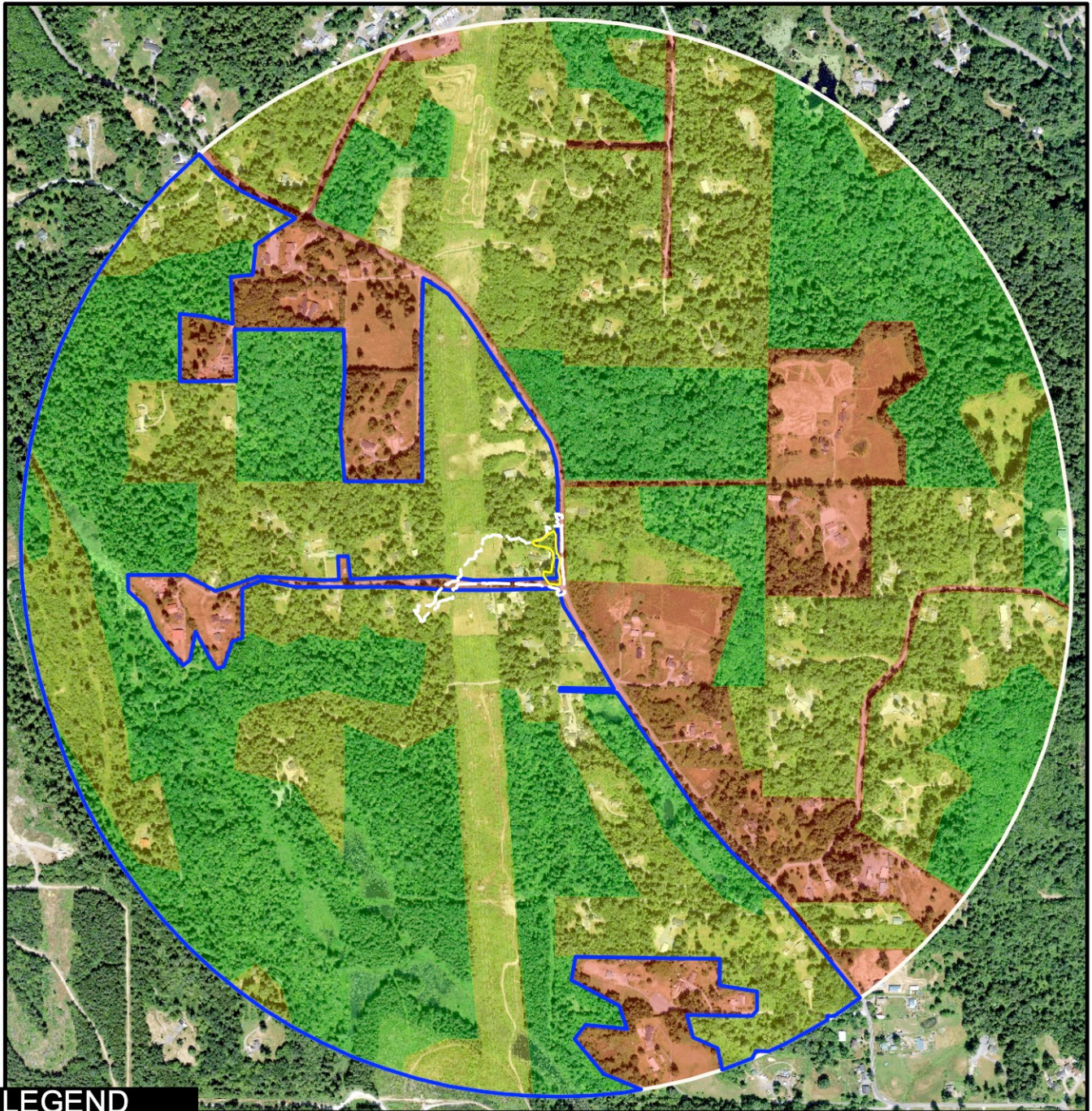
-  FORESTED VEGETATION
-  SATURATED ONLY
-  SEASONALLY FLOODED
-  150' FROM WL BOUNDARY

Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

WETLAND RATING
Wetland B

Figure B-1
WRI Job # 22229
Rated by: AW

PUD - BURN RD RESERVOIR
WETLAND RATING FIGURE 2- WETLAND B



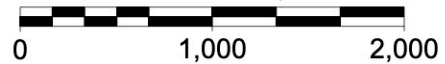
LEGEND

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

**CONTRIBUTING BASIN
AREA RELATIVE TO
WETLAND UNIT IS 9:1**



Scale 1" = 1,000'

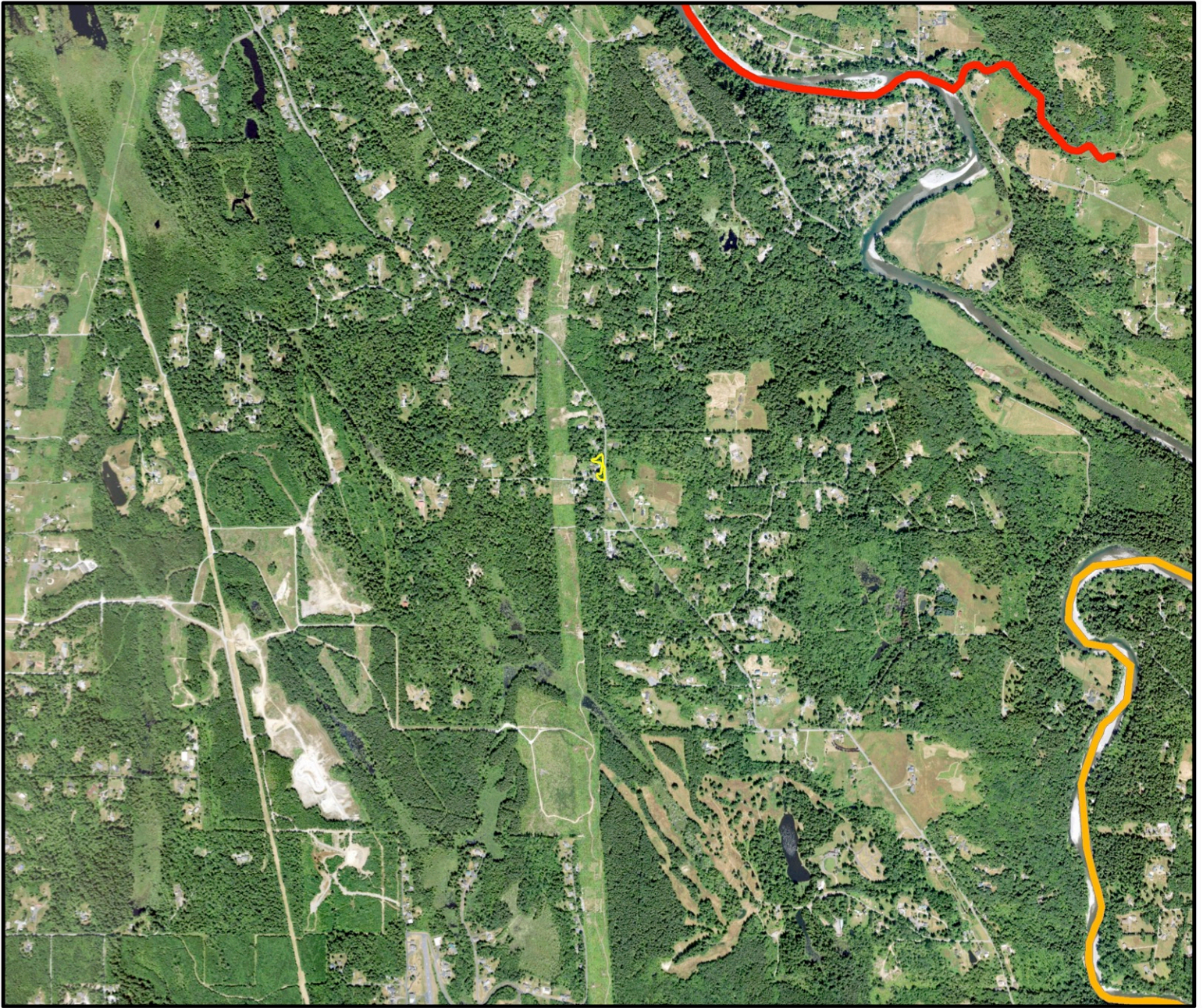


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**WETLAND RATING
Wetland B**

Figure B-2
WRI Job # 22229
Rated by: AW

PUD - BURN RD RESERVOIR
WETLAND RATING FIGURE 3- WETLAND B



LEGEND



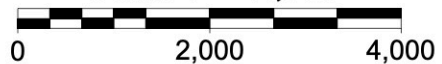
WETLAND



AQUATIC RESOURCES
ON THE 303(d) LIST



Scale 1" = 2,000'



Wetland Resources, Inc.

Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance

9505 19th Avenue S.E. Suite 106 Everett, Washington 98208

Phone: (425) 337-3174

Fax: (425) 337-3045

Email: mailbox@wetlandresources.com

**WETLAND RATING
Wetland B**

Figure B-3
WRI Job # 22229
Rated by: AW

PUD - BURN RD RESERVOIR

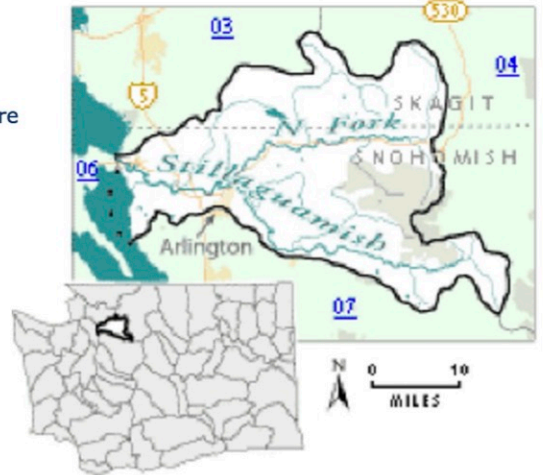
WETLAND RATING FIGURE 4- WETLAND B

WRIA 5: Stillaguamish

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

Counties

- [Skagit](#)
- [Snohomish](#)



| Waterbody Name | Pollutant(s) | Status** | TMDL Lead |
|-------------------------------------|---|---|--|
| Old Stillaguamish Channel | Dissolved Oxygen | On hold | Ralph Svrcek 425-649-7165 |
| Stillaguamish River | Arsenic Dissolved Oxygen Fecal Coliform Mercury pH Temperature | Approved by EPA Has an implementation plan | Ralph Svrcek 425-649-7165 |

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

Wetland name or number C

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland C Date of site visit: 8/31/22

Rated by AW Trained by Ecology? ☒ Yes ☐ No Date of training 6/22

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes? ☐ Y ☒ N

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

Source of base aerial photo/map ESRI, SnoCo

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

1. Category of wetland based on FUNCTIONS

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

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

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

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

| FUNCTION | Improving Water Quality | Hydrologic | Habitat | |
|--------------------------------|--|--|---|--------------|
| Circle the appropriate ratings | | | | |
| Site Potential | H <input type="checkbox"/> <input checked="" type="checkbox"/> L | H <input type="checkbox"/> <input checked="" type="checkbox"/> L | <input checked="" type="checkbox"/> M L | |
| Landscape Potential | <input checked="" type="checkbox"/> H M L | H <input type="checkbox"/> <input checked="" type="checkbox"/> L | <input checked="" type="checkbox"/> H M L | |
| Value | <input checked="" type="checkbox"/> H M L | H <input type="checkbox"/> <input checked="" type="checkbox"/> L | <input checked="" type="checkbox"/> H M L | TOTAL |
| Score Based on Ratings | 8 | 6 | 9 | 23 |

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC | CATEGORY |
|------------------------------------|-------------------------------------|
| Estuarine | I II |
| Wetland of High Conservation Value | I |
| Bog | I |
| Mature Forest | I |
| Old Growth Forest | I |
| Coastal Lagoon | I II |
| Interdunal | I II III IV |
| None of the above | <input checked="" type="checkbox"/> |

Wetland name or number C

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 (<i>can be added to map of hydroperiods</i>) | D 1.1, D 4.1 | 1 |
| Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>) | 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 | 2 |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website) | D 3.1, D 3.2 | 3 |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web) | D 3.3 | 4 |

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

Wetland name or number C

HGM Classification of Wetlands in Western Washington

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

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

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

NO – go to 2

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

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

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

YES – **Freshwater Tidal Fringe**

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

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

NO – go to 3

YES – The wetland class is **Flats**

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

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

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

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

NO – go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

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

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

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

NO – go to 5

YES – The wetland class is **Slope**

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

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

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

 The overbank flooding occurs at least once every 2 years.

Wetland name or number C**NO** – go to 6**YES** – The wetland class is **Riverine****NOTE:** The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

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

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

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

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

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

| HGM classes within the wetland unit being rated | | HGM class to use in rating |
|--|--------------------------|----------------------------|
| Slope + Riverine | <input type="checkbox"/> | Riverine |
| Slope + Depressional | <input type="checkbox"/> | Depressional |
| Slope + Lake Fringe | <input type="checkbox"/> | Lake Fringe |
| Depressional + Riverine along stream within boundary of depression | <input type="checkbox"/> | Depressional |
| Depressional + Lake Fringe | <input type="checkbox"/> | Depressional |
| Riverine + Lake Fringe | <input type="checkbox"/> | Riverine |
| Salt Water Tidal Fringe and any other class of freshwater wetland | <input type="checkbox"/> | Treat as ESTUARINE |

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

Wetland name or number C

| 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: <input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 <input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 <input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 <input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1 | | 2 |
| D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 <input type="checkbox"/> No = 0 | | 0 |
| D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): <input checked="" type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5 <input type="checkbox"/> Wetland has persistent, ungrazed, plants > ½ of area points = 3 <input type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1 <input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0 | | 5 |
| D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> <input checked="" type="checkbox"/> Area seasonally ponded is > ½ total area of wetland points = 4 <input type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland points = 2 <input type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland points = 0 | | 4 |
| Total for D 1 | | 11 |

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

| | | |
|--|--|----------|
| D 2.0. Does the landscape have the potential to support the water quality function of the site? | | |
| D 2.1. Does the wetland unit receive stormwater discharges? | <input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0 | 1 |
| D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? | <input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0 | 1 |
| D 2.3. Are there septic systems within 250 ft of the wetland? | <input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0 | 1 |
| 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 <input type="checkbox"/> No = 0 | 0 |
| Total for D 2 | | 3 |

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 <input type="checkbox"/> No = 0 | 0 |
| D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? | <input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0 | 1 |
| D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? | <input type="checkbox"/> Yes = 2 <input type="checkbox"/> No = 0 | 2 |
| Total for D 3 | | 3 |

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

Wetland name or number C**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:

- | | | |
|---|------------|----------|
| <input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet) | points = 4 | 2 |
| <input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 | |
| <input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch | points = 1 | |
| <input type="checkbox"/> 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.

- | | | |
|--|------------|----------|
| <input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet | points = 7 | 3 |
| <input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet | points = 5 | |
| <input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 | |
| <input type="checkbox"/> The wetland is a "headwater" wetland | points = 3 | |
| <input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water | points = 1 | |
| <input type="checkbox"/> 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.

- | | | |
|--|------------|----------|
| <input checked="" type="checkbox"/> The area of the basin is less than 10 times the area of the unit | points = 5 | 5 |
| <input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit | points = 3 | |
| <input type="checkbox"/> The area of the basin is more than 100 times the area of the unit | points = 0 | |
| <input type="checkbox"/> Entire wetland is in the Flats class | points = 5 | |

Total for D 4

Add the points in the boxes above

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

Record the rating on the first page

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

D 5.1. Does the wetland receive stormwater discharges?

Yes = 1 No = 0

1

D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?

Yes = 1 No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?

Yes = 1 No = 0

0

Total for D 5

Add the points in the boxes above

2**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):

- | | | |
|--|------------|----------|
| <input type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit. | points = 2 | 1 |
| <input checked="" type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient. | points = 1 | |
| <input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin. | points = 1 | |
| <input type="checkbox"/> 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 | |
| <input type="checkbox"/> There are no problems with flooding downstream of the wetland. | points = 0 | |

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

Yes = 2 No = 0

0

Total for D 6

Add the points in the boxes above

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

Record the rating on the first page

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

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

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

H 1.2. Hydroperiods

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

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

H 1.3. Richness of plant species

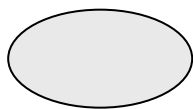
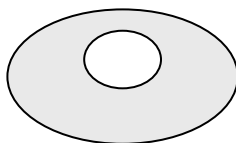
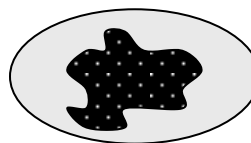
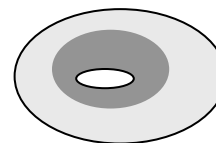
Count the number of plant species in the wetland that cover at least 10 ft².

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

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

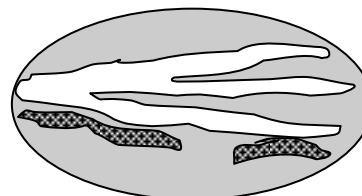
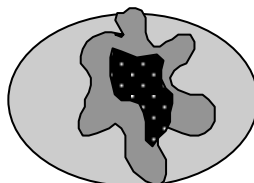
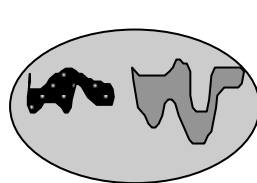
H 1.4. Interspersion of habitats

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

**None = 0 points****Low = 1 point****Moderate = 2 points****3**

All three diagrams
in this row

are **HIGH = 3 points**



Wetland name or number C

| | | |
|---|-----------------------------------|-----------|
| H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). <input checked="" type="checkbox"/> Standing snags (dbh > 4 in) within the wetland <input checked="" type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) <input checked="" type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>) | | 4 |
| Total for H 1 | Add the points in the boxes above | 15 |

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

Record the rating on the first page

| | | |
|--|-----------------------------------|----------|
| H 2.0. Does the landscape have the potential to support the habitat functions of the site? | | |
| H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> % undisturbed habitat <u>13</u> + [(% moderate and low intensity land uses)/2] <u>9</u> = <u>22</u> % If total accessible habitat is: <input type="checkbox"/> > 1/3 (33.3%) of 1 km Polygon points = 3 <input checked="" type="checkbox"/> 20-33% of 1 km Polygon points = 2 <input type="checkbox"/> 10-19% of 1 km Polygon points = 1 <input type="checkbox"/> < 10% of 1 km Polygon points = 0 | | 2 |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> % undisturbed habitat <u>38</u> + [(% moderate and low intensity land uses)/2] <u>22</u> = <u>60</u> % <input checked="" type="checkbox"/> Undisturbed habitat > 50% of Polygon points = 3 <input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2 <input type="checkbox"/> Undisturbed habitat 10-50% and > 3 patches points = 1 <input type="checkbox"/> Undisturbed habitat < 10% of 1 km Polygon points = 0 | | 3 |
| H 2.3. Land use intensity in 1 km Polygon: If <input type="checkbox"/> > 50% of 1 km Polygon is high intensity land use points = (- 2) <input checked="" type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0 | | 0 |
| Total for H 2 | Add the points in the boxes above | 5 |

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

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

Record the rating on the first page

Wetland name or number C

WDFW Priority Habitats

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

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

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

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

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

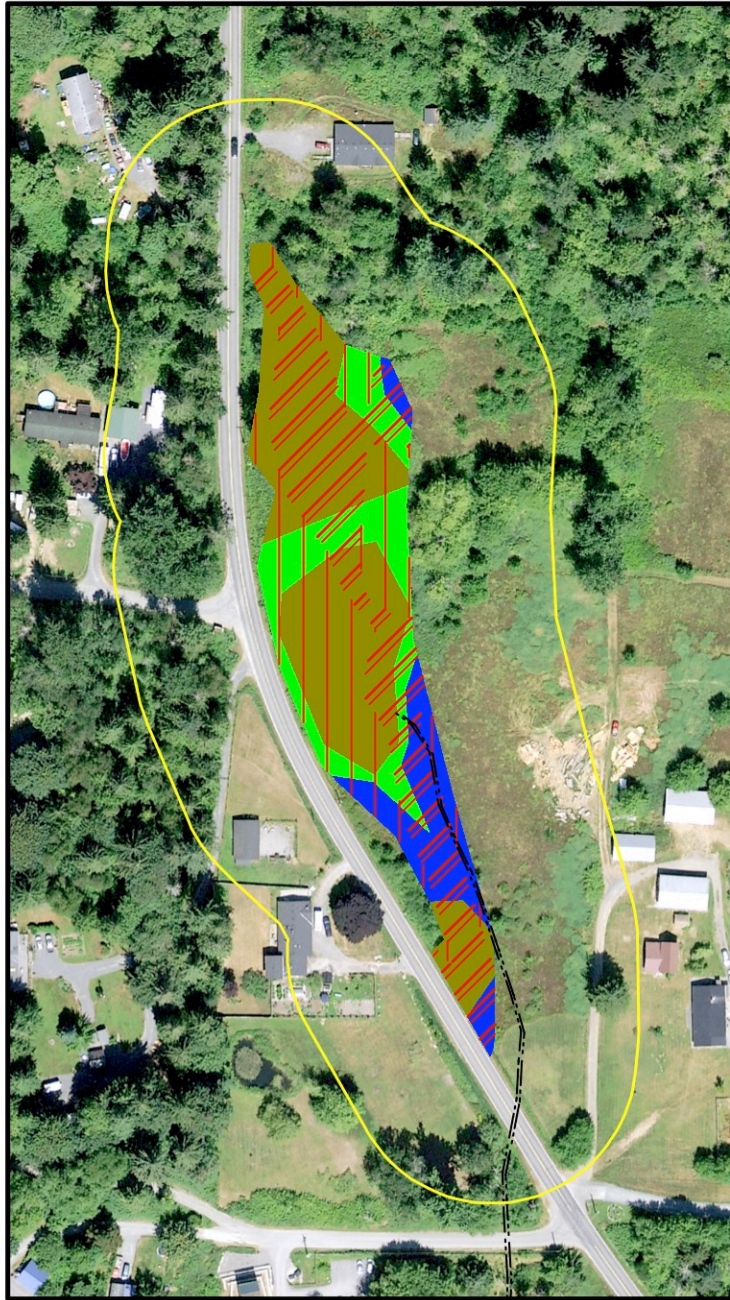
Wetland name or number C

| | |
|---|---|
| <p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</p> <p style="text-align: right;">Yes = Category I No = Not a forested wetland for this section</p> | Cat. I |
| <p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p style="text-align: right;">Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft²)</p> <p style="text-align: right;">Yes = Category I No = Category II</p> | Cat. I Cat. II |
| <p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to SC 6.1 No = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p> | Cat I Cat. II Cat. III Cat. IV |
| <p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p> | N/A |








Wetland name or number _____

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PUD - BURN RD RESERVOIR
WETLAND RATING FIGURE 1- WETLAND C



LEGEND

-  SCRUB-SHRUB
-  EMERGENT VEGETATION
-  FORESTED VEGETATION
-  SATURATED ONLY
-  SEASONALLY FLOODED
-  150' FROM WL BOUNDARY
-  INTERMITTENT STREAM



Scale 1" = 200'

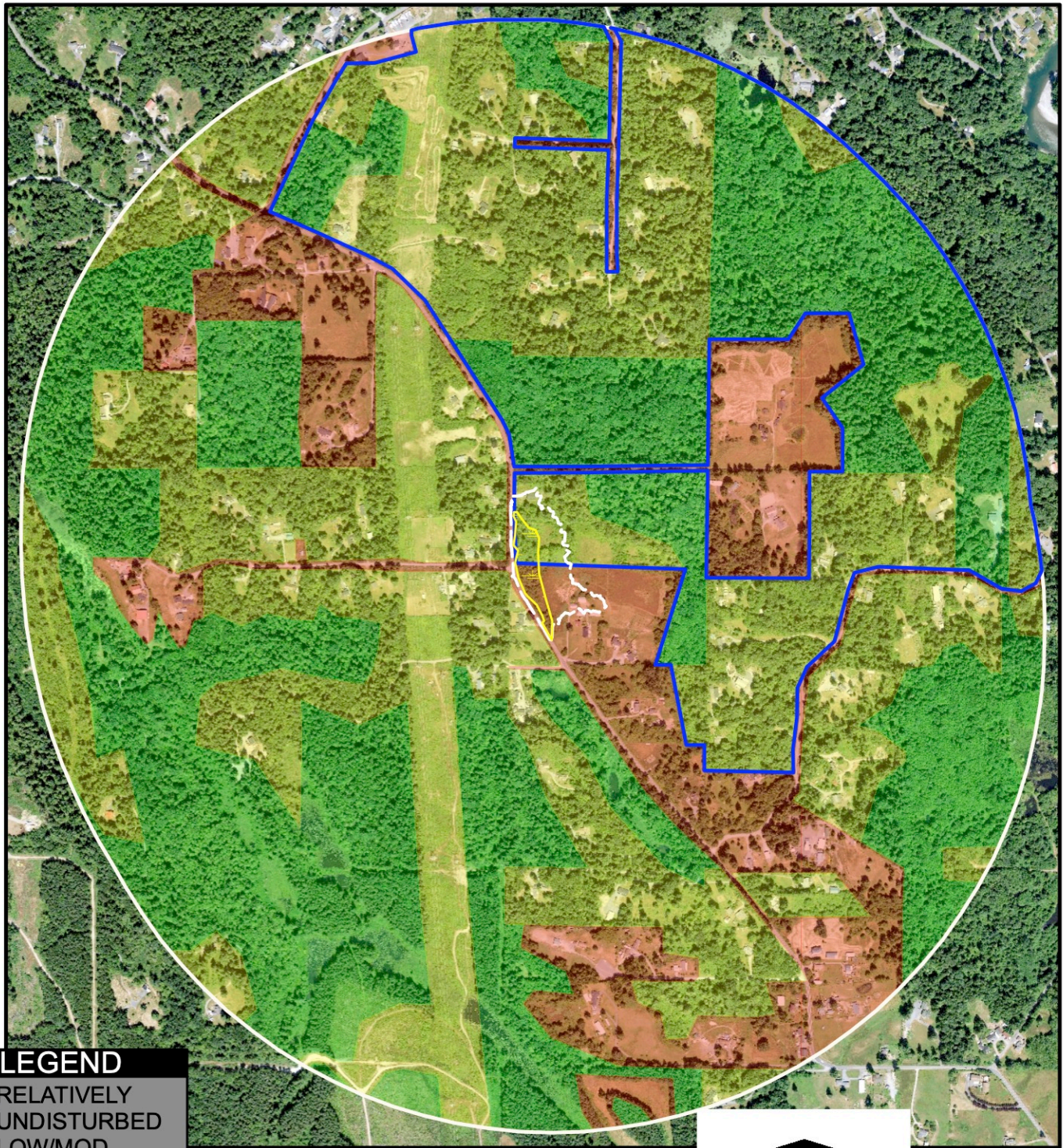


Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

**WETLAND RATING
Wetland C**

Figure C-1
WRI Job # 22229
Rated by: AW

PUD - BURN RD RESERVOIR
WETLAND RATING FIGURE 2- WETLAND C



LEGEND

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

**CONTRIBUTING BASIN
AREA RELATIVE TO
WETLAND UNIT IS 3:1**



Scale 1" = 1,000'

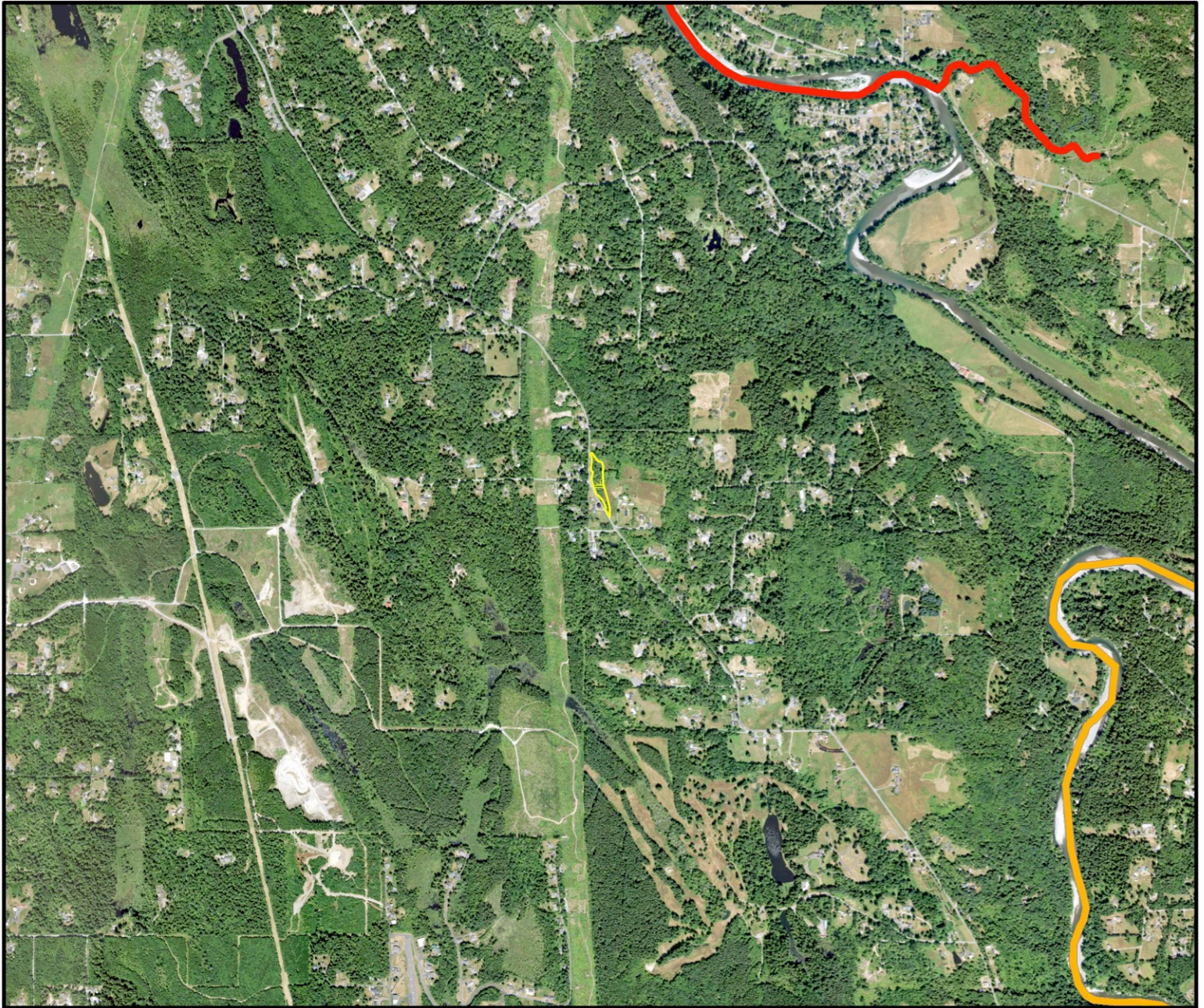


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**WETLAND RATING
Wetland C**

Figure C-2
WRI Job # 22229
Rated by: AW

PUD - BURN RD RESERVOIR
WETLAND RATING FIGURE 3- WETLAND C



LEGEND



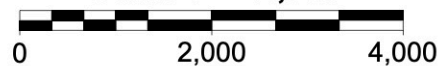
WETLAND



AQUATIC RESOURCES
ON THE 303(d) LIST



Scale 1" = 2,000'



Wetland Resources, Inc.

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**WETLAND RATING
Wetland C**

Figure C-3
WRI Job # 22229
Rated by: AW

PUD - BURN RD RESERVOIR

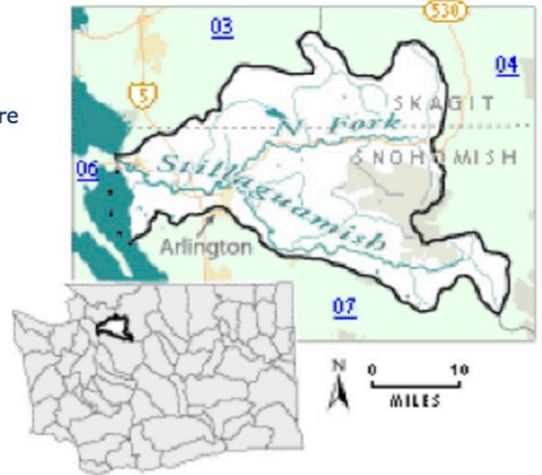
WETLAND RATING FIGURE 4- WETLAND C

WRIA 5: Stillaguamish

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

Counties

- [Skagit](#)
- [Snohomish](#)



| Waterbody Name | Pollutant(s) | Status** | TMDL Lead |
|-------------------------------------|---|---|--|
| Old Stillaguamish Channel | Dissolved Oxygen | On hold | Ralph Svrcek 425-649-7165 |
| Stillaguamish River | Arsenic Dissolved Oxygen Fecal Coliform Mercury pH Temperature | Approved by EPA Has an implementation plan | Ralph Svrcek 425-649-7165 |

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

Wetland name or number D

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland D Date of site visit: 8/31/22

Rated by AW Trained by Ecology? ☒ Yes ☐ No Date of training 6/22

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes? ☐ Y ☒ N

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

Source of base aerial photo/map ESRI, SnoCo

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

1. Category of wetland based on FUNCTIONS

 Category I – Total score = 23 - 27

☒ Category II – Total score = 20 - 22

 Category III – Total score = 16 - 19

 Category IV – Total score = 9 - 15

| FUNCTION | Improving Water Quality | Hydrologic | Habitat | |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-----------|
| Circle the appropriate ratings | | | | |
| Site Potential | H M <input type="checkbox"/> L | H <input type="checkbox"/> M L | H M <input type="checkbox"/> L | |
| Landscape Potential | <input type="checkbox"/> H M L | <input type="checkbox"/> H M L | <input type="checkbox"/> H M L | |
| Value | <input type="checkbox"/> H M L | H <input type="checkbox"/> M L | <input type="checkbox"/> H M L | |
| Score Based on Ratings | 7 | 7 | 7 | 21 |

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC | CATEGORY |
|------------------------------------|-------------------------------------|
| Estuarine | I II |
| Wetland of High Conservation Value | I |
| Bog | I |
| Mature Forest | I |
| Old Growth Forest | I |
| Coastal Lagoon | I II |
| Interdunal | I II III IV |
| None of the above | <input checked="" type="checkbox"/> |

Wetland name or number D

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 | B1 |
| Hydroperiods | D 1.4, H 1.2 | B1 |
| Location of outlet (<i>can be added to map of hydroperiods</i>) | D 1.1, D 4.1 | B1 |
| Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>) | D 2.2, D 5.2 | B1 |
| Map of the contributing basin | D 4.3, D 5.3 | B2 |
| 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 | B2 |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website) | D 3.1, D 3.2 | B3 |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web) | D 3.3 | B4 |

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

Wetland name or number D

HGM Classification of Wetlands in Western Washington

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

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

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

NO – go to 2

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

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

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

YES – **Freshwater Tidal Fringe**

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

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

NO – go to 3

YES – The wetland class is **Flats**

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

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

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

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

NO – go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

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

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

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

NO – go to 5

YES – The wetland class is **Slope**

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

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

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

 The overbank flooding occurs at least once every 2 years.

Wetland name or number D**NO** – go to 6**YES** – The wetland class is **Riverine****NOTE:** The Riverine unit can contain depressions that are filled with water when the river is not flooding

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

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

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

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

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

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

| HGM classes within the wetland unit being rated | | HGM class to use in rating |
|--|--------------------------|----------------------------|
| Slope + Riverine | <input type="checkbox"/> | Riverine |
| Slope + Depressional | <input type="checkbox"/> | Depressional |
| Slope + Lake Fringe | <input type="checkbox"/> | Lake Fringe |
| Depressional + Riverine along stream within boundary of depression | <input type="checkbox"/> | Depressional |
| Depressional + Lake Fringe | <input type="checkbox"/> | Depressional |
| Riverine + Lake Fringe | <input type="checkbox"/> | Riverine |
| Salt Water Tidal Fringe and any other class of freshwater wetland | <input type="checkbox"/> | Treat as ESTUARINE |

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

Wetland name or number D

| 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: <input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 <input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 <input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 <input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1 | 2 | |
| D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0 | 0 | |
| D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): <input type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5 <input type="checkbox"/> Wetland has persistent, ungrazed, plants > ½ of area points = 3 <input checked="" type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1 <input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0 | 1 | |
| D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> <input type="checkbox"/> Area seasonally ponded is > ½ total area of wetland points = 4 <input type="checkbox"/> Area seasonally ponded is > ¼ total area of wetland points = 2 <input checked="" type="checkbox"/> Area seasonally ponded is < ¼ total area of wetland points = 0 | 0 | |
| Total for D 1 | Add the points in the boxes above | 3 |

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

| | | |
|---|--|----------|
| D 2.0. Does the landscape have the potential to support the water quality function of the site? | | |
| D 2.1. Does the wetland unit receive stormwater discharges? | Yes = 1 No = 0 | 1 |
| D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? | Yes = 1 No = 0 | 1 |
| D 2.3. Are there septic systems within 250 ft of the wetland? | Yes = 1 No = 0 | 1 |
| D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source _____ Yes = 1 No = 0 | | 0 |
| Total for D 2 | Add the points in the boxes above | 3 |

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

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

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

| | | |
|--|--|--|
| | | |
|--|--|--|

Wetland name or number D**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:

- | | | |
|---|------------|----------|
| <input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet) | points = 4 | 2 |
| <input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 | |
| <input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch | points = 1 | |
| <input type="checkbox"/> 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.

- | | | |
|--|------------|----------|
| <input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet | points = 7 | 3 |
| <input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet | points = 5 | |
| <input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 | |
| <input type="checkbox"/> The wetland is a "headwater" wetland | points = 3 | |
| <input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water | points = 1 | |
| <input type="checkbox"/> 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.

- | | | |
|---|------------|----------|
| <input type="checkbox"/> The area of the basin is less than 10 times the area of the unit | points = 5 | 3 |
| <input checked="" type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit | points = 3 | |
| <input type="checkbox"/> The area of the basin is more than 100 times the area of the unit | points = 0 | |
| <input type="checkbox"/> Entire wetland is in the Flats class | points = 5 | |

Total for D 4

Add the points in the boxes above

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

Record the rating on the first page

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

D 5.1. Does the wetland receive stormwater discharges?

Yes = 1 No = 0

1

D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?

Yes = 1 No = 0

1

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?

Yes = 1 No = 0

1

Total for D 5

Add the points in the boxes above

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

Record the rating on the first page

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

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

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- | | | |
|--|------------|----------|
| <input type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit. | points = 2 | 1 |
| <input checked="" type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient. | points = 1 | |
| <input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin. | points = 1 | |
| <input type="checkbox"/> 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 | |
| <input type="checkbox"/> There are no problems with flooding downstream of the wetland. | points = 0 | |

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

Yes = 2 No = 0

0

Total for D 6

Add the points in the boxes above

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

Record the rating on the first page

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

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

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

H 1.2. Hydroperiods

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

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

H 1.3. Richness of plant species

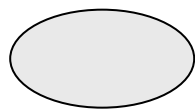
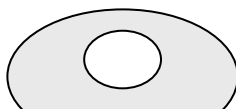
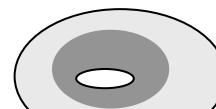
Count the number of plant species in the wetland that cover at least 10 ft².

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

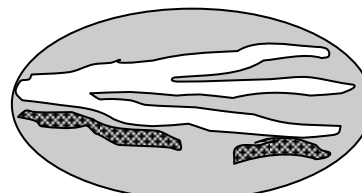
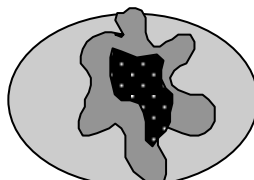
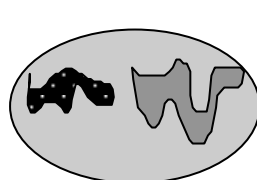
- | | | |
|------------------------------|-------------------|----------|
| If you counted: > 19 species | points = 2 | 1 |
| 5 - 19 species | points = 1 | |
| < 5 species | points = 0 | |

H 1.4. Interspersion of habitats

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

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

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



Wetland name or number D

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

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

Record the rating on the first page

| | | |
|--|-----------------------------------|----------|
| H 2.0. Does the landscape have the potential to support the habitat functions of the site? | | |
| H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> % undisturbed habitat <u>24</u> + [(% moderate and low intensity land uses)/2] <u>12</u> = <u>36</u> % If total accessible habitat is: <input checked="" type="checkbox"/> > 1/3 (33.3%) of 1 km Polygon points = 3 <input type="checkbox"/> 20-33% of 1 km Polygon points = 2 <input type="checkbox"/> 10-19% of 1 km Polygon points = 1 <input type="checkbox"/> < 10% of 1 km Polygon points = 0 | | 3 |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> % undisturbed habitat <u>38</u> + [(% moderate and low intensity land uses)/2] <u>21</u> = <u>59</u> % <input checked="" type="checkbox"/> Undisturbed habitat > 50% of Polygon points = 3 <input type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2 <input type="checkbox"/> Undisturbed habitat 10-50% and > 3 patches points = 1 <input type="checkbox"/> Undisturbed habitat < 10% of 1 km Polygon points = 0 | | 3 |
| H 2.3. Land use intensity in 1 km Polygon: If <input type="checkbox"/> > 50% of 1 km Polygon is high intensity land use points = (- 2) <input checked="" type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0 | | 0 |
| Total for H 2 | Add the points in the boxes above | 6 |

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

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

Record the rating on the first page

Wetland name or number D

WDFW Priority Habitats

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

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

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

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

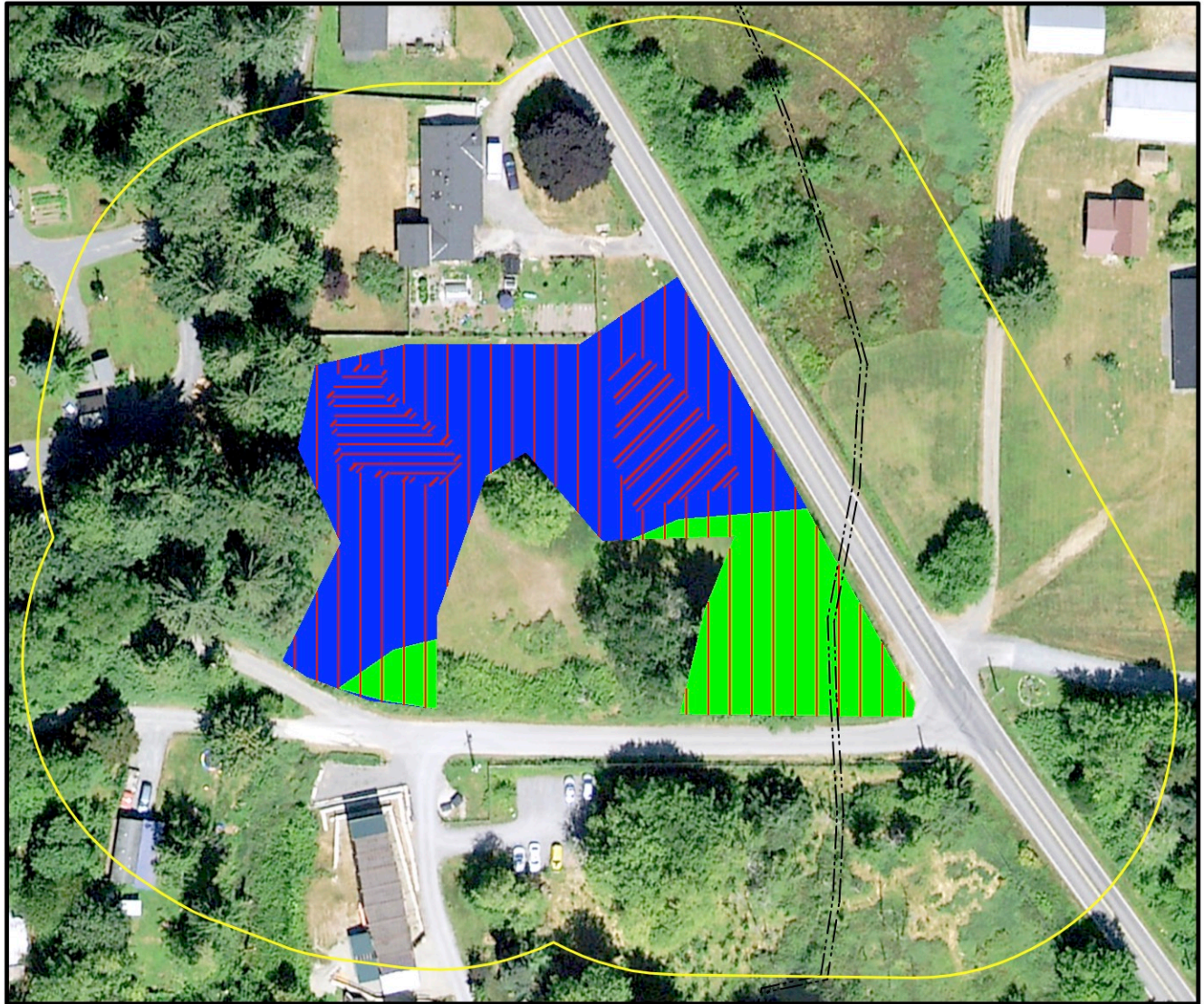
Wetland name or number D**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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








Wetland name or number D

| | |
|---|---|
| <p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</p> <p style="text-align: right;">Yes = Category I No = Not a forested wetland for this section</p> | Cat. I |
| <p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p style="text-align: right;">Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft²)</p> <p style="text-align: right;">Yes = Category I No = Category II</p> | Cat. I Cat. II |
| <p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to SC 6.1 No = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p> | Cat I Cat. II Cat. III Cat. IV |
| <p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p> | N/A |

PUD - BURN RD RESERVOIR
WETLAND RATING FIGURE 1- WETLAND D



LEGEND

-  SCRUB-SHRUB
-  EMERGENT VEGETATION
-  SATURATED ONLY
-  SEASONALLY FLOODED
-  PERMANENTLY FLOODED
-  INTERMITTENT STREAM
-  150' FROM WL BOUNDARY



Wetland Resources, Inc.

Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance

9505 19th Avenue S.E. Suite 106 Everett, Washington 98208

Phone: (425) 337-3174

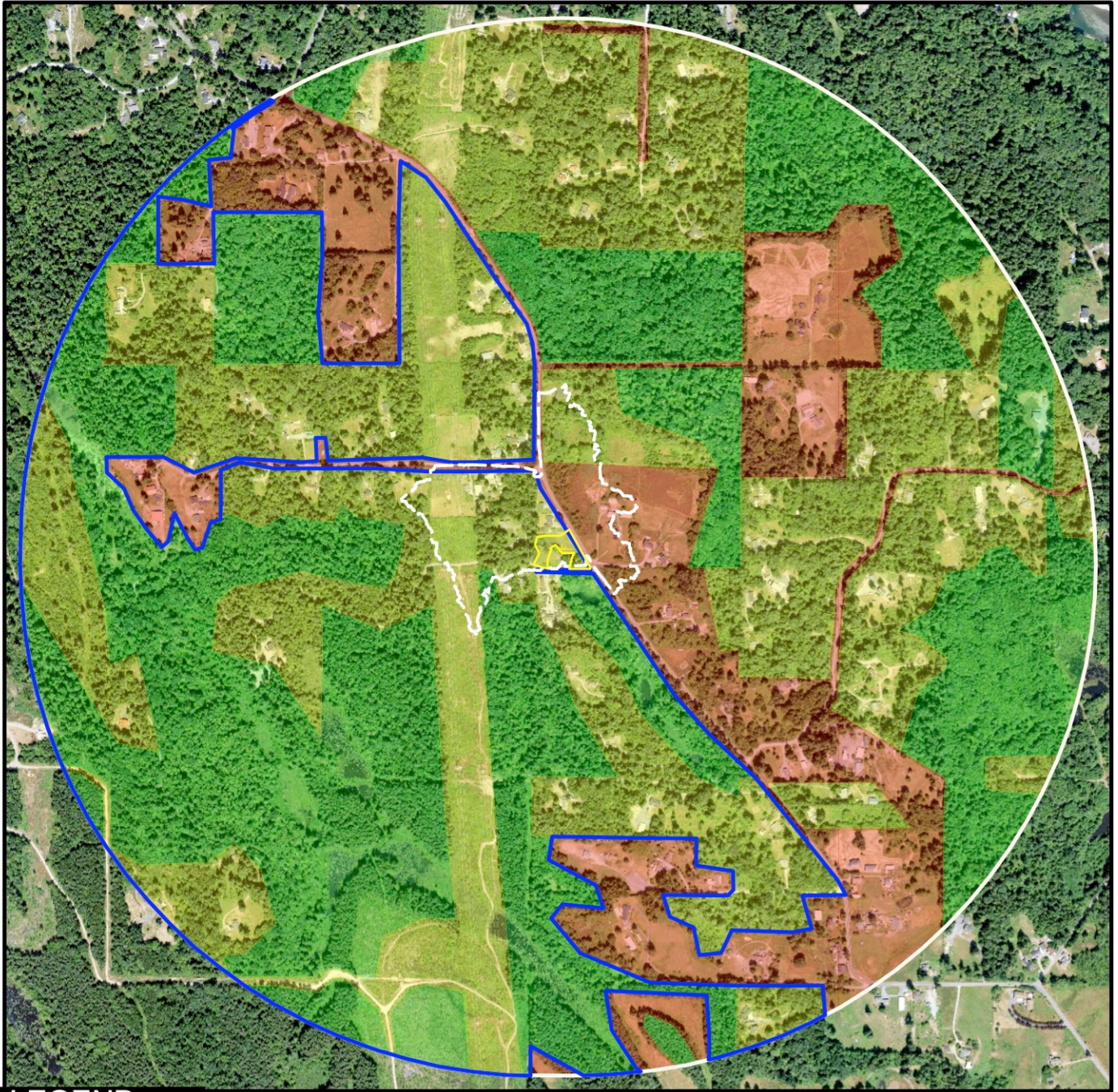
Fax: (425) 337-3045

Email: mailbox@wetlandresources.com

WETLAND RATING
Wetland D

Figure D-1
WRI Job # 22229
Rated by: AW

PUD - BURN RD RESERVOIR
WETLAND RATING FIGURE 2- WETLAND D



LEGEND

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN

**CONTRIBUTING BASIN
AREA RELATIVE TO
WETLAND UNIT IS 23:1**



Scale 1" = 1,000'

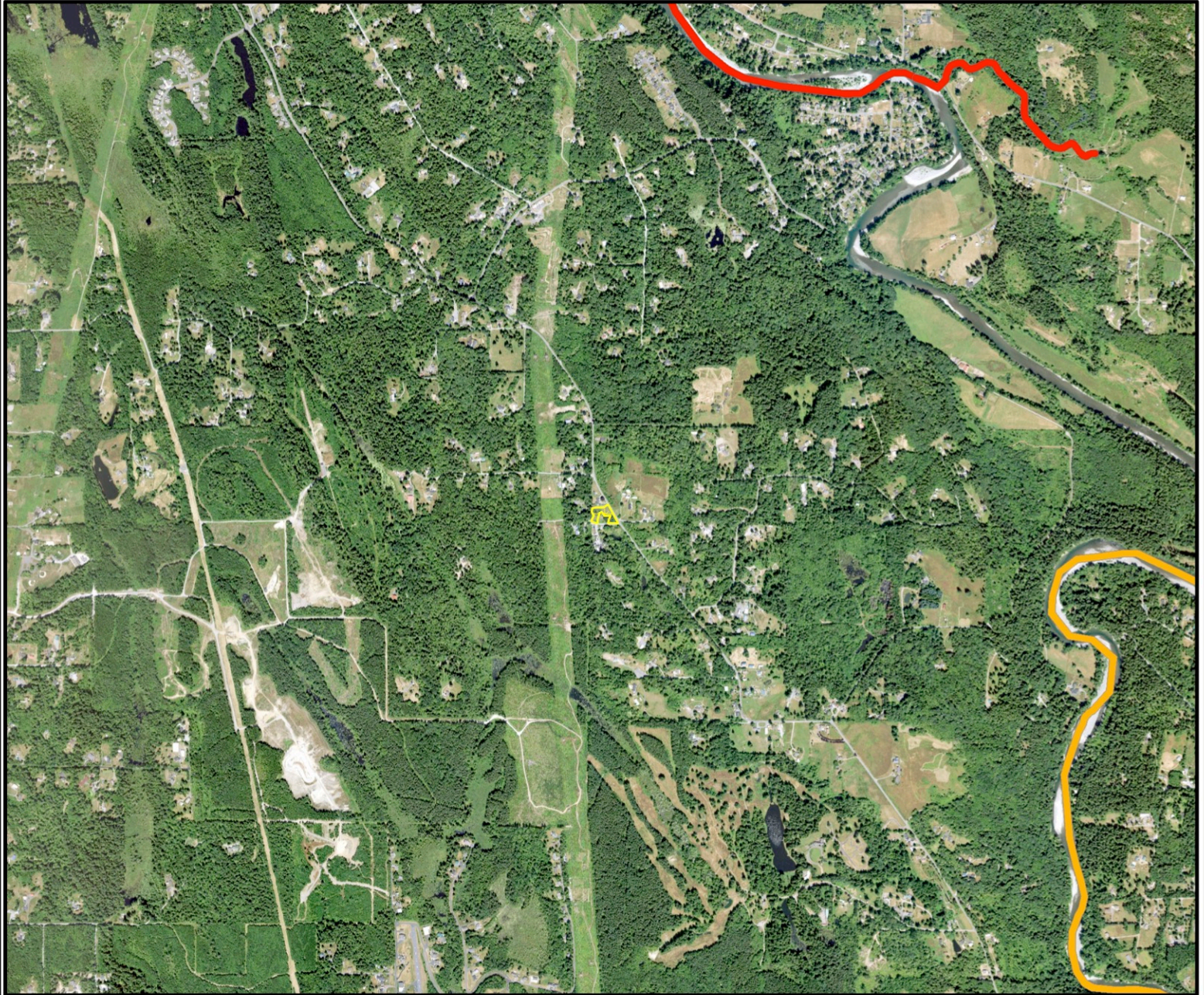


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**WETLAND RATING
Wetland D**

Figure D-2
WRI Job # 22229
Rated by: AW

PUD - BURN RD RESERVOIR
WETLAND RATING FIGURE 3- WETLAND D



LEGEND



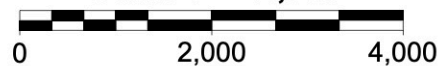
WETLAND



AQUATIC RESOURCES
ON THE 303(d) LIST



Scale 1" = 2,000'



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**WETLAND RATING
Wetland D**

Figure D-3
WRI Job # 22229
Rated by: AW

PUD - BURN RD RESERVOIR

WETLAND RATING FIGURE 4- WETLAND D

WRIA 5: Stillaguamish

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

Counties

- [Skagit](#)
- [Snohomish](#)



| Waterbody Name | Pollutant(s) | Status** | TMDL Lead |
|-------------------------------------|---|---|--|
| Old Stillaguamish Channel | Dissolved Oxygen | On hold | Ralph Svrcek 425-649-7165 |
| Stillaguamish River | Arsenic Dissolved Oxygen Fecal Coliform Mercury pH Temperature | Approved by EPA Has an implementation plan | Ralph Svrcek 425-649-7165 |

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

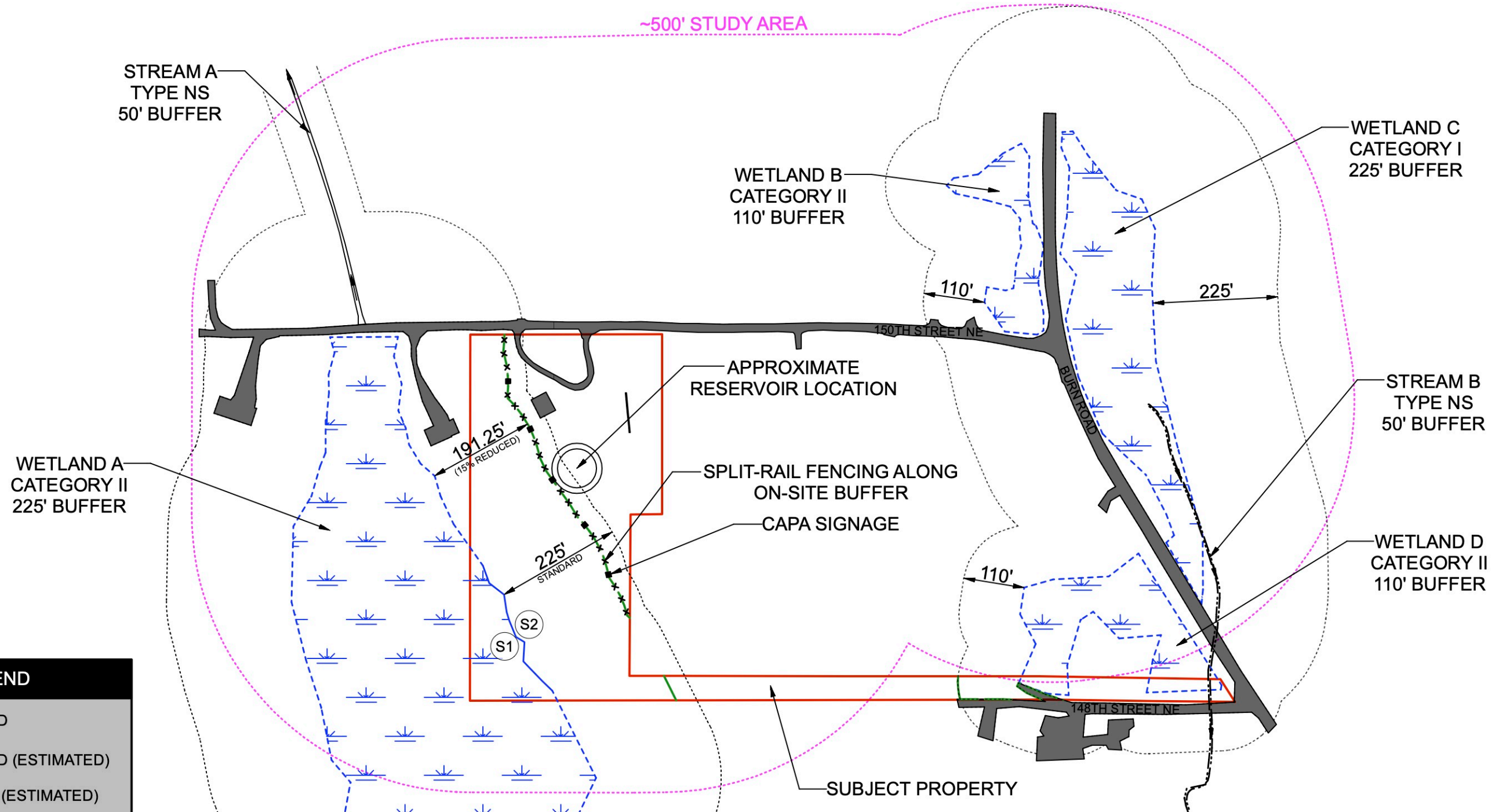
APPENDIX C

CRITICAL AREA STUDY MAP

CRITICAL AREA STUDY MAP

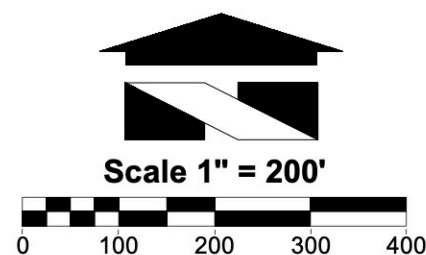
BURN ROAD RESERVIOR

PORTION OF SECTION 32, TOWNSHIP 31N, RANGE 6E, W.M.



LEGEND

- WETLAND
- WETLAND (ESTIMATED)
- STREAM (ESTIMATED)
- STANDARD BUFFER
- EXISTING IMPERVIOUS
- PROPOSED BUFFER
- SPLIT-RAIL FENCING
- CAPA SIGNAGE
- DATA SITES (S1-S2)



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CRITICAL AREA STUDY MAP
BURN ROAD RESERVOIR
SNOHOMISH COUNTY, WA

PUD No. 1 of Snohomish County
Attn: Max Selin
PO Box 1107, MS 02
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Sheet 1/1
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