

Critical Areas Report For

1966 Bishop Road
Chehalis, Washington

Prepared for:
Thomas McCormick
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Estacada, OR 97023

Project # 401.01

Prepared by:
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October 1, 2025

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SIGNATURE PAGE

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned:



Timothy J. Haderly, Principal Scientist/Owner
Loowit Consulting Group, LLC

INTRODUCTION

Purpose and Need

Loowit Consulting Group, LLC (LCG) was retained by Thomas McCormick (Owner) to complete a critical areas investigation and report at 1966 Bishop Road (Subject Site) located southeast of the City of Chehalis, Washington (Figures 1 & 2, Photograph 1).

Mapped critical areas within the subject site prompted the City of Chehalis to request an evaluation of critical areas according to Chehalis Municipal Code (CMC) Title 17 – Division III.

Site Description

The subject site consists of a single tax parcel totaling approximately 25 acres. Site specifics include:

Site Address: See Table 1

Current Owner: Thomas McCormick

Tax Parcel Number: See Table 1

Legal Description: Section 14, Township 13 North, Range 2 West, W.M.

Property Size: Approximately 25 acres

Jurisdiction: City of Chehalis

Table 1: Summary of Subject Site

Parcel	TPN #	Address	Owner	Size (acres)
1	017867005000	1966 Bishop Road	Thomas McCormick	25

The majority of the subject site consists of pasture currently utilized by several horses included a well as a single family residence in the northern portion as well as two barn/equipment buildings located south of the residence (Figure 3).



Photograph 1: Subject site looking south from Bishop Road.



Photograph 2: Looking north from the southern portion of the Subject Site.

Land uses adjacent to the subject site include:

- To the North – Rural residential and agriculture
- To the South – Open space and urban residential
- To the East – Forestry and agriculture
- To the West – Rural residential and agriculture

METHODS

Desktop Review

Prior to visiting the subject site, LCG conducted a desktop review of readily available mapping resources and other pertinent information including:

- Lewis County Web Map (<http://ims.lewiscountya.gov/webmaps/composite2/viewer.htm>). This source provided parcel information, aerial photographs, physical attributes, and other information from the Lewis County Assessor.
- US Fish and Wildlife Service National Wetlands Inventory Wetlands Mapper (<https://www.fws.gov/wetlands/data/mapper.html>). This mapping source depicts wetlands and streams throughout the United States.
- US Department of Agriculture Natural Resources Conservation Service Web Soil Survey (<https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>). This source depicts mapped soils including hydric soils throughout the United States.
- Washington Department of Natural Resources Forest Practices Application Mapping Tool (<https://fpamt.dnr.wa.gov/default.aspx>). This mapping source depicts streams and wetlands in Washington State.
- Washington Department of Fish and Wildlife Salmonscape (<http://apps.wdfw.wa.gov/salmandscape/map.html>). This mapping source depicts streams and fish distribution in Washington State.
- Washington Department of Fish and Wildlife Priority Habitat and Species (<http://apps.wdfw.wa.gov/phsontheweb/>). This mapping source depicts priority habitats and species throughout Washington State.

State Regulations

Wetlands are regulated by Washington Department of Ecology (Ecology) under the Water Pollution Control Act and the Shoreline Management Act. The State Environmental Policy Act (SEPA) process is also used to identify potential wetland-related concerns early in the permitting process. All proposed direct and identified indirect impacts to wetlands are reviewed and approved/denied by Ecology using the regulations previously listed.

Streams are regulated by Washington Department of Fish and Wildlife under the State Hydraulic Code, Chapter 77.55 Revised Code of Washington. Projects involving activities within,

over, or beneath jurisdictional streams are subject to the Hydraulic Project Approval (HPA) permitting process administered by WDFW.

Federal Regulations

Wetlands and streams are regulated as “waters of the United States” under Section 404 of the Clean Water Act. Section 404 regulations are administered by the US Army Corps of Engineers (USACE).

Local Regulations

Wetlands, streams, and other critical areas are regulated by Chehalis Municipal Code (CMC) Title 17 – Division III.

Field Investigations

On July 30, 2025, LCG visited the subject site to collect information in the Subject Site. Conditions at the site were considered normal because vegetation was intact, no recent soil grading was observed, and no recent ditching was observed. Weather conditions at the time of the site investigation consisted of clear skies with a high of 89°F and 0.0 inches of rain the previous 24 hours. Recorded climatological history from the Chehalis Airport two weeks prior to visiting the site was characterized with high temperatures ranging from 66.3 to 93.8°F and low temperatures ranging from 44.1 to 56.2°F. Total recorded precipitation two weeks prior to the site visit (July 16 – 29) was recorded at 0.0 inches (Table 2, Appendix C).

Table 2: Weather Data at Chehalis Airport, Washington.

Date	Minimum Temp (Deg F)	Maximum Temp (Deg F)	Total Precipitation (in)
7/16/2025	52.9	93.8	0
7/17/2025	49.9	85.4	0
7/18/2025	51.8	71.7	0
7/19/2025	49.8	72.3	0
7/20/2025	48.2	66.3	0
7/21/2025	49	74.3	0
7/22/2025	56.2	76.7	0
7/23/2025	51.8	83.9	0
7/24/2025	50.9	76.2	0
7/25/2025	49.7	71.7	0
7/26/2025	45.6	69.9	0
7/27/2025	44.1	75.7	0
7/28/2025	44.7	82.1	0
7/29/2025	46.8	87.7	0
		Total:	0
7/30/2025	50.5	85.9	0

Data from Agweathernet

Site investigation work tasks included:

- Documentation of current site conditions
- Documentation of adjacent land uses
- Delineation of critical areas

Wetlands were investigated according to methods outlined in the 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)*. Data documenting vegetation, soils, and hydrology were collected and used to determine wetland and uplands at the site (Appendix A).

Vegetation

Vegetation at the site is primarily pasture grasses and forbs with a few scattered Douglas fir and Oregon ash trees. Table 3 summarizes vegetation observed at the subject site.

Table 3: Vegetation Observed

Scientific Name	Common Name	Wetland Indicator Code
<i>Agrostis gigantea</i>	Redtop	FAC
<i>Alopecurus pratensis</i>	Meadow Foxtail	FAC
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	FACU
<i>Carex athrostachya</i>	Slender Beak Sedge	FACW
<i>Carex obnupta</i>	Slough Sedge	OBL
<i>Cornus sericea</i>	Red Osier Dogwood	FACW
<i>Crataegus monogyna</i>	Common Hawthorn	FAC
<i>Dactylis glomerata</i>	Orchard Grass	FACU
<i>Eleocharis obtusa</i>	Spikerush	OBL
<i>Frangula purshiana</i>	Cascara	FAC
<i>Fraxinus latifolia</i>	Oregon Ash	FACW
<i>Juncus effusus</i>	Sofrush	FACW
<i>Holcus lanatus</i>	Velvet Grass	FAC
<i>Leontodon saxatilis</i>	Hairy Hawkbit	FACU
<i>Leucanthemum vulgare</i>	Oxeye Daisy	FACU
<i>Lolium arundinaceum</i>	Tall Fescue	FAC
<i>Lotus corniculatus</i>	Birdsfoot Trefoil	FAC
<i>Malus fusca</i>	Western Crabapple	FACW
<i>Phalaris arundinacea</i>	Reed Canary Grass	FACW
<i>Poa pratensis</i>	Kentucky Bluegrass	FAC
<i>Populus balsamifera</i>	Black Cottonwood	FAC
<i>Ranunculus repens</i>	Western Buffercup	FAC
<i>Rubus armeniacus</i>	Himalayan Blackberry	FAC
<i>Rubus ursinus</i>	Trailing Blackberry	FACU
<i>Rumex acetosella</i>	Sorrel	FACU

<i>Schedonorus arundinaceus</i>	Tall Fescue	FAC
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Wetland Indicator Code

OBL = Obligate (Almost always occur in wetlands)

FACW = Facultative Wetland (Usually occur in wetlands, but may occur in non-wetlands)

FAC = Facultative (Occur in wetlands and non-wetlands)

FACU = Facultative Upland (Usually occur in non-wetlands, but may occur in wetlands)

UPL = Obligate Upland (Almost never occur in wetlands)

Soils

According to the US Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey for Lewis County, soils within the Subject Site are Lacamas silt loam, Prather silty clay loam, and Scamman silty clay loam. These soils are common in the local area. On-site soil is summarized in Table 4 and Figure 4.

Table 4: Subject Site Soil Summary.

Soil #	Soil Name	Slope %
118	Lacamas silt loam	0-3
167	Prather silty clay loam	0-5
193	Scamman silty clay loam	0-5

Historic land disturbance activities including fill placement, agricultural activities, and general grading may have altered natural soil conditions at the Subject Site resulting in soils that may be somewhat different than those mapped by NRCS.

Hydrology

The Subject site is located on a nearly level floodplain of the Newaukum River, a Type S (Shorelines) water body, which meanders the valley floor to the south and west of the subject site. A mapped stream immediately south of the Subject Site conveys water from the east to the west eventually discharging to the Newaukum River.

Wetlands

The US Fish and Wildlife Service National Wetlands Inventory (NWI) Map (Figure 5) depicts mapped emergent wetlands in the south and to the west and east of the Subject Site. LCG's site investigation found conditions to be different than depicted on the NWI map.

Streams

The Washington Department of Natural Resources Forest Practices Application Mapping Tool (FPAMT) depicts an unnamed Type F stream immediately north of the Subject Site. LCG's site investigation found conditions to be somewhat different than depicted on the stream map.



Photograph 3: Non-jurisdictional agricultural ditch within the central portion of the subject site.

Mapping

Wetland, roads, property boundaries, topography, and other site features were derived from public mapping sources, with additional points mapped with handheld portable GPS equipment with an implied horizontal accuracy of ± 1 foot.

RESULTS and DISCUSSION

Wetlands

Three jurisdictional wetlands were located within and/or adjacent to the Subject Site (Figures 3A & 3B).

Wetland “A” is rated a Category IV wetland (15 points) with a moderate water quality score of 6 points, a low hydrologic score of 5 points, and a low habitat score of 4 points. This depressional wetland is located within an actively farmed pasture area that is routinely plowed, seeded, and grazed.

Wetland “B” is rated a Category IV wetland (15 points) with a moderate water quality score of 6 points, a low hydrologic score of 5 points, and a low habitat score of 4 points. This depressional wetland is located within an actively farmed pasture area that is routinely plowed, seeded, and grazed.

Wetland "C" is rated a Category III wetland (17 points) with a moderate water quality score of 7 points, a low hydrologic score of 5 points, and a low habitat score of 5 points. This depressional wetland is located within an active pasture area with a grove of Oregon ash trees and a few scattered native shrubs.

Wetlands were rated according to the *Washington State Wetland Rating System for Western Washington, 2014 Update* (Table 4 & Appendix B).



Photograph 4: Wetland C with the Type F stream to the far left.

Wetland Buffers

According to City of Chehalis Municipal Code (CMC) Chapter 17.23 – Wetlands, City of Chehalis requires buffers on jurisdictional wetlands depending on category and habitat score. A Category III wetland with a low habitat score of 5 points requires an 80-foot wide buffer. Category IV wetlands with a habitat low score of 4 points require a 50 foot wide buffer. Table 4 summarizes wetland buffer requirements for the three wetlands at the subject site based on *CMC 17.23.030, Table C – Buffer Dimensions*.

Table 4: Wetland Summary.

Wetland ID	HGM ^A	Wetland Rating System ^B				Category ^B	Standard Buffer ^C (ft)
		Improving Water Quality	Hydrologic	Habitat	Total		
Wetland A	Depressional	6	5	4	15	IV	50
Wetland B	Depressional	6	5	4	15	IV	50

Wetland C	Depressional	7	5	5	17	III	80
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^A Hydrogeomorphic Classification

^B Washington State Wetland Rating System for Western Washington: 2014 Update

^C CMC 17.23.030, Table C – Buffer Dimensions

Streams

LCG identified a single Type F stream along the southern property boundary (Figures 3A & 3B). CMC 17.25.030 considers this stream a Type F-A stream and requires a 150 foot wide buffer. An excavated and maintained agricultural drainage bisects the central portion of the subject site (Figure 3A & 3B). LCG determined that this conveyance is not a jurisdictional stream and would not be subjected to buffers.

CONCLUSIONS

Three jurisdictional wetlands (Wetlands “A”, “B”, & “C”) were located within and/or adjacent to the Subject Site (Figures 3A & 3B). The City of Chehalis requires a minimum 50 foot wide buffer on Wetlands “A” & “B” and an 80 foot buffer on Wetland “C”. The Type F stream, located along the southern parcel boundary, requires a 150 foot wide buffer.

LIMITATIONS

The findings and conclusions contained in this document were based on information and data available at the time this document was prepared and evaluated using standard Best Professional Judgment. LCG assumes no responsibility for the accuracy of information and data generated by others. Local, State, and Federal regulatory agencies may or may not agree with the findings and conclusions contained in this document.

REFERENCES

Anderson, P., Meyer, S., Olson, P., Stockdale, E. 2016. Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State. Shorelands and Environmental Assistance Program Washington State Department of Ecology Olympia, Washington. Publication no. 16-06-029. October 2016 Final Review.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. U.S. Army Corps of Engineers Waterways Experiment Station. Technical Report Y-87-1. January 1987.

Hruby, T. 2014. Washington State Wetland Rating System for Western Washington: 2014 Update. (Publication #14-06-029). Olympia, WA: Washington Department of Ecology.

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U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

US Department of Agriculture Natural Resources Conservation Service Web Soil Survey (<https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>).

US Fish and Wildlife Service National Wetlands Inventory Wetlands Mapper (<https://www.fws.gov/wetlands/data/mapper.html>).

Washington Department of Natural Resources Forest Practices Application Mapping Tool (<https://fpamt.dnr.wa.gov/default.aspx>).

Washington Department of Fish and Wildlife Salmonscape (<http://apps.wdfw.wa.gov/salmonscape/map.html>).

Washington Department of Fish and Wildlife Priority Habitat and Species (<http://apps.wdfw.wa.gov/phsontheweb/>).

FIGURES

Figure 1 – Site Location Map

Figure 2 – Parcel Map

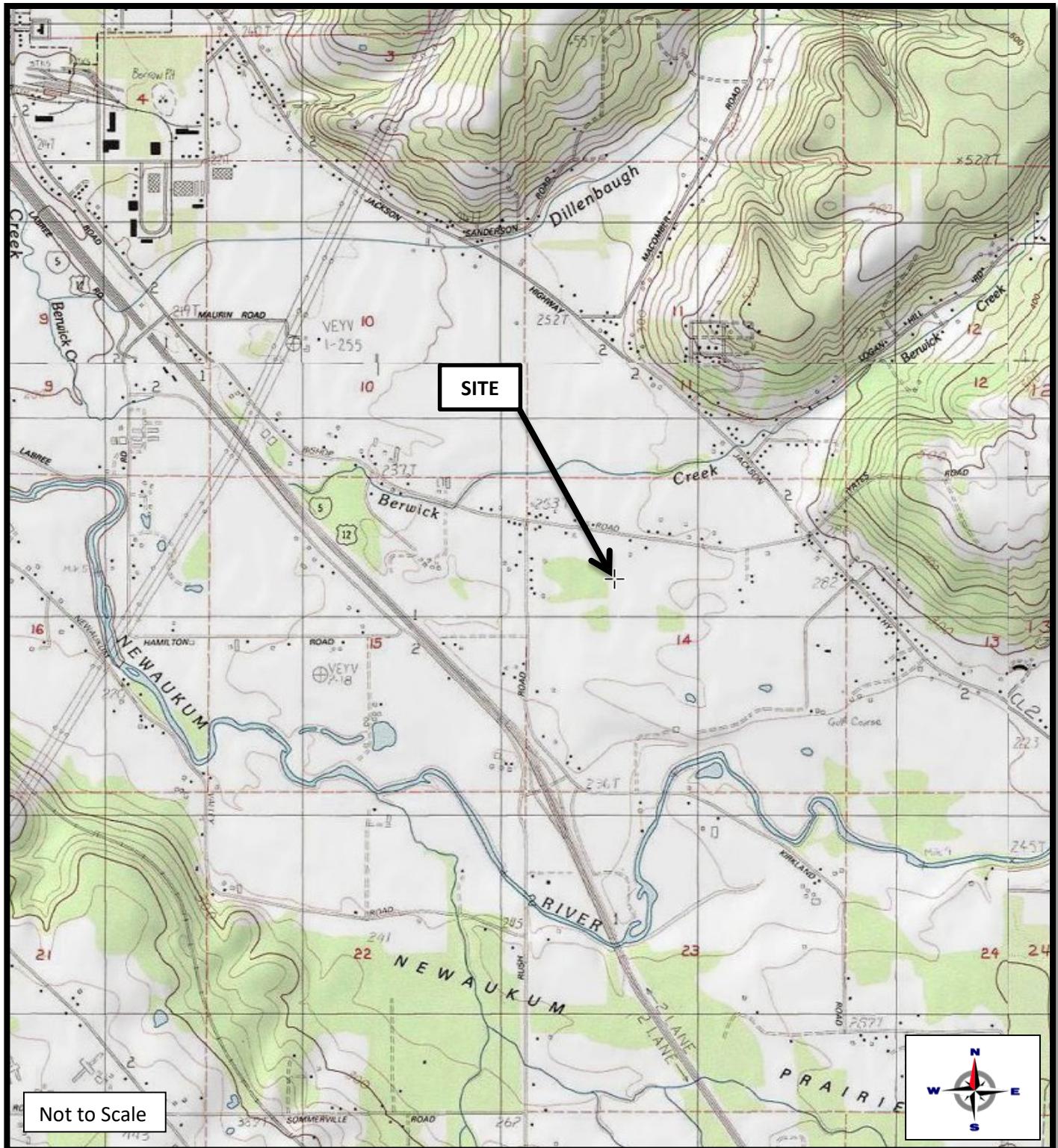
Figure 3A – Subject Parcel Overview

Figure 3B – Subject Parcel Overview

Figure 4 – Soils Map

Figure 5 – Stream Map

Figure 6 - National Wetlands inventory Map

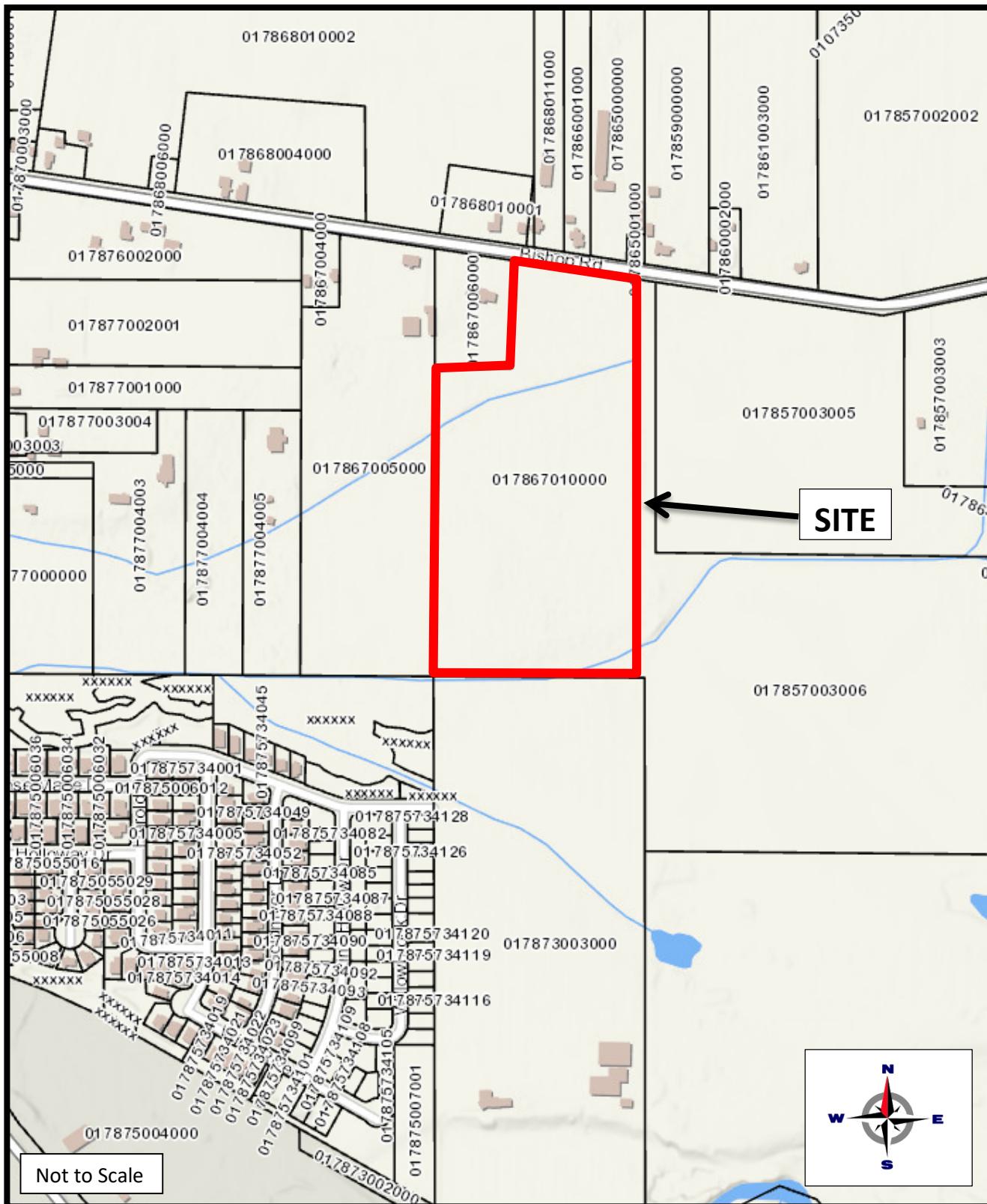


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Figure 1

Site Location Map

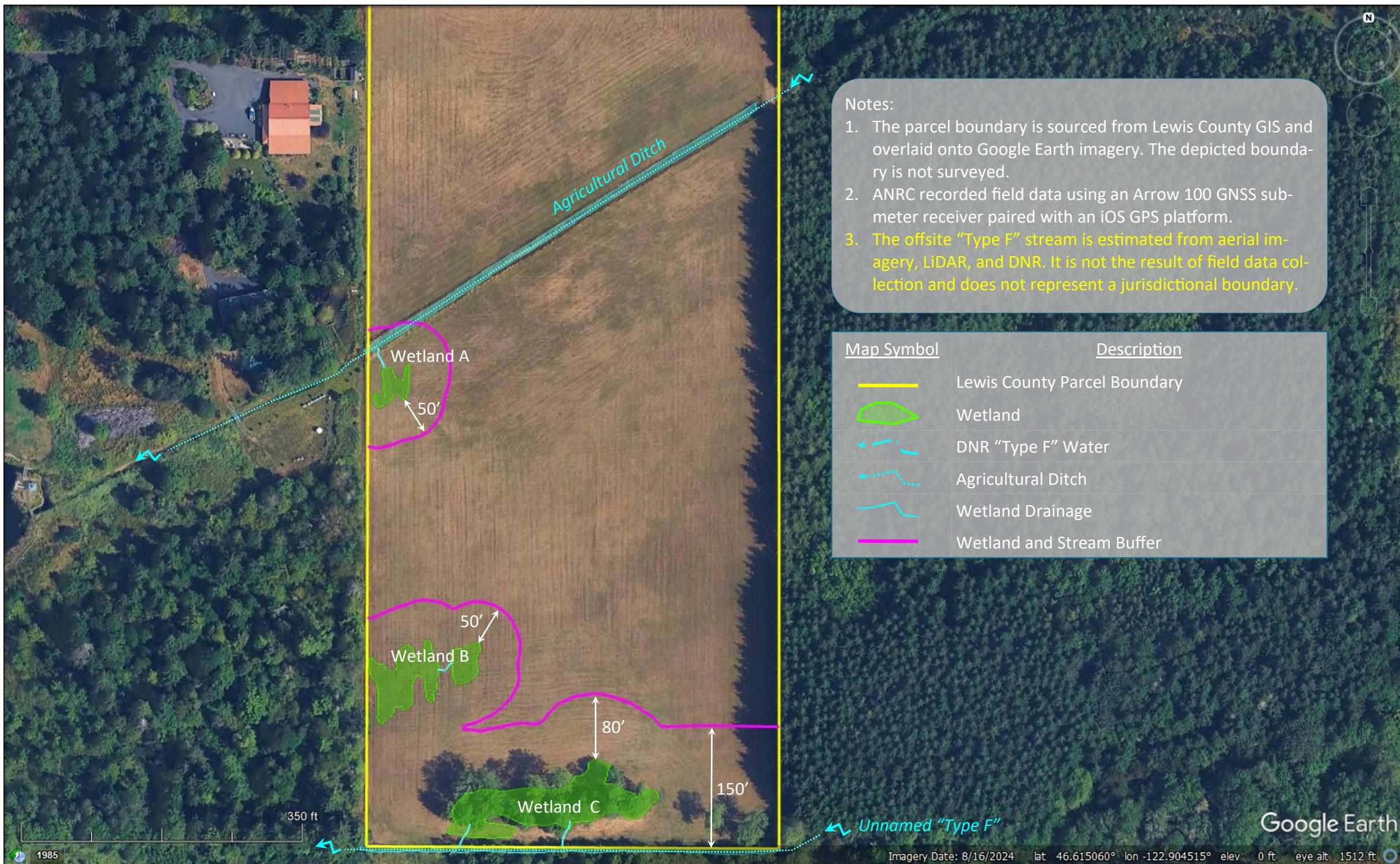
1966 Bishop Road



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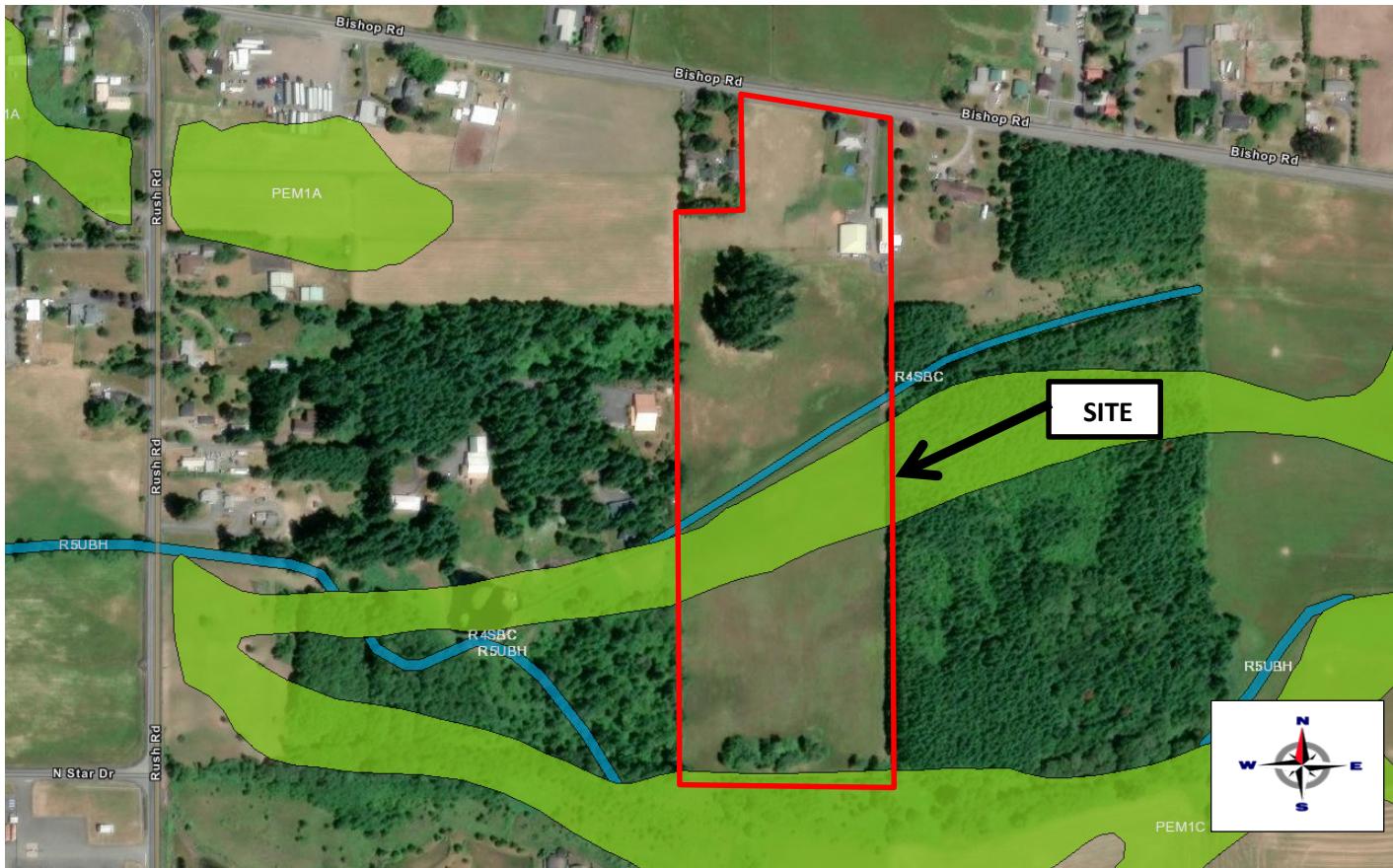
Figure 2 Parcel Map 1966 Bishop Road







Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
118	Lacamas silt loam, 0 to 3 percent slopes	7.2	38.4%
167	Prather silty clay loam, 0 to 5 percent slopes	5.0	26.9%
193	Scamman silty clay loam, 0 to 5 percent slopes	6.5	34.8%
Totals for Area of Interest		18.8	100.0%



Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

■ Freshwater Emergent Wetland

■ Freshwater Forested/Shrub Wetland

■ Freshwater Pond

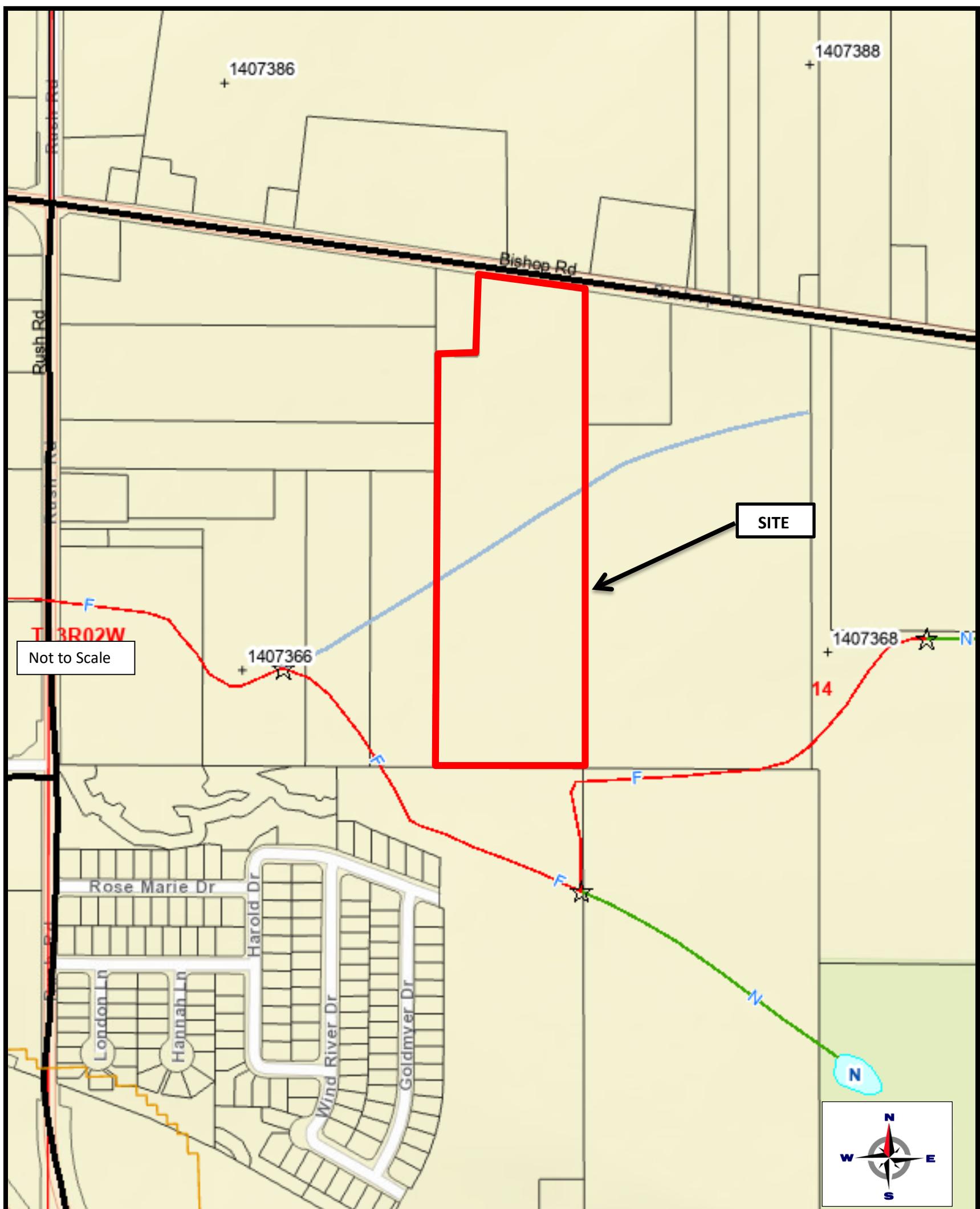
■ Lake

■ Other

■ Riverine

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Figure 5
National Wetlands Inventory Map
1966 Bishop Road



APPENDIX A - DATA FORMS

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA

Sampling Point: TP-1

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Local relief (concave, convex, none): none

Slope (%): 0-3

Subregion (LRR): LRR A, MLRA 4A

Lat: 46.61263286

Long: -122.901441

Datum: NAD83

Soil Map Unit Name: 118—Lacamas silt loam, 0 to 3 percent slopes

NWI classification: non-wetland

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 type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.					Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
2.					Total Number of Dominant Species Across All Strata: 3 (B)
3.					Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)
4.					
					=Total Cover
Sapling/Shrub Stratum	(Plot size: 15)				
1.					
2.					
3.					
4.					
5.					
					=Total Cover
Herb Stratum	(Plot size: 10)				
1. <i>Holcus lanatus</i>	10	No	FAC		Total % Cover of: 0 x 1 = 0
2. <i>Anthoxanthum odoratum</i>	40	Yes	FACU		FACW species 10 x 2 = 20
3. <i>Leontodon saxatilis</i>	20	Yes	FACU		FAC species 30 x 3 = 90
4. <i>Phalaris arundinacea</i>	10	No	FACW		FACU species 60 x 4 = 240
5. <i>Agrostis gigantea</i>	20	Yes	FAC		UPL species 0 x 5 = 0
6.					Column Totals: 100 (A) 350 (B)
7.					Prevalence Index = B/A = 3.50
8.					
9.					
10.					
11.					
					=Total Cover
Woody Vine Stratum	(Plot size: 10)				
1.					
2.					
					=Total Cover
% Bare Ground in Herb Stratum					
Hydrophytic Vegetation Indicators:					
1 - Rapid Test for Hydrophytic Vegetation					
2 - Dominance Test is >50%					
3 - Prevalence Index is $\leq 3.0^1$					
4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)					
5 - Wetland Non-Vascular Plants ¹					
Problematic Hydrophytic Vegetation ¹ (Explain)					
¹ Indicators of hydroic soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA

Sampling Point: TP-2

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Local relief (concave, convex, none): concave

Slope (%): 0-3

Subregion (LRR): LRR A, MLRA 4A

Lat: 46.61261685

Long: -122.9015627

Datum: NAD83

Soil Map Unit Name: 118—Lacamas silt loam, 0 to 3 percent slopes

NWI classification: non-wetland

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 No _____
Hydric Soil Present? Yes No _____
Wetland Hydrology Present? Yes No _____

**Is the Sampled Area
within a Wetland?**

Yes No _____

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30) Absolute % Cover Dominant Species? Indicator Status
 1. Fraxinus latifolia 35 Yes FACW
 2. _____
 3. _____
 4. _____
 _____ =Total Cover

Sapling/Shrub Stratum (Plot size: 15) Absolute % Cover Dominant Species? Indicator Status
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____
 _____ =Total Cover

Herb Stratum (Plot size: 10) Absolute % Cover Dominant Species? Indicator Status
 1. Phalaris arundinacea 15 Yes FACW
 2. Anthoxanthum odoratum 15 Yes FACU
 3. Holcus lanatus 15 Yes FAC
 4. Agrostis gigantea 15 Yes FAC
 5. Eleocharis obtusa 15 Yes OBL
 6. Alopecurus pratensis 15 Yes FAC
 7. Poa pratensis 10 No FAC
 8. _____
 9. _____
 10. _____
 11. _____
 _____ =Total Cover

Woody Vine Stratum (Plot size: 10) Absolute % Cover Dominant Species? Indicator Status
 1. _____
 2. _____
 _____ =Total Cover

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 15	x 1 = 15
FACW species 50	x 2 = 100
FAC species 55	x 3 = 165
FACU species 15	x 4 = 60
UPL species 0	x 5 = 0
Column Totals: 135 (A)	340 (B)
Prevalence Index = B/A = 2.52	

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is $\leq 3.0^1$
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants¹
- Problematic Hydrophytic Vegetation¹ (Explain)

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

**Hydrophytic
Vegetation
Present?** Yes No _____

Remarks:

SOIL

Sampling Point: TP-2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/1	100						
6-9	10YR 4/1	93	10YR 6/8	7	C	M	Loamy/Clayey	Prominent redox concentrations
9-16	10YR 5/1	85	10YR 4/6	15	C	M	Loamy/Clayey	Prominent redox concentrations

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 Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D, G)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" 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"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G)	<input type="checkbox"/> Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 2 cm Muck (A10) (LRR A, E)
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR D)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 checked="" type="checkbox"/> Oxidized Rhizospheres on 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)

<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> 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:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA

Sampling Point: TP-3

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Local relief (concave, convex, none): none

Slope (%): 0-3

Subregion (LRR): LRR A, MLRA 4A

Lat: 46.61271155

Long: -122.9023064

Datum: NAD83

Soil Map Unit Name: 118—Lacamas silt loam, 0 to 3 percent slopes

NWI classification: non-wetland

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 type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.					Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
2.					Total Number of Dominant Species Across All Strata: 4 (B)
3.					Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)
4.					
					=Total Cover
Sapling/Shrub Stratum	(Plot size: 15)				
1.					
2.					
3.					
4.					
5.					
					=Total Cover
Herb Stratum	(Plot size: 10)				
1. <i>Anthoxanthum odoratum</i>	25	Yes	FACU		Total % Cover of: Multiply by:
2. <i>Leontodon saxatilis</i>	10	No	FACU	OBL species 0 x 1 = 0	FACW species 0 x 2 = 0
3. <i>Agrostis gigantea</i>	25	Yes	FAC	FAC species 45 x 3 = 135	FACU species 55 x 4 = 220
4. <i>Dactylis glomerata</i>	20	Yes	FACU	UPL species 0 x 5 = 0	Column Totals: 100 (A) 355 (B)
5. <i>Holcus lanatus</i>	20	Yes	FAC	Prevalence Index = B/A = 3.55	
6.					
7.					
8.					
9.					
10.					
11.					
					=Total Cover
Woody Vine Stratum	(Plot size: 10)				
1.					
2.					
					=Total Cover
% Bare Ground in Herb Stratum					
Hydrophytic Vegetation Indicators:					
1 - Rapid Test for Hydrophytic Vegetation					
2 - Dominance Test is >50%					
3 - Prevalence Index is $\leq 3.0^1$					
4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)					
5 - Wetland Non-Vascular Plants ¹					
Problematic Hydrophytic Vegetation ¹ (Explain)					
¹ Indicators of hydroic soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Remarks:					

SOIL

Sampling Point: TP-3

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

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.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- 1 cm Muck (A9) **(LRR D, G)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) **(except MLRA 1)**
- Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**LRR A, E**)
- Iron-Manganese Masses (F12) (**LRR D**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
High Water Table (A2)	
Saturation (A3)	Salt Crust (B11)
Water Marks (B1)	Aquatic Invertebrates (B13)
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)
Drift Deposits (B3)	Oxidized Rhizospheres on Living Roots (C3)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)
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 X Depth (inches):
Water Table Present? Yes No X Depth (inches):
Saturation Present? Yes No X Depth (inches):

Wetland Hydrology Present? Yes No X

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

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA

Sampling Point: TP-4

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Local relief (concave, convex, none): concave

Slope (%): 0-3

Subregion (LRR): LRR A, MLRA 4A

Lat: 46.61263525

Long: -122.9023282

Datum: NAD83

Soil Map Unit Name: 118—Lacamas silt loam, 0 to 3 percent slopes

NWI classification: non-wetland

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 No _____
Hydric Soil Present? Yes No _____
Wetland Hydrology Present? Yes No _____

**Is the Sampled Area
within a Wetland?**

Yes No _____

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30) Absolute % Cover Dominant Species? Indicator Status
1. *Fraxinus latifolia* 60 Yes FACW
2. _____
3. _____
4. _____

60 =Total Cover

Sapling/Shrub Stratum (Plot size: 15) Absolute % Cover Dominant Species? Indicator Status
1. *Cornus sericea* 15 Yes FACW
2. *Malus fusca* 5 No FACW
3. *Frangula purshiana* 5 No FAC
4. *Crataegus monogyna* 5 No FAC
5. *Fraxinus latifolia* 15 Yes FACW

45 =Total Cover

Herb Stratum (Plot size: 10) Absolute % Cover Dominant Species? Indicator Status
1. *Anthoxanthum odoratum* 10 No FACU
2. *Poa pratensis* 10 No FAC
3. *Carex obnupta* 70 Yes OBL
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____

90 =Total Cover

Woody Vine Stratum (Plot size: 10) Absolute % Cover Dominant Species? Indicator Status
1. *Rubus ursinus* 5 Yes FACU
2. _____

5 =Total Cover

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: Multiply by:
OBL species 70 x 1 = 70
FACW species 95 x 2 = 190
FAC species 20 x 3 = 60
FACU species 15 x 4 = 60
UPL species 0 x 5 = 0

Column Totals: 200 (A) 380 (B)

Prevalence Index = B/A = 1.90

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is $\leq 3.0^1$
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants¹
- Problematic Hydrophytic Vegetation¹ (Explain)

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

**Hydrophytic
Vegetation
Present?** Yes No _____

Remarks:

SOIL

Sampling Point: TP-4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 4/2	99	7.5YR 6/8	1	C	M	Loamy/Clayey	Prominent redox concentrations
2-16	10YR 4/1	93	7.5YR 6/8	7	C	M	Loamy/Clayey	Prominent redox concentrations

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 Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D, G)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" 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"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G)	<input type="checkbox"/> Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 2 cm Muck (A10) (LRR A, E)
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR D)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 checked="" type="checkbox"/> Oxidized Rhizospheres on 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)

<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> 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:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA

Sampling Point: TP-5

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Local relief (concave, convex, none): none

Slope (%): 0-3

Subregion (LRR): LRR A, MLRA 4A

Lat: 46.61260348

Long: -122.9028093

Datum: NAD83

Soil Map Unit Name: 118—Lacamas silt loam, 0 to 3 percent slopes

NWI classification: non-wetland

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 type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.					Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
2.					Total Number of Dominant Species Across All Strata: 3 (B)
3.					Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)
4.					
					=Total Cover
Sapling/Shrub Stratum	(Plot size: 15)				
1.					
2.					
3.					
4.					
5.					
					=Total Cover
Herb Stratum	(Plot size: 10)				
1. <i>Lotus corniculatus</i>	5	No	FAC		Total % Cover of: 0 x 1 = 0
2. <i>Leontodon saxatilis</i>	15	No	FACU		FACW species 0 x 2 = 0
3. <i>Anthoxanthum odoratum</i>	40	Yes	FACU		FAC species 45 x 3 = 135
4. <i>Agrostis gigantea</i>	40	Yes	FAC		FACU species 70 x 4 = 280
5.					UPL species 0 x 5 = 0
6.					Column Totals: 115 (A) 415 (B)
7.					Prevalence Index = B/A = 3.61
8.					
9.					
10.					
11.					
					=Total Cover
Woody Vine Stratum	(Plot size: 10)				
1. <i>Rubus ursinus</i>	15	Yes	FACU		
2.					
					=Total Cover
% Bare Ground in Herb Stratum					
Hydrophytic Vegetation Indicators:					
1 - Rapid Test for Hydrophytic Vegetation					
2 - Dominance Test is >50%					
3 - Prevalence Index is $\leq 3.0^1$					
4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)					
5 - Wetland Non-Vascular Plants ¹					
Problematic Hydrophytic Vegetation ¹ (Explain)					
¹ Indicators of hydroic soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA

Sampling Point: TP-6

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Local relief (concave, convex, none): concave

Slope (%): 0-5

Subregion (LRR): LRR A, MLRA 4A

Lat: 46.61312476

Long: -122.9027418

Datum: NAD83

Soil Map Unit Name: 193—Scamman silty clay loam, 0 to 5 percent slopes

NWI classification: non-wetland

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 _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:			

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
1. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: 3 (B)
2. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
=Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: 15)				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 5 x 1 = 5 FACW species 0 x 2 = 0 FAC species 65 x 3 = 195 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 70 (A) 200 (B) Prevalence Index = B/A = 2.86
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover				
<u>Herb Stratum</u> (Plot size: 10)				Hydrophytic Vegetation Indicators:
1. <i>Carex obnupta</i>	5	No	OBL	1 - Rapid Test for Hydrophytic Vegetation
2. <i>Ranunculus repens</i>	5	No	FAC	X 2 - Dominance Test is >50%
3. <i>Agrostis gigantea</i>	20	Yes	FAC	X 3 - Prevalence Index is ≤3.0 ¹
4. <i>Lolium arundinaceum</i>	20	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. <i>Poa pratensis</i>	20	Yes	FAC	5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____	Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
=Total Cover				
<u>Woody Vine Stratum</u> (Plot size: 10)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
=Total Cover				
% Bare Ground in Herb Stratum 30				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks:				

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA

Sampling Point: TP-7

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Local relief (concave, convex, none): none

Slope (%): 0-5

Subregion (LRR): LRR A, MLRA 4A

Lat: 46.61317181

Long: -122.9025332

Datum: NAD83

Soil Map Unit Name: 193—Scamman silty clay loam, 0 to 5 percent slopes

NWI classification: non-wetland

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 type="checkbox"/> No <input checked="" 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:

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.					Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
2.					Total Number of Dominant Species Across All Strata: 4 (B)
3.					Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)
4.					
					=Total Cover
Sapling/Shrub Stratum	(Plot size: 15)				
1.					
2.					
3.					
4.					
5.					
					=Total Cover
Herb Stratum	(Plot size: 10)				
1. <i>Anthoxanthum odoratum</i>	30	Yes	FACU		Total % Cover of: 0 x 1 = 0
2. <i>Leontodon saxatilis</i>	25	Yes	FACU		FACW species 0 x 2 = 0
3. <i>Holcus lanatus</i>	10	No	FAC		FAC species 40 x 3 = 120
4. <i>Rumex acetosella</i>	5	No	FACU		FACU species 65 x 4 = 260
5. <i>Lolium arundinaceum</i>	30	Yes	FAC		UPL species 0 x 5 = 0
6.					Column Totals: 105 (A) 380 (B)
7.					Prevalence Index = B/A = 3.62
8.					
9.					
10.					
11.					
					=Total Cover
Woody Vine Stratum	(Plot size: 10)				
1. <i>Rubus ursinus</i>	5	Yes	FACU		
2.					
					=Total Cover
% Bare Ground in Herb Stratum					
Hydrophytic Vegetation Indicators:					
1 - Rapid Test for Hydrophytic Vegetation					
2 - Dominance Test is >50%					
3 - Prevalence Index is $\leq 3.0^1$					
4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)					
5 - Wetland Non-Vascular Plants ¹					
Problematic Hydrophytic Vegetation ¹ (Explain)					
¹ Indicators of hydroic soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA

Sampling Point: TP-8

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Local relief (concave, convex, none): concave

Slope (%): 0-5

Subregion (LRR): LRR A, MLRA 4A

Lat: 46.61310096

Long: -122.9024436

Datum: NAD83

Soil Map Unit Name: 193—Scamman silty clay loam, 0 to 5 percent slopes

NWI classification: non-wetland

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 No _____
Hydric Soil Present? Yes No _____
Wetland Hydrology Present? Yes No _____

**Is the Sampled Area
within a Wetland?**

Yes No _____

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30) Absolute % Cover Dominant Species? Indicator Status
1. _____ _____ _____
2. _____ _____ _____
3. _____ _____ _____
4. _____ _____ _____
=Total Cover

Dominance Test worksheet:

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

Sapling/Shrub Stratum (Plot size: 15) Absolute % Cover Dominant Species? Indicator Status
1. _____ _____ _____
2. _____ _____ _____
3. _____ _____ _____
4. _____ _____ _____
5. _____ _____ _____
=Total Cover

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Herb Stratum (Plot size: 10) Absolute % Cover Dominant Species? Indicator Status
1. *Lolium arundinaceum* 20 Yes FAC
2. *Phalaris arundinacea* 65 Yes FACW
3. _____ _____ _____
4. _____ _____ _____
5. _____ _____ _____
=Total Cover

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 65	x 2 = 130
FAC species 20	x 3 = 60
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 85 (A)	190 (B)
Prevalence Index = B/A = 2.24	

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is $\leq 3.0^1$
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants¹
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Woody Vine Stratum (Plot size: 10) Absolute % Cover Dominant Species? Indicator Status
1. _____ _____ _____
2. _____ _____ _____
=Total Cover

**Hydrophytic
Vegetation
Present?**

Yes No _____

Remarks:

SOIL

Sampling Point: TP-8

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

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.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- 1 cm Muck (A9) **(LRR D, G)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) **(except MLRA 1)**
- Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**LRR A, E**)
- Iron-Manganese Masses (F12) (**LRR D**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
High Water Table (A2)	
Saturation (A3)	Salt Crust (B11)
<input checked="" type="checkbox"/> Water Marks (B1)	Aquatic Invertebrates (B13)
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)
Drift Deposits (B3)	Oxidized Rhizospheres on Living Roots (C3)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)
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 X Depth (inches):
Water Table Present? Yes No X Depth (inches):
Saturation Present? Yes No X Depth (inches):

Wetland Hydrology Present? Yes No

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

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA Sampling Point: TP-9

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Subregion (LRR): LRR A, MLRA 4A Lat: 46.61306382

Long: -122.9023015

Datum: NAD83

Soil Map Unit Name: 193—Scamman silty clay loam, 0 to 5 percent slopes

NWI classification: non-wetland

Are climatic / hydrologic conditions on the site typical for this time of year?

(If no, explain in Remarks.)

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

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, impoundments, and any other features of the site.

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

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u> X </u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u> X </u>
Hydric Soil Present?	Yes <u> </u>	No <u> X </u>		
Wetland Hydrology Present?	Yes <u> </u>	No <u> X </u>		

VEGETATION – Use scientific names of plants.

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA

Sampling Point: TP-10

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Local relief (concave, convex, none): concave

Slope (%): 0-3

Subregion (LRR): LRR A, MLRA 4A

Lat: 46.61402122

Long: -122.9027906

Datum: NAD83

Soil Map Unit Name: 118—Lacamas silt loam, 0 to 3 percent slopes

NWI classification: PEM1C

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 No _____
Hydric Soil Present? Yes No _____
Wetland Hydrology Present? Yes No _____

**Is the Sampled Area
within a Wetland?**

Yes No _____

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30) Absolute % Cover Dominant Species? Indicator Status
 1. _____ _____ _____
 2. _____ _____ _____
 3. _____ _____ _____
 4. _____ _____ _____
 _____ =Total Cover

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)

Sapling/Shrub Stratum (Plot size: 15) Absolute % Cover Dominant Species? Indicator Status
 1. _____ _____ _____
 2. _____ _____ _____
 3. _____ _____ _____
 4. _____ _____ _____
 5. _____ _____ _____
 _____ =Total Cover

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 15	x 2 = 30
FAC species 50	x 3 = 150
FACU species 20	x 4 = 80
UPL species 0	x 5 = 0
Column Totals: 85 (A)	260 (B)
Prevalence Index = B/A = 3.06	

Herb Stratum (Plot size: 10) Absolute % Cover Dominant Species? Indicator Status
 1. *Lolium arundinaceum* 25 Yes FAC
 2. *Agrostis gigantea* 25 Yes FAC
 3. *Anthoxanthum odoratum* 20 Yes FACU
 4. *Carex athrostachya* 15 No FACW
 5. _____
 6. _____
 7. _____
 8. _____
 9. _____
 10. _____
 11. _____
 _____ =Total Cover

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is $\leq 3.0^1$
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants¹
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Woody Vine Stratum (Plot size: 10) Absolute % Cover Dominant Species? Indicator Status
 1. _____
 2. _____
 _____ =Total Cover

Hydrophytic Vegetation Present? Yes No _____

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Requirement Control Symbol **EXEMPT**:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA Sampling Point: TP-11

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Subregion (LRR): LRR A, MLRA 4A Lat: 46.61397537

Long: -122.9026696

Datum: NAD83

Soil Map Unit Name: 118—Lacamas silt loam, 0 to 3 percent slopes

NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year?

(If no, explain in Remarks.)

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

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

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

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u> X </u>	Is the Sampled Area within a Wetland?	Yes <u> </u>	No <u> X </u>
Hydric Soil Present?	Yes <u> </u>	No <u> X </u>			
Wetland Hydrology Present?	Yes <u> </u>	No <u> X </u>			

VEGETATION – Use scientific names of plants.

Tree Stratum		(Plot size: <u>30</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.						
2.						
3.						
4.						
				=Total Cover		
Sapling/Shrub Stratum		(Plot size: <u>15</u>)				
1.						
2.						
3.						
4.						
5.						
				=Total Cover		
Herb Stratum		(Plot size: <u>10</u>)				
1.	<i>Anthoxanthum odoratum</i>	<u>40</u>	Yes	FACU		
2.	<i>Lolium arundinaceum</i>	<u>40</u>	Yes	FAC		
3.	<i>Leontodon saxatilis</i>	<u>20</u>	Yes	FACU		
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
				=Total Cover		
Woody Vine Stratum		(Plot size: <u>10</u>)				
1.						
2.						
				=Total Cover		
% Bare Ground in Herb Stratum <u> </u>						
Remarks: _____						

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	<u>x 1 = 0</u>
FACW species <u>0</u>	<u>x 2 = 0</u>
FAC species <u>40</u>	<u>x 3 = 120</u>
FACU species <u>60</u>	<u>x 4 = 240</u>
UPL species <u>0</u>	<u>x 5 = 0</u>
Column Totals: <u>100</u> (A)	<u>360</u> (B)
Prevalence Index = B/A = <u>3.60</u>	

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is $\leq 3.0^1$
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants¹
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No X

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA

Sampling Point: TP-12

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Local relief (concave, convex, none): none

Slope (%): 0-3

Subregion (LRR): LRR A, MLRA 4A

Lat: 46.61424748

Long: -122.9017541

Datum: NAD83

Soil Map Unit Name: 118—Lacamas silt loam, 0 to 3 percent slopes

NWI classification: PEM1C

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 type="checkbox"/> No <input checked="" 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:

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.					Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
2.					Total Number of Dominant Species Across All Strata: 2 (B)
3.					Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)
4.					
					=Total Cover
Sapling/Shrub Stratum	(Plot size: 15)				
1.					
2.					
3.					
4.					
5.					
					=Total Cover
Herb Stratum	(Plot size: 10)				
1. <i>Anthoxanthum odoratum</i>	40	Yes	FACU		Total % Cover of: 0 x 1 = 0
2. <i>Rumex acetosella</i>	5	No	FACU		FACW species 0 x 2 = 0
3. <i>Leucanthemum vulgare</i>	15	No	FACU		FAC species 35 x 3 = 105
4. <i>Leontodon saxatilis</i>	5	No	FACU		FACU species 65 x 4 = 260
5. <i>Lolium arundinaceum</i>	35	Yes	FAC		UPL species 0 x 5 = 0
6.					Column Totals: 100 (A) 365 (B)
7.					Prevalence Index = B/A = 3.65
8.					
9.					
10.					
11.					
					=Total Cover
Woody Vine Stratum	(Plot size: 10)				
1.					
2.					
					=Total Cover
% Bare Ground in Herb Stratum					
Hydrophytic Vegetation Indicators:					
1 - Rapid Test for Hydrophytic Vegetation					
2 - Dominance Test is >50%					
3 - Prevalence Index is $\leq 3.0^1$					
4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)					
5 - Wetland Non-Vascular Plants ¹					
Problematic Hydrophytic Vegetation ¹ (Explain)					
¹ Indicators of hydroic soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

Remarks:

SOIL

Sampling Point: TP-12

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

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.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- 1 cm Muck (A9) (**LRR D, G**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (**LRR G**)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (**except MLRA 1**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**LRR A, E**)
- Iron-Manganese Masses (F12) (**LRR D**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
High Water Table (A2)	
Saturation (A3)	Salt Crust (B11)
Water Marks (B1)	Aquatic Invertebrates (B13)
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)
Drift Deposits (B3)	Oxidized Rhizospheres on Living Roots (C3)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)
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 X Depth (inches):
Water Table Present? Yes No X Depth (inches):
Saturation Present? Yes No X Depth (inches):

Wetland Hydrology Present? Yes No X

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

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA

Sampling Point: TP-13

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Local relief (concave, convex, none): none

Slope (%): 0-3

Subregion (LRR): LRR A, MLRA 4A

Lat: 46.61474897

Long: -122.9021545

Datum: NAD83

Soil Map Unit Name: 118—Lacamas silt loam, 0 to 3 percent slopes

NWI classification: non-wetland

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 No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

**Is the Sampled Area
within a Wetland?**

Yes No X

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30) Absolute % Cover Dominant Species? Indicator Status
 1. _____ _____ _____
 2. _____ _____ _____
 3. _____ _____ _____
 4. _____ _____ _____
 _____ =Total Cover

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Sapling/Shrub Stratum (Plot size: 15) Absolute % Cover Dominant Species? Indicator Status
 1. _____ _____ _____
 2. _____ _____ _____
 3. _____ _____ _____
 4. _____ _____ _____
 5. _____ _____ _____
 _____ =Total Cover

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 40	x 3 = 120
FACU species 60	x 4 = 240
UPL species 0	x 5 = 0
Column Totals: 100 (A)	360 (B)
Prevalence Index = B/A = 3.60	

Herb Stratum (Plot size: 10) Absolute % Cover Dominant Species? Indicator Status
 1. *Anthoxanthum odoratum* 40 Yes FACU
 2. *Lolium arundinaceum* 40 Yes FAC
 3. *Rumex acetosella* 10 No FACU
 4. *Leontodon saxatilis* 10 No FACU
 5. _____
 6. _____
 7. _____
 8. _____
 9. _____
 10. _____
 11. _____
 _____ =Total Cover

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is $\leq 3.0^1$
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants¹
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Woody Vine Stratum (Plot size: 10) Absolute % Cover Dominant Species? Indicator Status
 1. _____
 2. _____
 _____ =Total Cover

Hydrophytic Vegetation Present? Yes No X

Remarks:

SOIL

Sampling Point: TP-13

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

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.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- 1 cm Muck (A9) **(LRR D, G)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) **(except MLRA 1)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**LRR A, E**)
- Iron-Manganese Masses (F12) (**LRR D**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel
Depth (inches): 12

Hydric Soil Present? Yes No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

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

Remarks:

U.S. Army Corps of Engineers

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

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

Requirement Control Symbol **EXEMPT**:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Lewis County Parcel 017867005000

City/County: Lewis

Sampling Date: 7/30/2025

Applicant/Owner: Thomas McCormick

State: WA Sampling Point: TP-14

Investigator(s): Andrew Allison

Section, Township, Range: S14 T13N R2W

Landform (hillside, terrace, etc.): terrace

Subregion (LRR): LRR A, MLRA 4A Lat: 46.61553357

Long: -122.9028244

Datum: NAD83

Soil Map Unit Name: 118—Lacamas silt loam, 0 to 3 percent slopes

NWI classification: non-wetland

Are climatic / hydrologic conditions on the site typical for this time of year?

X No (If no, explain in Remarks.)

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

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, impoundments, and other features.

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

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" 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:					

VEGETATION – Use scientific names of plants.

Tree Stratum		(Plot size: <u>30</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.						
2.						
3.						
4.						
						=Total Cover
Sapling/Shrub Stratum		(Plot size: <u>15</u>)				
1.						
2.						
3.						
4.						
5.						
						=Total Cover
Herb Stratum		(Plot size: <u>10</u>)				
1.	<i>Anthoxanthum odoratum</i>	<u>50</u>	Yes	FACU		
2.	<i>Lolium arundinaceum</i>	<u>50</u>	Yes	FAC		
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
						=Total Cover
Woody Vine Stratum		(Plot size: <u>10</u>)		<u>100</u>		
1.						
2.						
						=Total Cover
% Bare Ground in Herb Stratum						
Remarks:						

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	<u>x 1 = 0</u>
FACW species <u>0</u>	<u>x 2 = 0</u>
FAC species <u>50</u>	<u>x 3 = 150</u>
FACU species <u>50</u>	<u>x 4 = 200</u>
UPL species <u>0</u>	<u>x 5 = 0</u>
Column Totals: <u>100</u> (A)	<u>350</u> (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is $\leq 3.0^1$
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants¹
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: TP-14

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

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.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- 1 cm Muck (A9) **(LRR D, G)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) **(except MLRA 1)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**LRR A, E**)
- Iron-Manganese Masses (F12) (**LRR D**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel
Depth (inches): 13

Hydric Soil Present? Yes No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Surface Water (A1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
High Water Table (A2)	
Saturation (A3)	Salt Crust (B11)
Water Marks (B1)	Aquatic Invertebrates (B13)
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)
Drift Deposits (B3)	Oxidized Rhizospheres on Living Roots (C3)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)
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 X Depth (inches):
Water Table Present? Yes No X Depth (inches):
Saturation Present? Yes No X Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes No X

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

Remarks:

APPENDIX B - WETLAND RATING

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 7/30/2025

Rated by Andrew Allison Trained by Ecology? Yes No Date of training 4/2015

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

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

Source of base aerial photo/map Google Earth Pro

OVERALL WETLAND CATEGORY IV (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
<i>Circle the appropriate ratings</i>			
Site Potential	H M <input checked="" type="radio"/> L	H M <input checked="" type="radio"/> L	H M <input checked="" type="radio"/> L
Landscape Potential	H <input checked="" type="radio"/> M L	H <input checked="" type="radio"/> M L	H M <input checked="" type="radio"/> L
Value	<input checked="" type="radio"/> H M L	H <input checked="" type="radio"/> M L	H <input checked="" type="radio"/> M L
Score Based on Ratings	6	5	4
			TOTAL

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	X

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	3
Hydroperiods	D 1.4, H 1.2	3
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

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 total 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 total 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 total 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	

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 sheet flow, 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).

Wetland name or number A

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.

NO – go to 6

YES – The wetland class is **Riverine**

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

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

NO – go to 7

YES – The wetland class is **Depressional**

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

NO – go to 8

YES – The wetland class is **Depressional**

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

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

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

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

Wetland name or number A

DEPRESSATIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?

D 1.1. Characteristics of surface water outflows from the wetland:

Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).

points = 3

Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.

points = 2

Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing

points = 1

Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.

points = 1

D 1.2. The soil 2 in. below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0

0

D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):

Wetland has persistent, ungrazed plants > 95% of area

points = 5

Wetland has persistent, ungrazed plants > ½ of area

points = 3

Wetland has persistent, ungrazed plants $\geq \frac{1}{10}$ of area

points = 1

Wetland has persistent, ungrazed plants $< \frac{1}{10}$ of area

points = 0

D 1.4. Characteristics of seasonal ponding or inundation:

This is the area that is ponded for at least 2 months. See description in manual.

Area seasonally ponded is > ½ total area of wetland

points = 4

Area seasonally ponded is $\geq \frac{1}{4}$ total area of wetland

points = 2

Area seasonally ponded is < ¼ total area of wetland

points = 0

Total for D 1

Add the points in the boxes above

4

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 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

Add the points in the boxes above

2

Rating of Landscape Potential If score is: 3 or 4 = H X 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 in development or in effect for the basin in which the unit is found.)

Yes = 2 No = 0

1

Total for D 3

Add the points in the boxes above

2

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

Record the rating on the first page

Wetland name or number A

DEPRESSATIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4

Wetland has an intermittently flowing stream/ditch, OR highly constricted permanently flowing outlet points = 2

Wetland is a flat depression (question 7 on key), whose outlet is a permanently flowing ditch points = 1

Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.

Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7

Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5

Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3

The wetland is a "headwater" wetland points = 3

Wetland is flat but has small depressions on the surface that trap water points = 1

Marks of ponding less than 0.5 ft (6 in) points = 0

D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the area of the wetland unit itself.

The area of the basin is less than 10 times the area of the unit points = 5

The area of the basin is 10 to 100 times the area of the unit points = 3

The area of the basin is more than 100 times the area of the unit points = 0

Entire wetland is in the Flats class points = 5

Total for D 4

Add the points in the boxes above

2

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 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

0

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

2

Rating of Landscape Potential If score is: 3 = H X 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. Is the unit 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 downgradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- Flooding occurs in a sub-basin that is immediately downgradient of unit. points = 2
- Surface flooding problems are in a sub-basin farther downgradient. points = 1
- Flooding from groundwater is an issue in the sub-basin. points = 1
- The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____ points = 0
- There are no problems with flooding downstream of the wetland. points = 0

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0

0

Total for D 6

Add the points in the boxes above

1

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

Record the rating on the first page

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of $\frac{1}{4}$ ac if the unit is at least 2.5 ac, or more than 10% of the unit if it is smaller than 2.5 ac.

Aquatic bed

4 structures or more: points = 4

Emergent

3 structures: points = 2

Scrub-shrub (areas where shrubs have > 30% cover)

2 structures: points = 1

Forested (areas where trees have > 30% cover)

1 structure: points = 0

If the unit has a Forested class, check if:

The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/groundcover) that each cover 20% within the Forested polygon

0

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland if the unit is < 2.5 ac, or $\frac{1}{4}$ ac if the unit is at least 2.5 ac to count (see text for descriptions of hydroperiods).

Permanently flooded or inundated

4 or more types present: points = 3

Seasonally flooded or inundated

3 types present: points = 2

Occasionally flooded or inundated

2 types present: points = 1

Saturated only

1 type present: points = 0

Permanently flowing stream or river in, or adjacent to, the wetland

Intermittently or seasonally flowing stream in, or adjacent to, the wetland

Lake Fringe wetland

2 points

Freshwater tidal wetland

2 points

0

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 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, Canada thistle**

If you counted: > 19 species

points = 2

5 - 19 species

points = 1

< 5 species

points = 0

0

H 1.4. Interspersion of habitats

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



None = 0 points



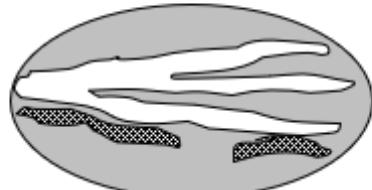
Low = 1 point



Moderate = 2 points

0

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



Wetland name or number A

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. The number of checks is the number of points.</p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (dbh > 4 in.) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extend at least 3.3 ft (1 m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><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 (cut shrubs or trees that have not yet weathered where wood is exposed)</p> <p><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 (structures for egg-laying by amphibians)</p> <p><input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 above for the list of strata and H 1.5 in the manual for the list of aggressive plant species)</p>	1
Total for H 1	Add the points in the boxes above

Rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L *Record the rating on the first page*

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p> <p>H 2.1. Accessible habitat (include only habitat polygons accessible from the wetland).</p> <p><i>Calculate:</i> % relatively undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>3.5</u> = <u>3.5</u> %</p> <p>Total accessible habitat is:</p> <p>> 1/3 (33.3%) of 1 km Polygon points = 3</p> <p>20-33% of 1 km Polygon points = 2</p> <p>10-19% of 1 km Polygon points = 1</p> <p>< 10% of 1 km Polygon points = 0</p>	0	
<p>H 2.2. Total habitat in 1 km Polygon around the wetland.</p> <p><i>Calculate:</i> % relatively undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>7</u> = <u>7</u> %</p> <p>Total habitat > 50% of Polygon points = 3</p> <p>Total habitat 10-50% and in 1-3 patches points = 2</p> <p>Total habitat 10-50% and > 3 patches points = 1</p> <p>Total habitat < 10% of 1 km Polygon points = 0</p>	0	
<p>H 2.3. Land use intensity in 1 km Polygon:</p> <p>> 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p>≤ 50% of 1 km Polygon is high intensity points = 0</p>	-2	
Total for H 2	Add the points in the boxes above	-2

Rating of Landscape Potential If score is: 4-6 = H 1-3 = M X < 1 = L *Record the rating on the first page*

<p>H 3.0. Is the habitat provided by the site valuable to society?</p> <p>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></p> <p>Site meets ANY of the following criteria:</p> <p><input type="checkbox"/> It has 3 or more Priority Habitats within 100 m (see next page) points = 2</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW Priority Species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources data</p> <p><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</p> <p>Site has 1 or 2 Priority Habitats (listed on next page) within 100 m points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>	1
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Rating of Value If score is: 2 = H X 1 = M 0 = L *Record the rating on the first page*

WDFW Priority Habitats

See complete descriptions of Priority Habitats listed by WDFW, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008 (current year, as revised). [Priority Habitat and Species List](#).¹³³ This list was updated for consistency with guidance from WDFW.

This question is independent of the land use between the wetland unit and the Priority Habitat. All vegetated wetlands are by definition a Priority Habitat but are not included in this list because they are addressed by this rating system.

Count how many of the following Priority Habitats are within 330 ft (100 m) of the wetland unit:

- **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. This habitat automatically counts if mapped on the PHS online map within 100m of the wetland. If not mapped, a determination can be made in the field.
- **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.
- **Fresh Deepwater:** Lands permanently flooded with freshwater, including environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live. Substrate does not support emergent vegetation. Do not select if Instream habitat is also present, or if the entire Deepwater feature is included in the wetland unit being rated (such as a pond with a vegetated fringe).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **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. Do not select if Fresh Deepwater habitat is also present.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore.
- **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) diameter at breast height (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.

Wetland name or number A

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important. For single oaks or oak stands <0.4 ha in urban areas, [WDFW's Management Recommendations for Oregon White Oak](#)¹³⁴ provides more detail for determining if they are Priority Habitats
- **Riparian:** The area adjacent to freshwater aquatic systems with flowing or standing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **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.
- **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.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie.

¹³⁴ <https://wdfw.wa.gov/publications/00030/wdfw00030.pdf>
Wetland Rating System for Western WA: 2014 Update
Rating Form – Version 2, July 2023

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? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt	Yes – Go to SC 1.1 No = Not an estuarine wetland
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category I No – Go to SC 1.2	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. If non-native species are <i>Spartina</i> , see chapter 4.8 in the manual. — At least $\frac{1}{4}$ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Yes = Category I No = Category II
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer ? ¹³⁵ Yes = Category I No – Go to SC 2.2	Cat. I
SC 2.2. Does the wetland have a rare plant species, rare ecosystem (e.g., plant community), or high-quality common ecosystem that may qualify the site as a WHCV? Contact WNHP for resources to help determine the presence of these elements. Yes – Submit data to WA Natural Heritage Program for determination , ¹³⁶ Go to SC 2.3 No = Not a WHCV	
SC 2.3. Did WNHP review the site within 30 days and determine that it has a rare plant or ecosystem that meets their criteria? Yes = Category I No = Not a WHCV	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key 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 = 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 = 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 = Category I bog No = Not a bog	Cat. I

¹³⁵ <https://www.dnr.wa.gov/NHPdata>¹³⁶ https://www.dnr.wa.gov/Publications/amp_nh_sighting_form.pdf

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? If you answer YES, you will still need to rate the wetland based on its functions.</p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in. (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in. (53 cm). <p>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> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) — The lagoon retains some of its surface water at low tide during spring tides <p>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> <ul style="list-style-type: none"> — 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 in H 1.5 in the manual). — At least $\frac{1}{4}$ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than $\frac{1}{10}$ ac (4350 ft²) <p>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 WBEO)? If you answer YES, you will still need to rate the wetland based on its habitat functions.</p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 and Ocean Shores Blvd SW, including lands west of E. Oceans Shores Blvd SW. <p>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 B

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland B Date of site visit: 7/30/2025

Rated by Andrew Allison Trained by Ecology? Yes No Date of training 4/2015

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

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

Source of base aerial photo/map Google Earth Pro

OVERALL WETLAND CATEGORY IV (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
<i>Circle the appropriate ratings</i>			
Site Potential	H M <input checked="" type="radio"/> L	H M <input checked="" type="radio"/> L	H M <input checked="" type="radio"/> L
Landscape Potential	H <input checked="" type="radio"/> M L	H <input checked="" type="radio"/> M L	H M <input checked="" type="radio"/> L
Value	<input checked="" type="radio"/> H M L	H <input checked="" type="radio"/> M L	H <input checked="" type="radio"/> M L
Score Based on Ratings	6	5	4
			TOTAL

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	X

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	3
Hydroperiods	D 1.4, H 1.2	3
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

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 total 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 total 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 total 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	

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 sheet flow, 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).

Wetland name or number B

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.

NO – go to 6

YES – The wetland class is **Riverine**

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

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

NO – go to 7

YES – The wetland class is **Depressional**

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

NO – go to 8

YES – The wetland class is **Depressional**

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

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

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

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

Wetland name or number B

DEPRESSATIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?

D 1.1. Characteristics of surface water outflows from the wetland:

Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).

points = 3

Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.

points = 2

Wetland has an unstricted, or slightly constricted, surface outlet that is permanently flowing

points = 1

Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.

points = 1

D 1.2. The soil 2 in. below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0

0

D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):

Wetland has persistent, ungrazed plants > 95% of area

points = 5

Wetland has persistent, ungrazed plants > ½ of area

points = 3

Wetland has persistent, ungrazed plants $\geq \frac{1}{10}$ of area

points = 1

Wetland has persistent, ungrazed plants $< \frac{1}{10}$ of area

points = 0

D 1.4. Characteristics of seasonal ponding or inundation:

This is the area that is ponded for at least 2 months. See description in manual.

Area seasonally ponded is > ½ total area of wetland

points = 4

Area seasonally ponded is $\geq \frac{1}{4}$ total area of wetland

points = 2

Area seasonally ponded is < ¼ total area of wetland

points = 0

Total for D 1

Add the points in the boxes above

5

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 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

0

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?

Source _____

Yes = 1 No = 0

0

Total for D 2

Add the points in the boxes above

1

Rating of Landscape Potential If score is: 3 or 4 = H X 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 in development or in effect for the basin in which the unit is found.)

Yes = 2 No = 0

1

Total for D 3

Add the points in the boxes above

2

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

Record the rating on the first page

Wetland name or number B

DEPRESSATIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4

Wetland has an intermittently flowing stream/ditch, OR highly constricted permanently flowing outlet points = 2

Wetland is a flat depression (question 7 on key), whose outlet is a permanently flowing ditch points = 1

Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.

Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7

Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5

Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3

The wetland is a "headwater" wetland points = 3

Wetland is flat but has small depressions on the surface that trap water points = 1

Marks of ponding less than 0.5 ft (6 in) points = 0

D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the area of the wetland unit itself.

The area of the basin is less than 10 times the area of the unit points = 5

The area of the basin is 10 to 100 times the area of the unit points = 3

The area of the basin is more than 100 times the area of the unit points = 0

Entire wetland is in the Flats class points = 5

Total for D 4

Add the points in the boxes above

4

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 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

0

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

2

Rating of Landscape Potential If score is: 3 = H X 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. Is the unit 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 downgradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- Flooding occurs in a sub-basin that is immediately downgradient of unit. points = 2
- Surface flooding problems are in a sub-basin farther downgradient. points = 1
- Flooding from groundwater is an issue in the sub-basin. points = 1
- The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ points = 0
- There are no problems with flooding downstream of the wetland. points = 0

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0

0

Total for D 6

Add the points in the boxes above

1

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

Record the rating on the first page

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of $\frac{1}{4}$ ac if the unit is at least 2.5 ac, or more than 10% of the unit if it is smaller than 2.5 ac.

Aquatic bed

4 structures or more: points = 4

Emergent

3 structures: points = 2

Scrub-shrub (areas where shrubs have > 30% cover)

2 structures: points = 1

Forested (areas where trees have > 30% cover)

1 structure: points = 0

If the unit has a Forested class, check if:

The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/groundcover) that each cover 20% within the Forested polygon

0

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland if the unit is < 2.5 ac, or $\frac{1}{4}$ ac if the unit is at least 2.5 ac to count (see text for descriptions of hydroperiods).

Permanently flooded or inundated

4 or more types present: points = 3

Seasonally flooded or inundated

3 types present: points = 2

Occasionally flooded or inundated

2 types present: points = 1

Saturated only

1 type present: points = 0

Permanently flowing stream or river in, or adjacent to, the wetland

Intermittently or seasonally flowing stream in, or adjacent to, the wetland

Lake Fringe wetland 2 points

Freshwater tidal wetland 2 points

0

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 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, Canada thistle**

If you counted: > 19 species

points = 2

5 - 19 species points = 1

< 5 species points = 0

1

H 1.4. Interspersion of habitats

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



None = 0 points



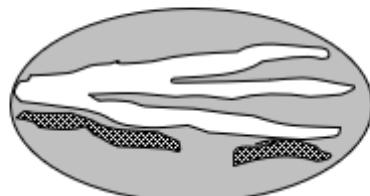
Low = 1 point



Moderate = 2 points

0

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



Wetland name or number B

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of points.		0
<input type="checkbox"/>	Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft long).	
<input 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 extend at least 3.3 ft (1 m) over open water or 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 (cut shrubs or trees that have not yet weathered where wood is exposed)	
<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 (structures for egg-laying by amphibians)	
<input type="checkbox"/>	Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 above for the list of strata and H 1.5 in the manual for the list of aggressive plant species)	
Total for H 1	Add the points in the boxes above	

Rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat polygons accessible from the wetland. <i>Calculate: % relatively undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>3.5</u> = <u>3.5</u> %</i>	
Total accessible habitat is:	
> 1/3 (33.3%) of 1 km Polygon	points = 3
20-33% of 1 km Polygon	points = 2
10-19% of 1 km Polygon	points = 1
< 10% of 1 km Polygon	points = 0
H 2.2. Total habitat in 1 km Polygon around the wetland. <i>Calculate: % relatively undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>7</u> = <u>7</u> %</i>	
Total habitat > 50% of Polygon	points = 3
Total habitat 10-50% and in 1-3 patches	points = 2
Total habitat 10-50% and > 3 patches	points = 1
Total habitat < 10% of 1 km Polygon	points = 0
H 2.3. Land use intensity in 1 km Polygon: > 50% of 1 km Polygon is high intensity land use	points = (- 2)
≤ 50% of 1 km Polygon is high intensity	points = 0
Total for H 2	Add the points in the boxes above

Rating of Landscape Potential If score is: 4-6 = H 1-3 = M X < 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 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 data	
<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	
Site has 1 or 2 Priority Habitats (listed on next page) within 100 m	points = 1
Site does not meet any of the criteria above	points = 0

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

WDFW Priority Habitats

See complete descriptions of Priority Habitats listed by WDFW, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008 (current year, as revised). [Priority Habitat and Species List](#).¹³³ This list was updated for consistency with guidance from WDFW.

This question is independent of the land use between the wetland unit and the Priority Habitat. All vegetated wetlands are by definition a Priority Habitat but are not included in this list because they are addressed by this rating system.

Count how many of the following Priority Habitats are within 330 ft (100 m) of the wetland unit:

- **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. This habitat automatically counts if mapped on the PHS online map within 100m of the wetland. If not mapped, a determination can be made in the field.
- **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.
- **Fresh Deepwater:** Lands permanently flooded with freshwater, including environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live. Substrate does not support emergent vegetation. Do not select if Instream habitat is also present, or if the entire Deepwater feature is included in the wetland unit being rated (such as a pond with a vegetated fringe).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **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. Do not select if Fresh Deepwater habitat is also present.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore.
- **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) diameter at breast height (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.

Wetland name or number B

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important. For single oaks or oak stands <0.4 ha in urban areas, [WDFW's Management Recommendations for Oregon White Oak](#)¹³⁴ provides more detail for determining if they are Priority Habitats
- **Riparian:** The area adjacent to freshwater aquatic systems with flowing or standing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **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.
- **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.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie.

¹³⁴ <https://wdfw.wa.gov/publications/00030/wdfw00030.pdf>
Wetland Rating System for Western WA: 2014 Update
Rating Form – Version 2, July 2023

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? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt	Yes – Go to SC 1.1 No = Not an estuarine wetland
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category I No – Go to SC 1.2	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. If non-native species are <i>Spartina</i> , see chapter 4.8 in the manual. — At least $\frac{1}{4}$ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Yes = Category I No = Category II
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer ? ¹³⁵ Yes = Category I No – Go to SC 2.2	Cat. I
SC 2.2. Does the wetland have a rare plant species, rare ecosystem (e.g., plant community), or high-quality common ecosystem that may qualify the site as a WHCV? Contact WNHP for resources to help determine the presence of these elements. Yes – Submit data to WA Natural Heritage Program for determination , ¹³⁶ Go to SC 2.3 No = Not a WHCV	
SC 2.3. Did WNHP review the site within 30 days and determine that it has a rare plant or ecosystem that meets their criteria? Yes = Category I No = Not a WHCV	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key 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 = 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 = 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 = Category I bog No = Not a bog	Cat. I

¹³⁵ <https://www.dnr.wa.gov/NHPdata>¹³⁶ https://www.dnr.wa.gov/Publications/amp_nh_sighting_form.pdf

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? If you answer YES, you will still need to rate the wetland based on its functions.</p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in. (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in. (53 cm). <p>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> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) — The lagoon retains some of its surface water at low tide during spring tides <p>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> <ul style="list-style-type: none"> — 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 in H 1.5 in the manual). — At least $\frac{1}{4}$ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than $\frac{1}{10}$ ac (4350 ft²) <p>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 WBEO)? If you answer YES, you will still need to rate the wetland based on its habitat functions.</p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 and Ocean Shores Blvd SW, including lands west of E. Oceans Shores Blvd SW. <p>Yes – Go to SC 6.1 No = Not an interdunal wetland for rating</p>	Cat I Cat. II
<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. III Cat. IV
<p>Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form</p>	n/a

Wetland name or number C

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland C Date of site visit: 7/30/2025

Rated by Andrew Allison Trained by Ecology? Yes No Date of training 4/2015

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

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

Source of base aerial photo/map Google Earth Pro

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

1. Category of wetland based on FUNCTIONS

Category I – Total score = 23 - 27

Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input checked="" type="radio"/> M <input type="radio"/> L	H <input type="radio"/> M <input checked="" type="radio"/> L	H <input type="radio"/> M <input checked="" type="radio"/> L	
Landscape Potential	H <input checked="" type="radio"/> M <input type="radio"/> L	H <input checked="" type="radio"/> M <input type="radio"/> L	H <input type="radio"/> M <input checked="" type="radio"/> L	
Value	<input checked="" type="radio"/> H <input type="radio"/> M <input type="radio"/> L	H <input checked="" type="radio"/> M <input type="radio"/> L	<input checked="" type="radio"/> H <input type="radio"/> M <input type="radio"/> L	TOTAL
Score Based on Ratings	7	5	5	17

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

9 = H, H, H

8 = H, H, M

7 = H, H, L

7 = H, M, M

6 = H, M, L

6 = M, M, M

5 = H, L, L

5 = M, M, L

4 = M, L, L

3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

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	3
Hydroperiods	D 1.4, H 1.2	3
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	3
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	4
Map of the contributing basin	D 4.3, D 5.3	5
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total habitat	H 2.1, H 2.2, H 2.3	6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

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 total 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 total 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 total 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	

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 sheet flow, 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).

Wetland name or number C

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.

NO – go to 6

YES – The wetland class is **Riverine**

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

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

NO – go to 7

YES – The wetland class is **Depressional**

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

NO – go to 8

YES – The wetland class is **Depressional**

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

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

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

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

Wetland name or number C

DEPRESSATIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?

D 1.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).	points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.	points = 2	2
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 1	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	points = 1	
D 1.2. The soil 2 in. below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0		0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):		
Wetland has persistent, ungrazed plants > 95% of area	points = 5	
Wetland has persistent, ungrazed plants > ½ of area	points = 3	
Wetland has persistent, ungrazed plants $\geq \frac{1}{10}$ of area	points = 1	5
Wetland has persistent, ungrazed plants $< \frac{1}{10}$ of area	points = 0	
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>		
Area seasonally ponded is > ½ total area of wetland	points = 4	
Area seasonally ponded is $\geq \frac{1}{4}$ total area of wetland	points = 2	
Area seasonally ponded is < ¼ total area of wetland	points = 0	
Total for D 1	Add the points in the boxes above	11

Rating of Site Potential If score is: 12-16 = H X 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	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source _____	Yes = 1 No = 0	0
Total for D 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: 3 or 4 = H X 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 in development or in effect for the basin in which the unit is found.)	Yes = 2 No = 0	1
Total for D 3	Add the points in the boxes above	2

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

Wetland name or number C

DEPRESSATIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4

Wetland has an intermittently flowing stream/ditch, OR highly constricted permanently flowing outlet points = 2

Wetland is a flat depression (question 7 on key), whose outlet is a permanently flowing ditch points = 1

Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.

Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7

Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5

Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3

The wetland is a "headwater" wetland points = 3

Wetland is flat but has small depressions on the surface that trap water points = 1

Marks of ponding less than 0.5 ft (6 in) points = 0

D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the area of the wetland unit itself.

The area of the basin is less than 10 times the area of the unit points = 5

The area of the basin is 10 to 100 times the area of the unit points = 3

The area of the basin is more than 100 times the area of the unit points = 0

Entire wetland is in the Flats class points = 5

Total for D 4

Add the points in the boxes above

5

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 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

0

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

2

Rating of Landscape Potential If score is: 3 = H X 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. Is the unit 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 downgradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- Flooding occurs in a sub-basin that is immediately downgradient of unit. points = 2
- Surface flooding problems are in a sub-basin farther downgradient. points = 1
- Flooding from groundwater is an issue in the sub-basin. points = 1
- The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ points = 0
- There are no problems with flooding downstream of the wetland. points = 0

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0

0

Total for D 6

Add the points in the boxes above

1

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

Record the rating on the first page

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of $\frac{1}{4}$ ac if the unit is at least 2.5 ac, or more than 10% of the unit if it is smaller than 2.5 ac.

Aquatic bed

4 structures or more: points = 4

Emergent

3 structures: points = 2

Scrub-shrub (areas where shrubs have > 30% cover)

2 structures: points = 1

Forested (areas where trees have > 30% cover)

1 structure: points = 0

If the unit has a Forested class, check if:

The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/groundcover) 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 if the unit is < 2.5 ac, or $\frac{1}{4}$ ac if the unit is at least 2.5 ac to count (see text for descriptions of hydroperiods).

Permanently flooded or inundated

4 or more types present: points = 3

Seasonally flooded or inundated

3 types present: points = 2

Occasionally flooded or inundated

2 types present: points = 1

Saturated only

1 type present: points = 0

Permanently flowing stream or river in, or adjacent to, the wetland

Intermittently or seasonally flowing stream in, or adjacent to, the wetland

Lake Fringe wetland

2 points

Freshwater tidal wetland

2 points

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 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, Canada thistle**

If you counted: > 19 species

points = 2

5 - 19 species

points = 1

< 5 species

points = 0

H 1.4. Interspersion of habitats

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



None = 0 points



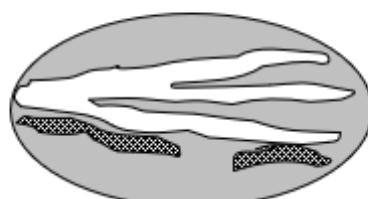
Low = 1 point



Moderate = 2 points

1

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. The number of checks is the number of points.		1
<input type="checkbox"/>	Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft long).	
<input 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 extend at least 3.3 ft (1 m) over open water or 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 (cut shrubs or trees that have not yet weathered where wood is exposed)	
<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 (structures for egg-laying by amphibians)	
<input checked="" type="checkbox"/>	Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 above for the list of strata and H 1.5 in the manual for the list of aggressive plant species)	
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 X 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat polygons accessible from the wetland. <i>Calculate: % relatively undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>3.5</u> = <u>3.5</u> %</i>	
Total accessible habitat is:	
> 1/3 (33.3%) of 1 km Polygon	points = 3
20-33% of 1 km Polygon	points = 2
10-19% of 1 km Polygon	points = 1
< 10% of 1 km Polygon	points = 0
H 2.2. Total habitat in 1 km Polygon around the wetland. <i>Calculate: % relatively undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>7</u> = <u>7</u> %</i>	
Total habitat > 50% of Polygon	points = 3
Total habitat 10-50% and in 1-3 patches	points = 2
Total habitat 10-50% and > 3 patches	points = 1
Total habitat < 10% of 1 km Polygon	points = 0
H 2.3. Land use intensity in 1 km Polygon: > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity	points = (- 2) points = 0
Total for H 2	Add the points in the boxes above

Rating of Landscape Potential If score is: 4-6 = H 1-3 = M X < 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 data	
<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	
Site has 1 or 2 Priority Habitats (listed on next page) within 100 m	points = 1
Site does not meet any of the criteria above	points = 0

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

WDFW Priority Habitats

See complete descriptions of Priority Habitats listed by WDFW, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008 (current year, as revised). [Priority Habitat and Species List](#).¹³³ This list was updated for consistency with guidance from WDFW.

This question is independent of the land use between the wetland unit and the Priority Habitat. All vegetated wetlands are by definition a Priority Habitat but are not included in this list because they are addressed by this rating system.

Count how many of the following Priority Habitats are within 330 ft (100 m) of the wetland unit:

- **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. This habitat automatically counts if mapped on the PHS online map within 100m of the wetland. If not mapped, a determination can be made in the field.
- **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.
- **Fresh Deepwater:** Lands permanently flooded with freshwater, including environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live. Substrate does not support emergent vegetation. Do not select if Instream habitat is also present, or if the entire Deepwater feature is included in the wetland unit being rated (such as a pond with a vegetated fringe).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **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. Do not select if Fresh Deepwater habitat is also present.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore.
- **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) diameter at breast height (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.

Wetland name or number C

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important. For single oaks or oak stands <0.4 ha in urban areas, [WDFW's Management Recommendations for Oregon White Oak](#)¹³⁴ provides more detail for determining if they are Priority Habitats
- Riparian:** The area adjacent to freshwater aquatic systems with flowing or standing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- 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.
- **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.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie.

¹³⁴ <https://wdfw.wa.gov/publications/00030/wdfw00030.pdf>
Wetland Rating System for Western WA: 2014 Update
Rating Form – Version 2, July 2023

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

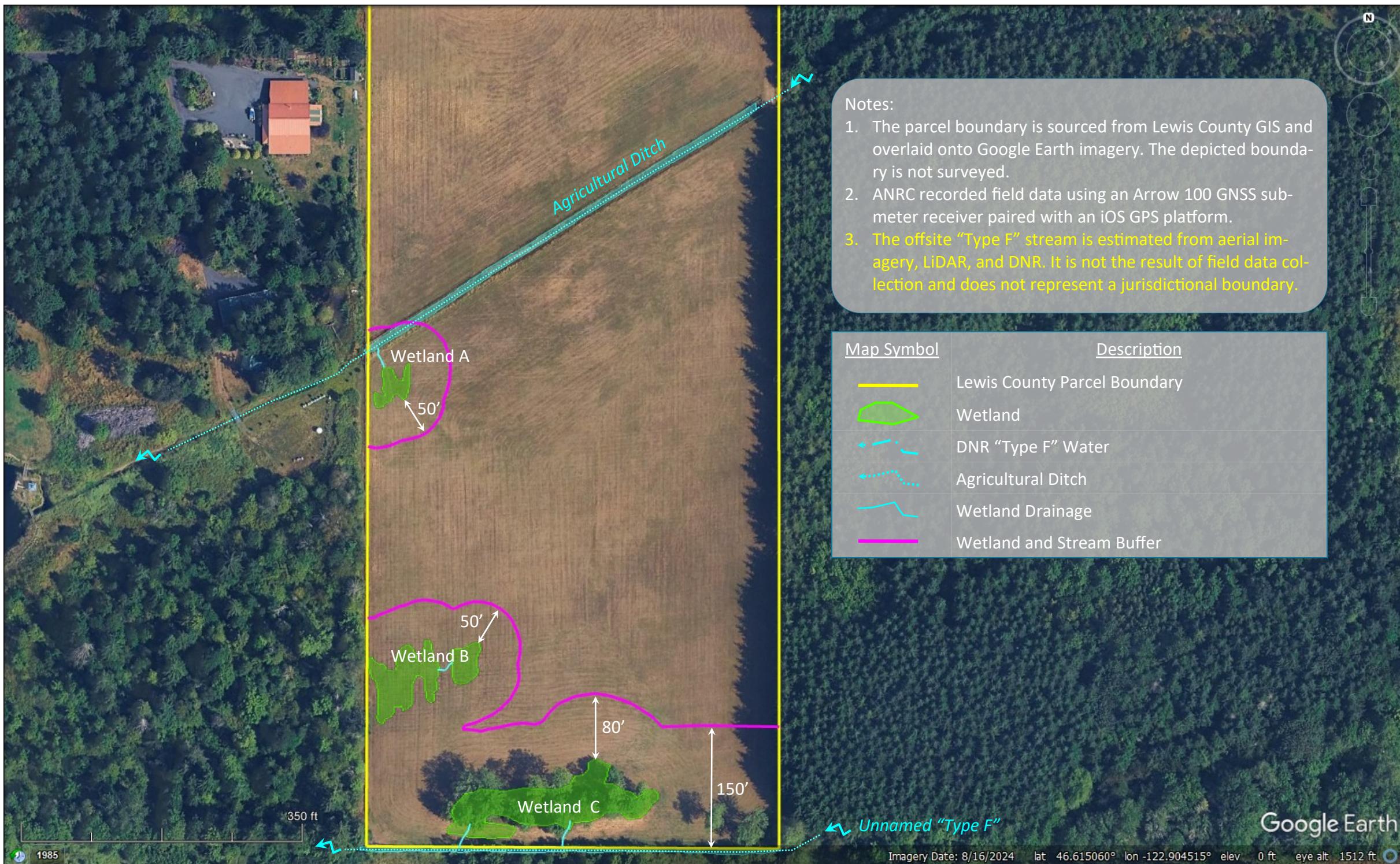
Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt	Yes – Go to SC 1.1 No = Not an estuarine wetland
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category I No – Go to SC 1.2	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. If non-native species are <i>Spartina</i> , see chapter 4.8 in the manual. — At least $\frac{1}{4}$ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Yes = Category I No = Category II
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer ? ¹³⁵ Yes = Category I No – Go to SC 2.2	Cat. I
SC 2.2. Does the wetland have a rare plant species, rare ecosystem (e.g., plant community), or high-quality common ecosystem that may qualify the site as a WHCV? Contact WNHP for resources to help determine the presence of these elements. Yes – Submit data to WA Natural Heritage Program for determination , ¹³⁶ Go to SC 2.3 No = Not a WHCV	
SC 2.3. Did WNHP review the site within 30 days and determine that it has a rare plant or ecosystem that meets their criteria? Yes = Category I No = Not a WHCV	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key 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 = 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 = 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 = Category I bog No = Not a bog	Cat. I

¹³⁵ <https://www.dnr.wa.gov/NHPdata>¹³⁶ https://www.dnr.wa.gov/Publications/amp_nh_sighting_form.pdf

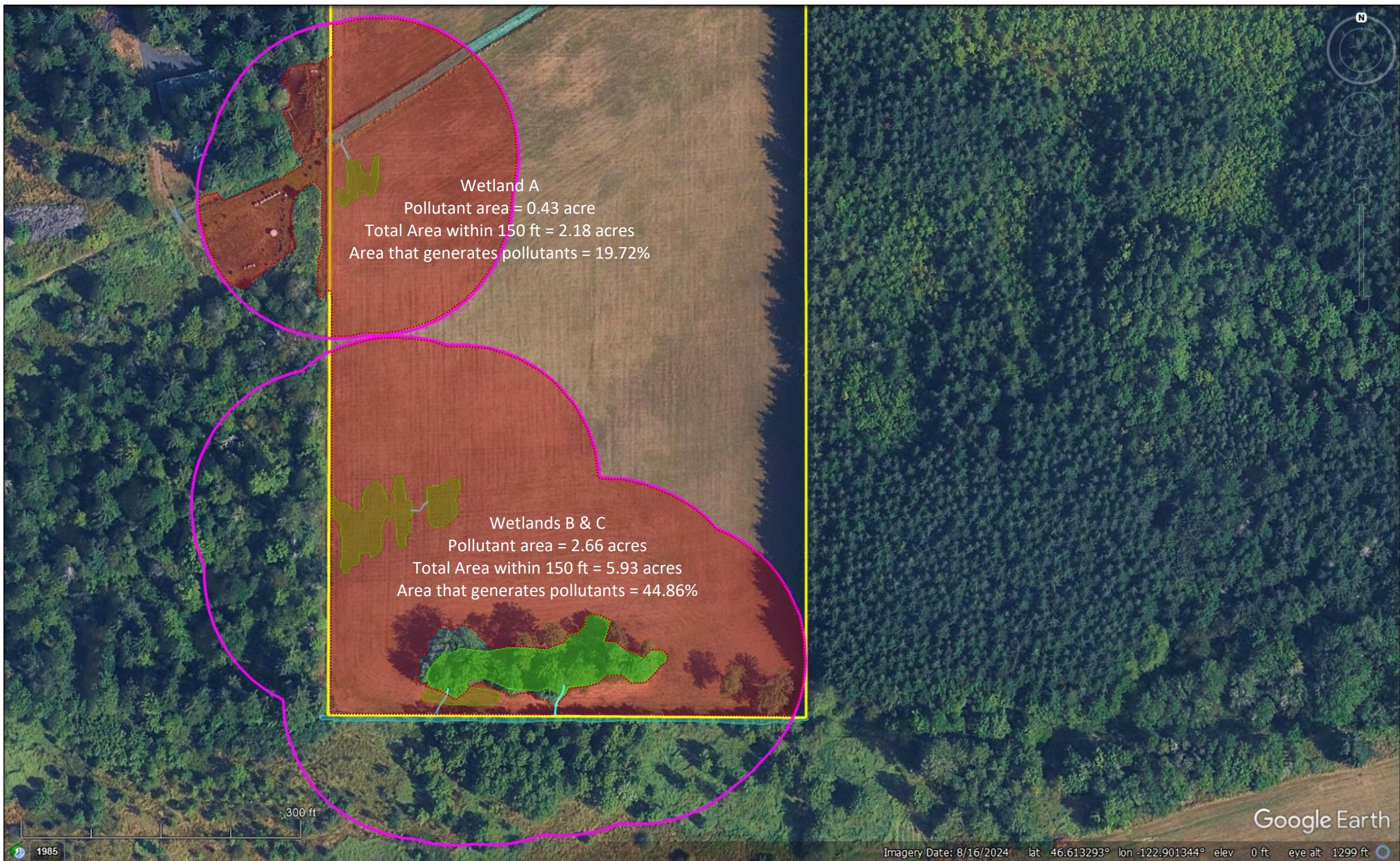
Wetland name or number C

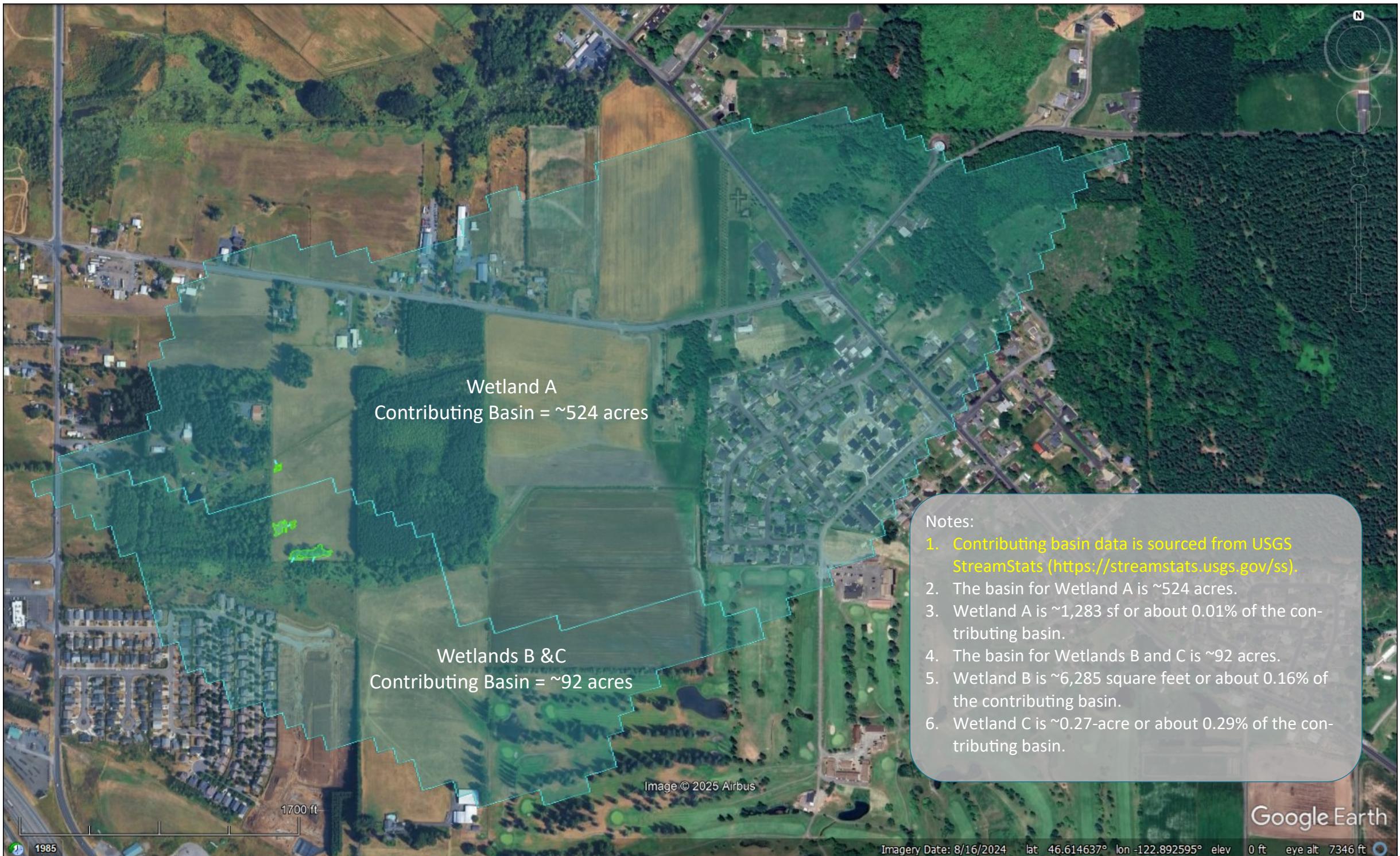
<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as Priority Habitats? If you answer YES, you will still need to rate the wetland based on its functions.</p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in. (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in. (53 cm). <p>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> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) — The lagoon retains some of its surface water at low tide during spring tides <p>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> <ul style="list-style-type: none"> — 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 in H 1.5 in the manual). — At least $\frac{1}{4}$ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than $\frac{1}{10}$ ac (4350 ft²) <p>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 WBEO)? If you answer YES, you will still need to rate the wetland based on its habitat functions.</p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 and Ocean Shores Blvd SW, including lands west of E. Oceans Shores Blvd SW. <p>Yes – Go to SC 6.1 No = Not an interdunal wetland for rating</p>	Cat I Cat. II
<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)?</p> <p>Yes = Category I No – Go to SC 6.2</p>	Cat. III
<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?</p> <p>Yes = Category II No – Go to SC 6.3</p>	Cat. III
<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?</p> <p>Yes = Category III No = Category IV</p>	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



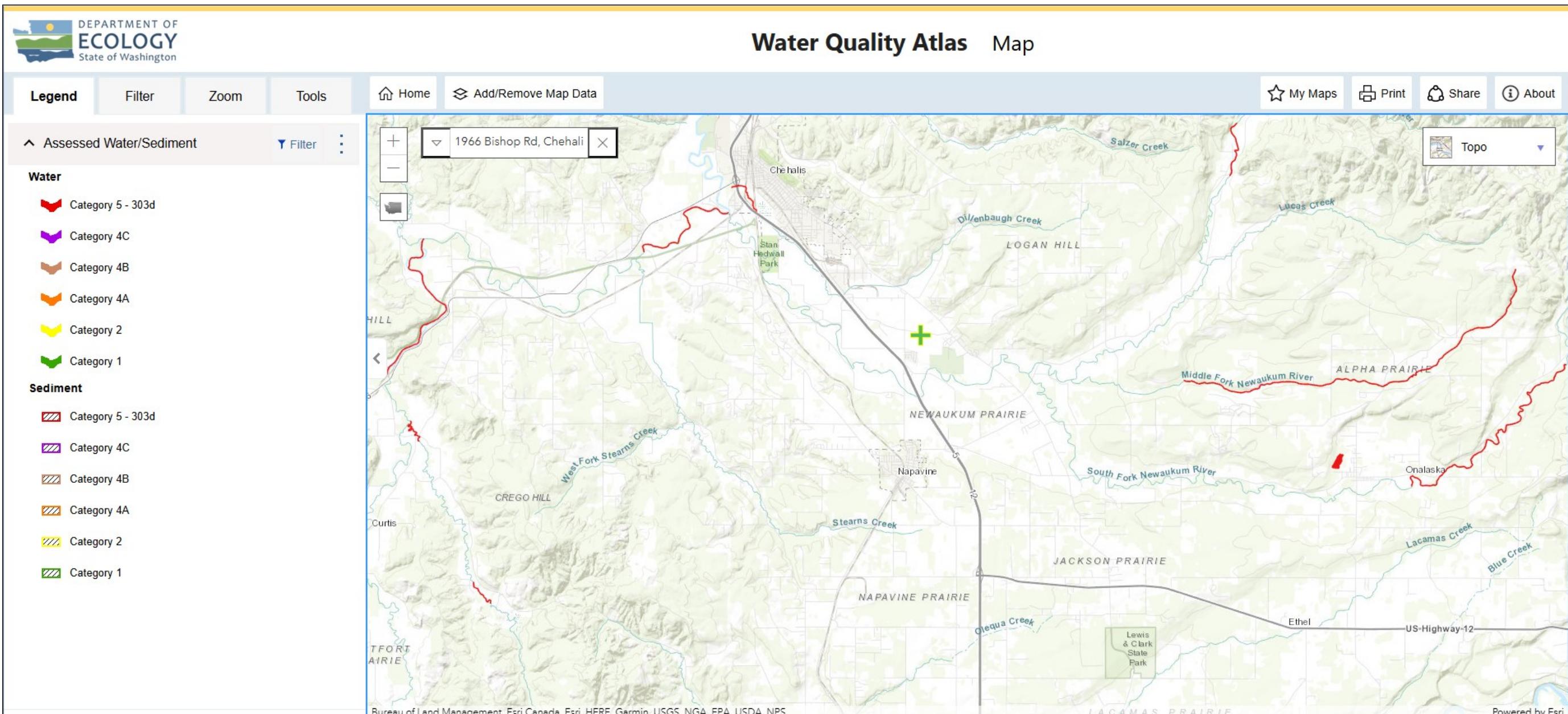


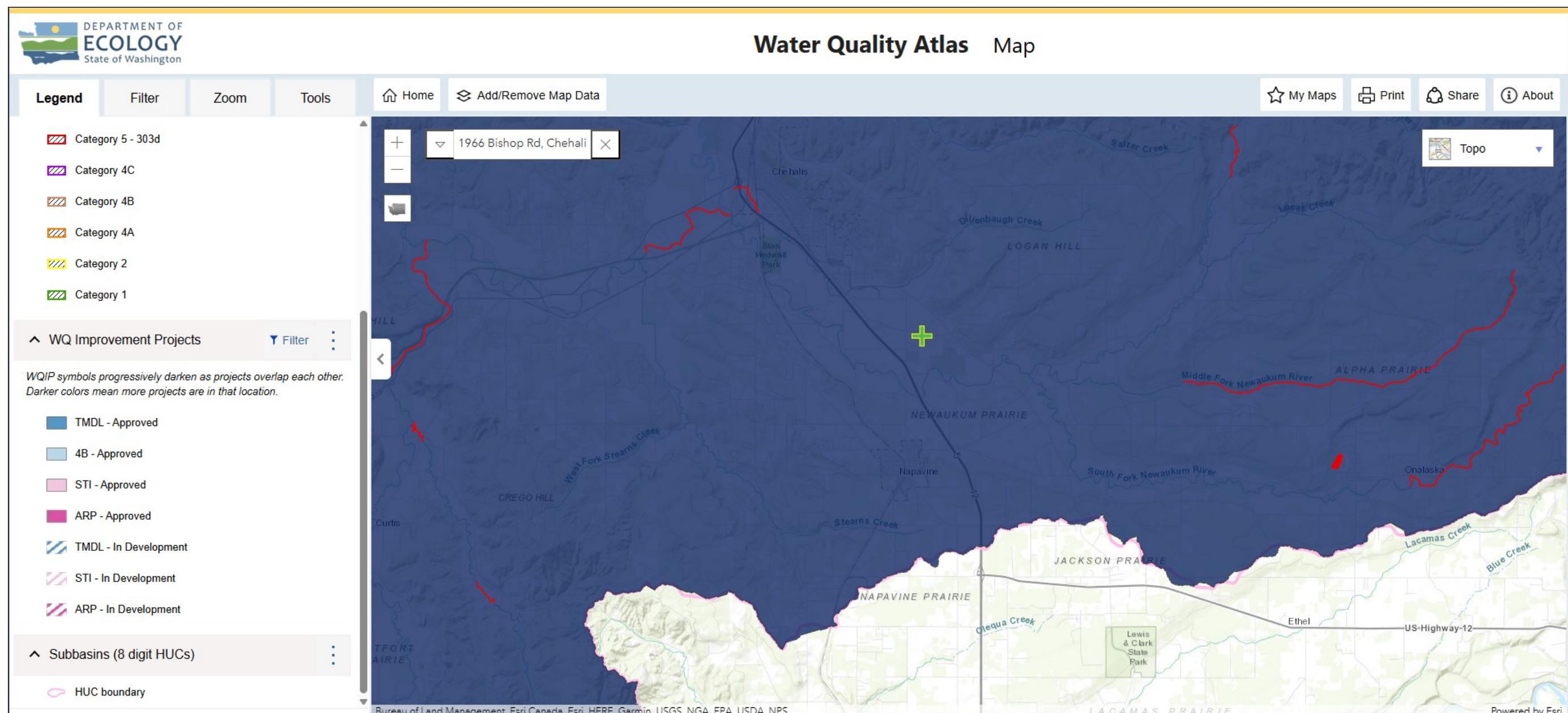












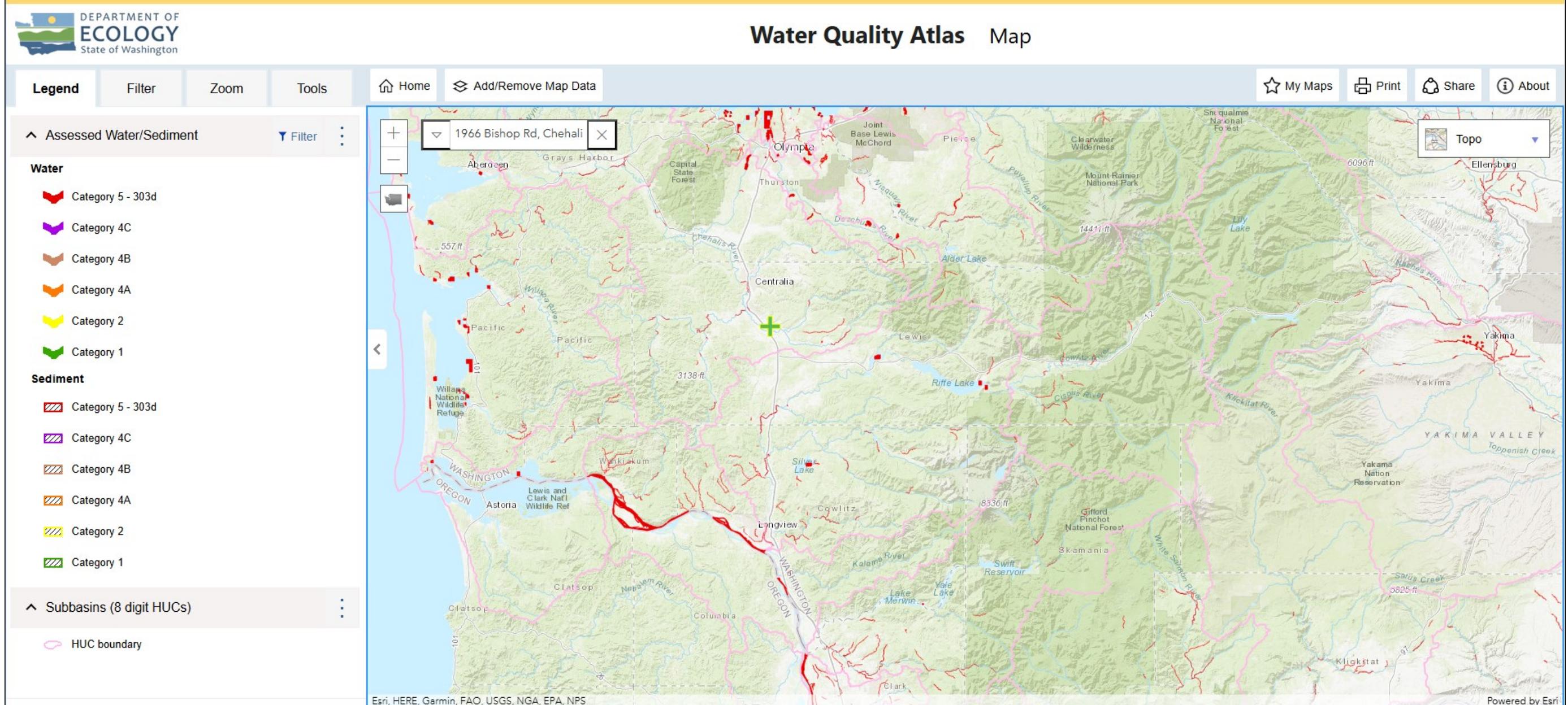
(360) 751-9298
Castle Rock, Wash.
andrew@allisonresource.com

Date: September 2025
Client: Loowit Consulting Group, LLC
Project: Lewis County Parcel 017867005000

Figure 8

Wetland Rating Figure

Water Quality Improvement Projects in HUC 17100103 - Upper Chehalis



APPENDIX C - CLIMATOLOGICAL SUMMARY

Chehalis, Chehalis, Lewis, WA

2025-07-16 through 2025-07-30

Date	1.5 m Min	1.5 m Avg	1.5 m Max	9 m Min	9 m Avg	9 m Max	1.5 m Avg	1.5 m Min	1.5 m Rel.	1.5 m Rel.	Solar Radia	Precipitatio
7/16/2025	52.9	73.2	93.8	55.9	74.2	92.3	53.4	25.6	57.2	98	28.22	0
7/17/2025	49.9	66.4	85.4	54.1	66.6	83.8	53.5	34.1	67.5	96.4	25.61	0
7/18/2025	51.8	61.4	71.7	54.7	61.4	69.9	53.4	54.2	76.7	96	23.65	0
7/19/2025	49.8	60.1	72.3	53	60.1	70.7	49.9	48.5	70.7	90.4	22.14	0
7/20/2025	48.2	58.9	66.3	50.9	58.8	65	50.5	60.8	74.3	94.3	12.41	0
7/21/2025	49	60.6	74.3	51.4	60.7	72.8	52.9	51.9	77.6	98.6	20.5	0
7/22/2025	56.2	64.4	76.7	56.5	64.1	75.2	55.2	51.6	73.5	93.4	24.78	0
7/23/2025	51.8	66.2	83.9	54.9	66.3	82	55.8	42.9	73	98.9	25.48	0
7/24/2025	50.9	62.3	76.2	54.3	62.2	74.8	53.9	47.7	76.2	98.6	26.49	0
7/25/2025	49.7	60.8	71.7	53.8	60.8	69.8	52.2	53.7	74.7	95.1	21.52	0
7/26/2025	45.6	57.8	69.9	47.7	58.4	68.4	49.1	48	75	98.5	17.13	0
7/27/2025	44.1	60.1	75.7	47.2	60.7	74	49.2	43	70.7	98.2	25.86	0
7/28/2025	44.7	63.6	82.1	47.9	64.2	80.5	49.7	33.6	65.6	98.8	27.14	0
7/29/2025	46.8	66.9	87.7	50.2	67.8	86.5	51.1	27.2	62.8	97.9	26.97	0
7/30/2025	50.4	64.6	85.9	52.9	65.5	84.5	53.9	36.8	71.6	96	13.75	0

2 m Avg W	2 m Max W	10 m Avg V	10 m Max V	10 m Avg S	2 in Avg S	2 in Avg S	4 in Avg S	4 in Avg S	8 in Avg S	8 in Avg S	20 in Avg S	20 in Avg S
2.8	19.5	3.6	10 W	78.3	NA	NA	NA	NA	74.4	-191.3	NA	NA
3.1	13.5	3.9	8.1 W	78.7	NA	NA	NA	NA	74.8	-200.7	NA	NA
5	15.9	6.4	9.7 SW	79.3	NA	NA	NA	NA	74.9	-212.8	NA	NA
3.8	14.1	4.7	10.8 W	77.8	NA	NA	NA	NA	74.2	-226.4	NA	NA
2.5	9.9	3.2	5.7 W	74.4	NA	NA	NA	NA	73	-239.7	NA	NA
2.9	12.9	3.7	8.7 W	75.2	-35464.7	NA	NA	NA	71.8	-251.9	NA	NA
3.9	14.1	4.8	9.9 W	77.4	-46865.3	NA	NA	NA	72.8	-259.9	NA	NA
2.7	14.1	3.5	9.9 NW	77.7	-46184.3	NA	NA	NA	73.8	-268.5	NA	NA
4.4	16.5	5.6	10.8 W	78	-47469.5	NA	NA	NA	74.5	-279	NA	NA
4.4	14.7	5.6	11.4 W	77.9	-54856.9	NA	NA	NA	74.2	-294	NA	NA
2.5	13.5	3.3	8.3 SW	74.7	-67591.1	NA	NA	NA	72.8	-311.3	NA	NA
2.4	16.5	3.3	7.8 W	76.1	-63528	NA	NA	NA	72	-326.5	NA	NA
2.7	12.9	3.4	8.4 NW	75.8	-61372	NA	NA	NA	72.5	-336.8	NA	NA
2.8	14.1	3.8	9.4 NW	76.3	-59485.8	NA	NA	NA	73.1	-348.1	NA	NA
3	13.5	3.8	7.5 NW	76.8	-63791.8	NA	NA	NA	74.1	-352.8	NA	NA

ETo ETr

0.24	0.29
0.2	0.24
0.16	0.19
0.16	0.19
0.09	0.1
0.14	0.17
0.18	0.21
0.19	0.22
0.18	0.22
0.15	0.18
0.12	0.14
0.16	0.19
0.19	0.23
0.21	0.25
0.14	0.18