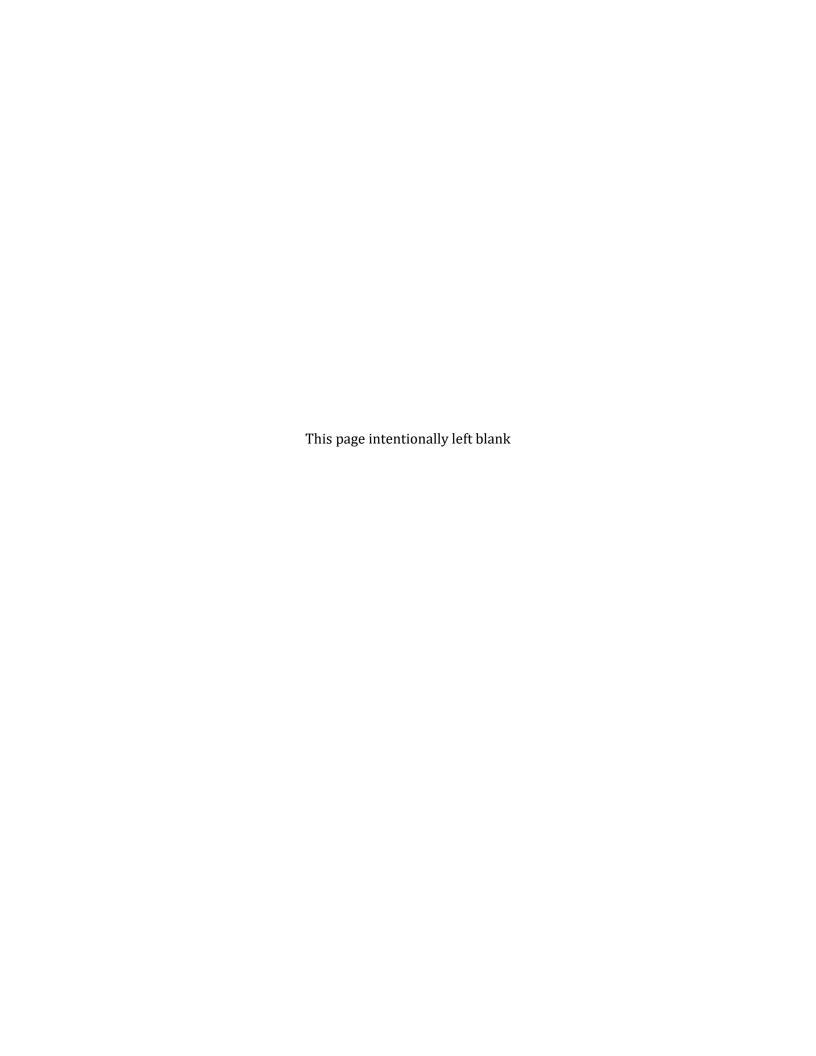
# Attachment E. Wetland Delineation Reports and Addendum



# Amendment to the 2020 and 2022 Carriger Solar, LLC Project Wetland and Waterbodies Delineation Reports

### Prepared for:



Cypress Creek Renewables, LLC 3402 Pico BLVD. Santa Monica, CA 90405



# Prepared by:



Tetra Tech, Inc. 1750 S Harbor Way, Suite 400 Portland, Oregon 97217

October 28, 2022



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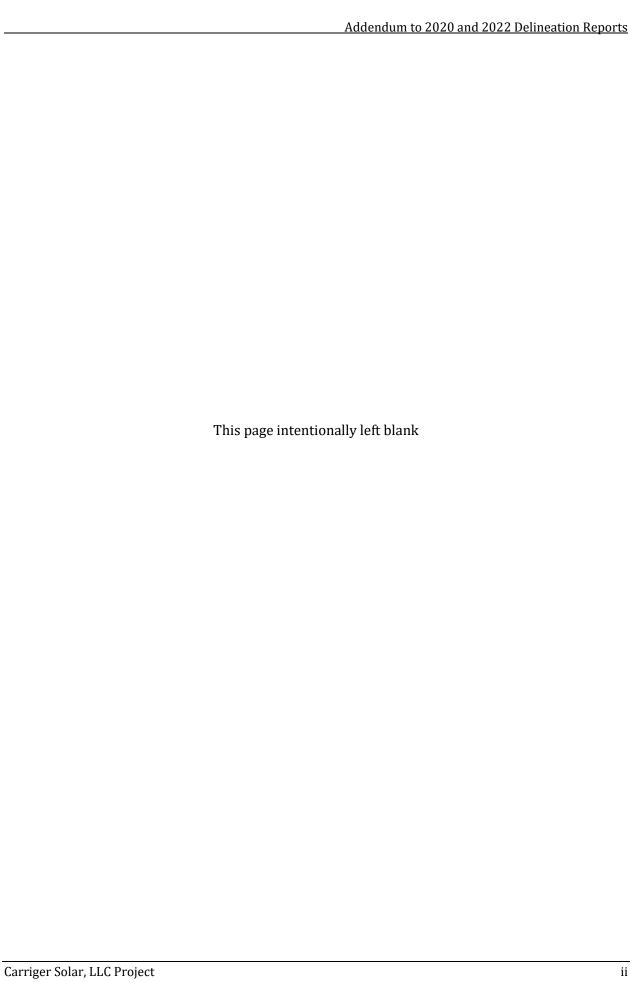
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#### 1.0 Introduction

This report serves as an amendment to the 2020 and 2022 wetland and waterbodies delineation reports for the Carriger Solar, LLC Project (Project), and **replaces** the previous amendment dated May 25, 2022. The Project is a proposed solar photovoltaic electric generating facility that includes 160 megawatts (MW) of solar energy and 63 MW of battery energy storage located within an approximately 2,000 acre lease area east of the City of Goldendale in Klickitat County, Washington. The following provides a summary of delineation surveys completed at the Project and the consultation history between Washington Department of Ecology (Ecology) and Cypress Creek Renewables, LLC (CCR) and its consultants.

- 2020 Delineation Report and Consultation with Ecology
  - o In 2020, WSP (formerly Ecology and Environment) prepared a delineation report for an approximately 1,260-acre survey area of the Project site (i.e. the northern portion of the current Project area). The 2020 WSP delineation report (Ecology and Environment 2020) is referred to as the "2020 Delineation Report" in this amendment.
  - o A request for a Letter of Determination was submitted to Ecology on July 28, 2020.
  - o A site visit was conducted by Ecology on October 9, 2020.
  - Ecology requested additional information for one feature (Stream 3); WSP provided this additional information in an October 27, 2020 memo; Ecology concurred (November 5, 2020) that this feature is not a Water of the State.
  - The updated 2020 Wetland and Waterbodies Delineation Report was submitted to Ecology on December 1, 2020, and identified six wetlands and five streams within the northern portion of the Project area.
- 2021 Field Work and 2022 Delineation Report
  - o In 2021, CCR expanded the Project site from 1,260 acres to approximately 2,260 acres. An additional wetland delineation was completed by WSP in July 2021 for the expanded area (i.e. the southern portion of the current Project area) and WSP prepared a wetland and waterbodies delineation report for the southern parcels. This 2022 WSP delineation report (WSP 2022) is referred to as the "2022 Delineation Report "in this amendment and supplements the 2020 Delineation Report, which covered the northern parcels.
  - The 2022 Delineation Report identifies an additional nine wetlands and six streams within the southern portion of the Project area.
- May 2022 Addendum with Data on Fish Use and Hydroperiods
  - o Tetra Tech was hired by CCR to complete wildlife and botanical surveys and to support the permitting for the Project. After reviewing the WSP 2020 and 2022

Delineation Reports, Tetra Tech identified that additional information on fish use and hydroperiods for the delineated streams was needed. Based on previous project experience in Klickitat County and consultation with Ecology, Tetra Tech understands that this information is a required component of wetland delineation reports.

- On April 5, 2022, Tetra Tech completed field work and prepared an addendum to the 2020 and 2022 Delineation Reports with additional information on fish use and hydroperiods for the previously delineated streams.
- o This information was provided to Lori White of Ecology via email from Jess Taylor on June 2, 2022 via a memorandum dated May 25, 2022 and titled "Amendment to the 2020 and 2022 Carriger Solar Wetland and Waterbodies Delineation Reports." The memorandum included a figure that shows the expanded survey area and all updated delineated features from the 2020 and 2021 WSP survey work. The memorandum also contained a photo log and Streamflow Duration Assessment Method (SDAM) forms with the updated information.
- o In the June 2, 2022 email from Jess Taylor to Lori White, Tetra Tech noted that during the May 2022 botanical surveys, additional potential wetland and stream features were identified in the southern portion of the Project area that were not mapped by WSP in the 2020 and 2022 Delineation Reports. CCR directed Tetra Tech to conduct additional delineation work at the Project site necessary to supplement the WSP 2020 and 2021 Delineation Reports and ensure the final reports are comprehensive.

As indicated above, this report serves as an amendment to the 2020 and 2022 Delineation Reports for the Project, and **replaces** the previous amendment dated May 25, 2022. Tetra Tech prepared this amendment to include hydroperiod and fish use information for the survey areas evaluated in the 2020 and 2022 Delineation Reports and to incorporate the information from Tetra Tech's 2022 field work including the delineation data and maps for the four wetlands, five vernal pools, and five streams (including three newly delineated streams and two extended stream features) delineated in April and June 2022.

#### 2.0 Methods

Two staff experienced in conducting wetland delineations in the Arid West region of the United States were involved in the field surveys and review of the data and reporting. The staff include:

- Jessica Taylor, Wetland and Riparian Scientist, has 13 years of experience conducting wetland and other waters of the U.S. assessments in the Pacific Northwest. Ms. Taylor is the field and report lead.
- Katie Pyne, Junior Wetland Scientist, has 3 years of experience conducting wetland delineations on various projects in Idaho, Oregon, and Washington. Ms. Pyne assisted in field efforts and reporting.

The areas surveyed in the 2020 and 2022 Delineation Reports were re-surveyed by Tetra Tech on April 5, June 27, and June 28 of 2022. The survey area is comprised of approximately 2,011 acres primarily composed of private lands, in two non-contiguous areas as shown in Figure 1, and also includes a one mile Klickitat County right-of-way along Knight Road. On April 5, a wetland scientist used the standard SDAM for the Pacific Northwest (Nadeau 2015) to determine hydroperiods for each delineated waterway. Fish use was determined by using field indicators such as the presence of macroinvertebrates, ordinary high-water marks, slope, and distance to a perennial waterway.

On June 27 and 28, 2022 two wetland scientists visited the areas marked as potential wetlands and streams during the May 2022 habitat survey, and delineated four wetlands, five vernal pools, and five streams (three newly delineated streams and two extended stream features from previous delineations). Wetland presence was determined per methods in the 1987 Army Corps of Engineers Manual and the Arid West Supplement. Three field indicators of wetlands (hydrophytic vegetation, hydric soils, and wetland hydrology) must be present to make a positive wetland determination. Wetlands classifications were based on Classification of Wetlands and Deep Water Habitats of the United States and rated using the Washington State Rating System for Eastern Washington (Cowardin et al. 1979; Hruby 2014). The rating system categorizes wetlands based on specific attributes such as rarity; sensitivity to disturbance; and water quality, hydrologic, and habitat functions. Field evaluations for potential wetlands were conducted using the following guidelines:

- Sample plots were chosen based on variations in topography and vegetation to identify the presence or absence of wetlands and determine wetland boundaries.
- Soil test pits were dug to a standard depth of 16 inches, unless refusal from rocky fill or naturally occurring rock was present, for determination of both wetland hydrology and hydric soil indicators.
  - o Soil horizons and textures were identified and soil matrix and mottle colors, if present, were determined using Munsell® Soil Color Charts (Munsell 2009).
  - o If present, standing water depth, depth to saturated soil, and/or high water table was documented and measured.
- Wetland indicator status for plants was determined using the State of Washington 2020 Wetland Plant List (USACE 2020).
- Washington Department of Ecology administrative rules for wetland delineated report requirements and jurisdictional determinations were followed (WAC 173-22-035).
- Photos were taken at each wetland in locations that best represent conditions throughout the immediate area. Photos are organized in the order that they were taken, and labeled with the feature name. Photos can be found in Appendix A, and Figure 3 shows the locations of these photos.

Non-wetland waters were evaluated using the following criteria:

• Stream channels less than 6 feet in width were mapped along their centerline, and streams greater than 6 feet in width were mapped at their Ordinary High Water Lines for each bank.

- Streams were delineated based on the presence of a defined channel with bed scour, sediment deposition, or other evidence of regular flow.
- Flow duration for the stream channels was determined using criteria in the Streamflow Duration Assessment Methodology (Nadeau 2015).
- Stream channels were classified following the Washington Department of Natural Resources interim water typing system (WAC 222-16-031). Water type classifications are based primarily on fish use and flow regime, as well as other values including water supply use.

Photographs, sample plots, and stream lines were recorded using a Juniper Geode series GPS unit. The Juniper Geode is configured to differentially correct positions in real-time using the Satellite Based Augmentation System, which typically results in positional error of less than 1 meter (Juniper Systems 2022). The newly delineated features are shown in Figure 1, and all delineated features within the survey area are shown in Figure 2.

Section 3.0 below details the hydroperiods, fish use, and additional wetland and waters delineations.

#### 3.0 Results

#### 3.1 Hydroperiod

The hydroperiod for each waterway delineated in the 2020 and 2022 Delineation Reports was determined by using the standard SDAM. This field assessment form was filled out for each stream, and each of these can be found in Appendix B. The changes to the stream type for each previously delineated stream is summarized in Table 1 below. The SDAM finding for the four streams delineated in April and June 2022 are also included in Table 1.

Table 1. SDAM Findings for Delineated Streams

Stream ID <sup>1</sup>	Location	Previous Type	SDAM Assessment
Stream 1	Western edge of survey area	Perennial	Perennial
Stream 1	Through the middle of the survey area	Intermittent	Intermittent
Stream 1	Eastern edge of survey area, and the little segments along Knight Rd	Intermittent	Ephemeral
Stream 2	Middle of survey area, flows towards the fish hatchery	Intermittent	Ephemeral
Stream 3	Middle of the survey area, north of Fish Hatchery Rd	N/A <sup>2</sup>	Ephemeral <sup>3</sup>
Stream 4	Southern portion	Intermittent	Intermittent
Stream 4	Southeast corner of survey area	Intermittent	Intermittent
Stream 4	Eastern edge of survey area	Intermittent	Ephemeral
Stream 5	Northern section of survey area	Ephemeral	Ephemeral
Stream 6	Southern portion of survey area, flows into Stream 4	Intermittent	Ephemeral
Stream 7	Flows into Stream 1, middle of the survey area	Intermittent	Ephemeral
Stream 8	Southern portion of survey area, flows into Stream 6	N/A	Ephemeral
ST-100	Eastern edge of survey area, flows into Stream 4	N/A	Ephemeral
ST-109	Middle of the survey area, flows into Stream 1	N/A	Ephemeral

- 1. There are multiple sections of some streams, as they go in and out of the survey area.
- 2. WSP previously delineated 111 foot section of this stream and determined it to not meet the definition of a surface water of the state nor a water of the state.
- 3. Tetra Tech delineated an approximately 2,000 foot extension of Stream 3 during the June 2022 field work.

#### 3.2 Fish Use

As described in the 2020 and 2022 Delineation Reports, the Washington State Department of Natural Resources Forest Practices Application Mapping Tool shows the water type classifications of streams. The four different water types are S (shoreline), F (fish), Np (non-fish), and Ns (non-fish seasonal). In addition to utilizing this tool, fish use was determined by using field indicators such as the presence of macroinvertebrates, ordinary high-water marks, slope, and distance to a perennial waterway. These field indicator data were collected and reported by Tetra Tech in April 2022 using the SDAM (Appendix B).

Stream 1, on the western edge of the survey area, is mapped as type F, meaning that the stream meets the physical criteria to be used by fish. Stream 1 also has perennial flow as it is fed upstream by a spring, as noted by the landowner during conversation with the Tetra Tech surveyor in April 2022. Stream 4, below the confluence with Stream 6, in the southern portion of the survey area, is also mapped as type F, and has potential to act as fish habitat.

All other streams in the survey area are type Ns, meaning that they do not have surface flow during at least some portion of the year, and they do not meet the physical criteria of a fish-bearing stream.

These water type classifications determine the protective buffer width established in the Critical Areas Ordinance for Klickitat County. More information on established buffers is provided in Section 4 below.

#### 3.3 Wetlands and Waters Delineations

During the Project's habitat surveys conducted in May of 2022, additional wetlands and streams were observed that had not previously been delineated and were not included in the 2020 and 2022 Delineation Reports. This led to a subsequent wetlands and waters survey by Tetra Tech staff on June 27 and 28, 2022 in which four wetlands, five vernal pools, and five streams were delineated. In addition to the three new stream features, two of the previously delineated streams (Stream 3 and Stream 5) was extended into a longer feature. Table 2 below summarizes the features that were delineated in April and June 2022 (shown in Figure 1). Data sheets for sample sites taken at each wetland can be found in Appendix C.

The buffers included in Tables 2 and 3, are determined by the SDAM Assessment (Appendix B) and Wetland Rating Forms (Appendix C) which were completed for each feature. The Critical Areas Ordinance for Klickitat County specifies the buffer distance established for each type of feature. Further information on established buffers from the Klickitat County Critical Areas Ordinance is included in Section 4.0 below.

Table 2. April and June 2022 Delineated Features

Name	Location	SDAM Assessment/Wetland Rating <sup>1</sup>	Acres	Buffer (feet)
ST-100	Eastern edge of survey area, flows into Stream 4	Ephemeral	2.72	25
ST-109	Middle of the survey area, flows into Stream 1	Ephemeral	2.18	25
Stream 3	Middle of the survey area, north of Fish Hatchery Rd	Ephemeral	2.52	25
Stream 5	Northern section of survey area	Ephemeral	3.06	25
Stream 8	Southern portion of survey area, flows into Stream 6	Ephemeral	3.03	25
VP-101	Middle of the survey area, near Fish Hatchery Rd	Vernal pool / II	3.12	200
VP-102	Middle of the survey area, near Fish Hatchery Rd	Vernal pool / II	3.09	200
WT-103	Middle of the survey area, near Fish Hatchery Rd	Depressional / IV	1.02	75
WT-104	In between Wetlands O and P	Riverine / IV	8.51	75
WT-105	Downstream of Wetland P	Riverine / IV	3.10	75
WT-106	Middle of survey area, near Stream 1	Depressional / IV	1.67	75
VP-107	Middle of the survey area, near Fish Hatchery Rd	Vernal pool / II	3.27	200
VP-108	Middle of the survey area, near ST- 109	Vernal pool / II	3.81	200
VP-110	Middle of the survey area, near Fish Hatchery Rd	Vernal pool / II	3.49	200

<sup>1.</sup> The wetland ratings are determined by the Washington State Rating System for Eastern Washington (Cowardin et al. 1979; Hruby 2014). Category I is the highest rating, while Category IV is the lowest rating. These ratings are then used to determine the appropriate buffer for each wetland.

#### Wetlands

There are a total of eighteen wetlands and five vernal pools within the survey area, listed in Table 3 below and shown in Figure 2. The features had varying levels of disturbance, likely because of previous agricultural uses throughout the survey area. The majority of the wetlands were found in drainages and characterized as riverine wetlands. The vernal pools in the middle of the survey area

were observed due to surface soil cracking and the inherent lack of large vegetation present in vernal pools.

The predominant herbaceous vegetation observed in Palustrine Emergent (PEM) wetlands included baltic rush (*Juncus balticus*, FACW), dagger-leaf rush (*Juncus ensifolius*, FACW), Scouler's popcorn flower (*Plagiobothrys scouleri*, FACW), needle leaf navarretia (*Navarretia intertexta*, OBL), annual hairgrass (*Deschampsia danthonioides*, FACW), common spike-rush (*Eleocharis palustris*, OBL), and field horsetail (*Equisetum hyemale*, FAC). In PEM vernal pools, the dominant herbaceous vegetation included Scouler's popcorn flower (*Plagiobothrys scouleri*, FACW), needleleaf navarretia (*Navarretia intertexta*, OBL), and tiny mousetail (*Myosurus minimus*, OBL). The state-threatened foxtail mousetail (*Myosurus alopecuroides*) was observed in three of the vernal pools (VP-101, VP-102, and VP-107) during the Project's botanical surveys (Tetra Tech 2022).

#### **Streams**

There are a total of fourteen stream segments within the survey area, listed in Table 3 below and shown in Figure 2. The majority of the streams start out as ephemeral, and some of these streams become intermittent further downstream. There is one section of Stream 1, which was previously delineated by WSP, which has perennial flow. The intermittent drainages had some standing water and flow during the spring, but channels were dry by the end of June. No water was observed in any of the ephemeral stream segments.

Table 3. All Delineated Features

Name <sup>1</sup>	Location	SDAM Assessment/Wetland Rating <sup>2</sup>	Acres	Buffer (feet)
Stream 1	Western edge of survey area	Perennial (potential for fish)	15.95	150
Stream 1	Through the middle of the survey area	Intermittent	19.07	25
Stream 1	Eastern edge of survey area, and the little segments along Knight Rd	Ephemeral	1.43	25
Stream 2	Middle of survey area, flows towards the fish hatchery	Intermittent	9.57	25
Stream 3	Middle of the survey area, north of Fish Hatchery Rd	Ephemeral	2.52	25
Stream 4	Southern portion	Intermittent (potential for fish)	2.88	25
Stream 4	Southeast corner of survey area	Intermittent	5.13	25
Stream 4	Eastern edge of survey area	Ephemeral	8.93	25
Stream 5	Northern section of survey area	Ephemeral	3.06	25
Stream 6	Southern portion of survey area, flows into Stream 4	Intermittent	11.07	25

Name <sup>1</sup>	Location	SDAM Assessment/Wetland Rating <sup>2</sup>	Acres	Buffer (feet)
Stream 7	Flows into Stream 1, middle of the survey area	Ephemeral	3.17	25
Stream 8	Southern portion of survey area, flows into Stream 6	Ephemeral	3.03	25
ST-100	Eastern edge of survey area, flows into Stream 4	Ephemeral	2.72	25
ST-109	Middle of the survey area, flows into Stream 1	Ephemeral	2.18	25
		Acreage of all streams	90.71	
Wetland A	Middle of the survey area, along Stream 1	Riverine / IV	1.53	75
Wetland B	Middle of the survey area, along Stream 1	Depressional / IV	0.76	75
Wetland C	Middle of the survey area, along Stream 1	Depressional / IV	1.18	75
Wetland D	Middle of the survey area, along Stream 1	Slope / IV	2.83	75
Wetland E	Middle of the survey area, along Stream 2	Riverine / IV	2.11	75
Wetland F	Eastern edge of the survey area, along Stream 4	Riverine / IV	0.67	75
Wetland G	Southwestern edge of the survey area, along Stream 1	Riverine / III	15.07	75
Wetland H	Southern portion of survey area, near Stream 6	Depressional / IV	0.78	75
Wetland I	Southern portion of survey area, near Stream 6	Depressional / IV	1.13	75
Wetland J	Southern portion of survey area, near Stream 6	Depressional / IV	0.80	75
Wetland K	Southern portion of survey area, along Stream 6	Riverine / III	0.70	75
Wetland L	Southern portion of survey area, along Stream 6	Riverine / III	2.59	75
Wetland O	Middle of the survey area, along Stream 1	Riverine / III	3.94	75
Wetland P	Middle of the survey area, along Stream 1	Depressional / III	2.11	75

Name <sup>1</sup>	Location	SDAM Assessment/Wetland Rating <sup>2</sup>	Acres	Buffer (feet)
VP-101	Middle of the survey area, near Fish Hatchery Rd	Vernal pool / II	3.12	200
VP-102	Middle of the survey area, near Fish Hatchery Rd	Vernal pool / II	3.09	200
WT-103	Middle of the survey area, near Fish Hatchery Rd	Depressional / IV	1.02	75
WT-104	In between Wetland O and P	Riverine / IV	8.51	75
WT-105	Downstream of Wetland P	Riverine / IV	3.10	75
WT-106	Middle of survey area, near Stream 1	Depressional / IV	1.67	75
VP-107	Middle of the survey area, near Fish Hatchery Rd	Vernal pool / II	3.27	200
VP-108	Middle of the survey area, near ST-109	Vernal pool / II	3.81	200
VP-110	Middle of the survey area, near Fish Hatchery Rd	Vernal pool / II	3.49	200
		Acreage of all wetlands	67.28	
	Total ac	reage of streams and wetlands	157.99	

<sup>1.</sup> There are multiple sections of some streams, as they go in and out of the survey area.

## 4.0 Regulatory Review

#### 4.1 Wetlands

Impacts to wetlands delineated in the survey area would require the review and approval of Klickitat County, WDFW, Ecology, and the US Army Corps of Engineers. The wetland section of the Klickitat County Critical Areas Ordinance (Klickitat County Ordinance [CAO] No. 0080613, Chapter III) designates and classifies wetland areas, and provides measures to protect their functions and values. The CAO requires the use of Ecology's Washington State Wetland Rating System for Eastern Washington (Hruby 2014) to determine a wetland's category, which is based on its score for habitat, water quality, and hydrologic functions. The CAO establishes protective buffers associated with wetlands and specifies that certain permits or approvals must be obtained for projects impacting wetlands and/or their buffers. These ratings and buffers are included in Tables 2 and 3 above. The CAO also establishes mitigation requirements for the alteration of wetlands. The CAO also allows for the averaging of required wetland buffer widths if the applicant demonstrates that

<sup>2.</sup> The wetland ratings are determined by the Washington State Rating System for Eastern Washington (Cowardin et al. 1979; Hruby 2014). Category I is the highest rating, while Category IV is the lowest rating. These ratings are then used to determine the appropriate buffer for each wetland.

wetland function and values will not be reduced. More information about the requirements for averaging wetland buffer widths is in Part 3.3 of the Klickitat County CAO.

#### 4.2 Waterbodies

The Critical Fish and Wildlife Habitat Conservation Areas section of the Klickitat County Critical Areas Ordinance advises on the buffers required for each type of stream (Klickitat County Ordinance No. 0080613, Chapter IV). The buffers range from 200 feet for state shorelines, 150 feet for Type F (fish) waters, 50 feet for Type Np (non-fish) waters, and 25 feet for Type Ns (non-fish seasonal) waters. The buffers for each stream segment are included in Tables 2 and 3. Similar to the wetland buffers, the CAO also allows for the averaging of required fish habitat conservation area/stream buffer widths if the applicant demonstrates that buffer function and values will not be reduced. More information about the requirements for averaging buffer widths for fish habitat conservation areas is in Part 4.3 of the Klickitat County CAO.

#### 5.0 Conclusions

Using methods recommended in the Manual and Arid West Supplement, four additional wetlands and five vernal pools were delineated and documented in the survey area. Three additional streams were delineated and 2 stream lines were extended in the survey area. There are a total of eighteen wetlands and five vernal pools within the survey area and the total area of preliminary jurisdictional wetlands reported within the survey area is 67.28 acres. There are a total of fourteen stream segments within the survey area and the total area of preliminary jurisdictional waters within the survey area is 90.71 acres. Table 3 above summarizes the acreages of each wetland and stream delineated within the survey area (shown in Figure 2).

All wetlands identified in this report will likely be subject to regulations by the Washington State Department of Ecology. Any impact to jurisdictional wetlands or streams (or their buffers) would require a Section 404 permit through the US Army Corps of Engineers, a Section 401 permit through Ecology, a Hydraulic Project Approval through WDFW, and Critical Areas review from Klickitat County.

### 6.0 References

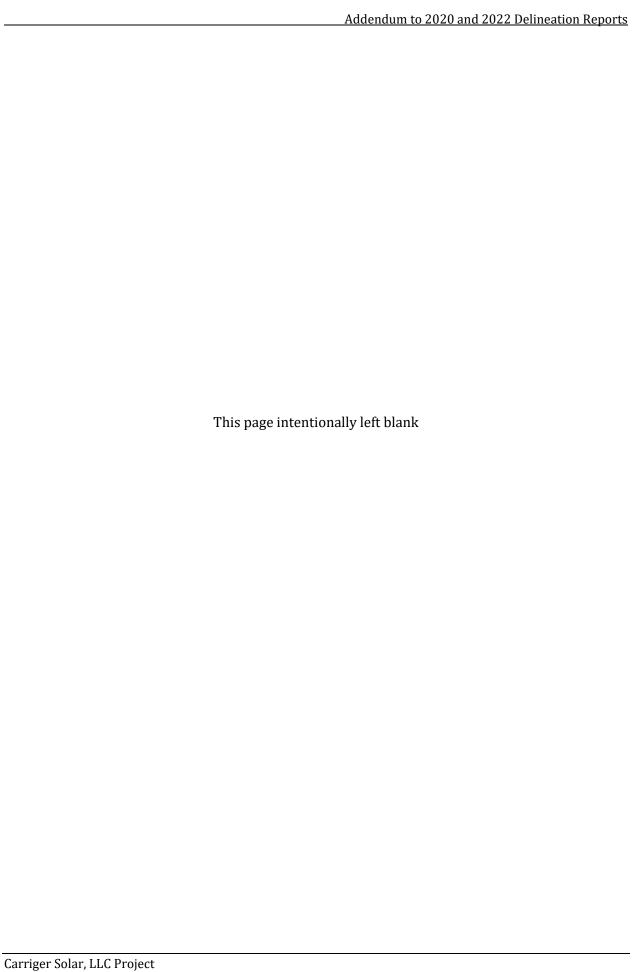
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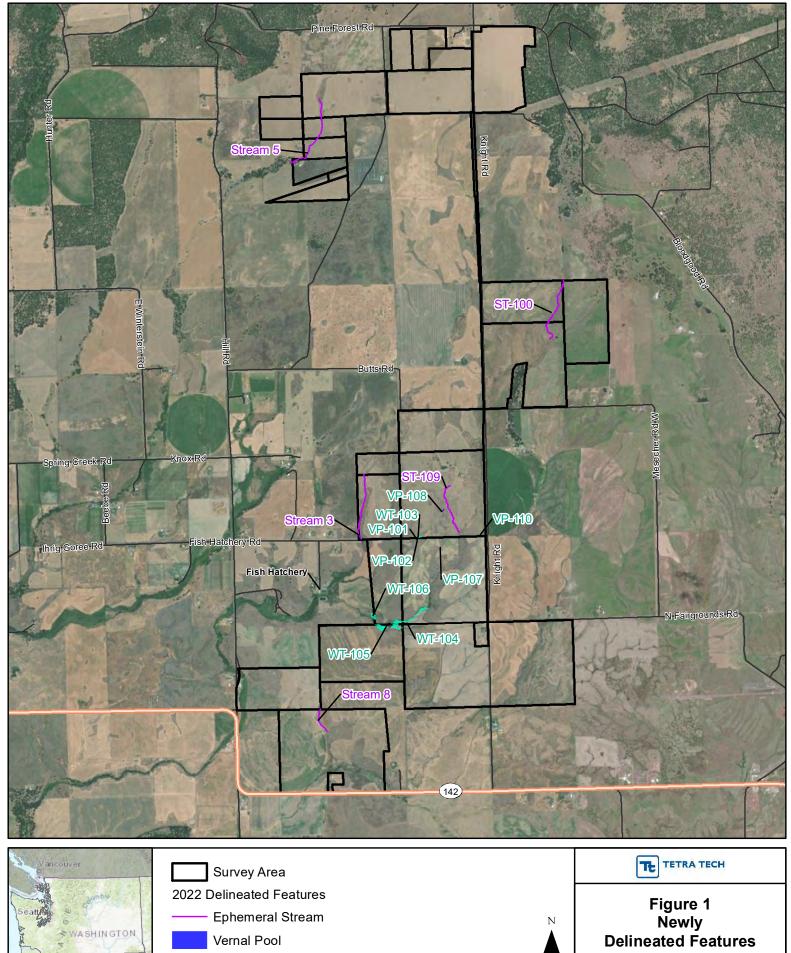
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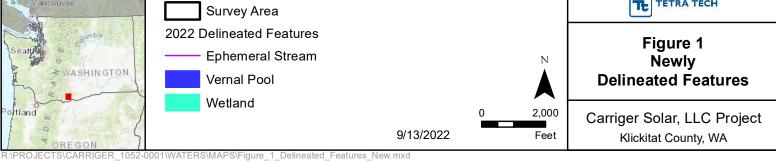
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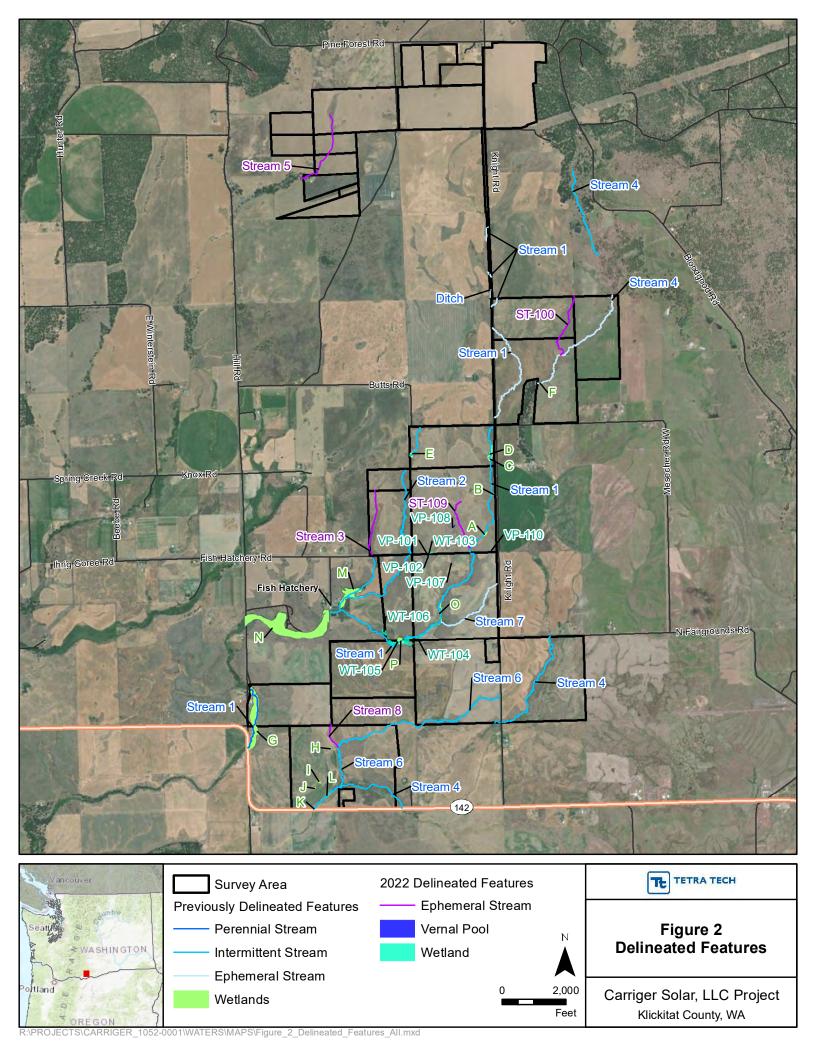
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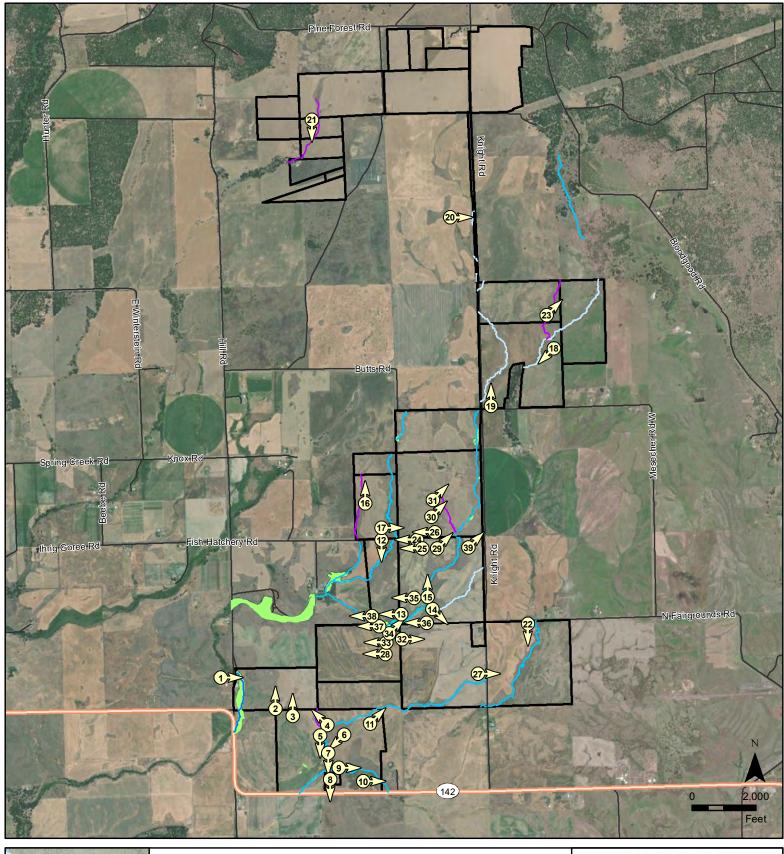
# **Figures**













(1)

Photo Location and Direction

Survey Area

Previously Delineated Features

Perennial Stream

Intermittent Stream

Ephemeral Stream

Wetlands

2022 Delineated Features

Ephemeral Stream

Vernal Pool

Wetland

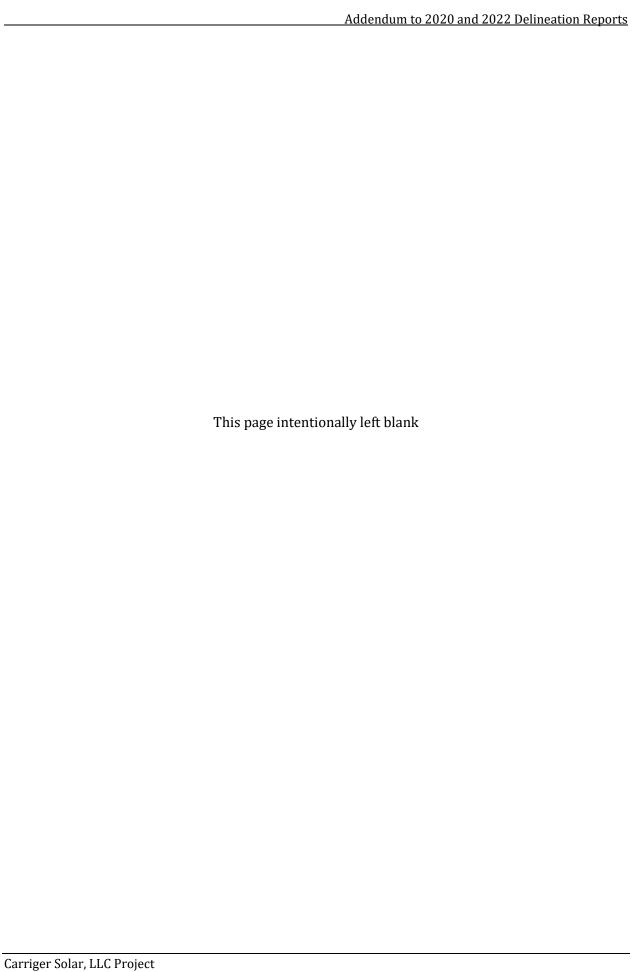


# Figure 3 Photo Locations

Carriger Solar, LLC Project Klickitat County, WA

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Appendix A.	Photo Log





Photopoint 1. Stream 1, on the western edge of the Project Area. Perennial drainage. Facing east. 4/5/22.



Photopoint 2. Rock outcropping, potential wetland spot. Facing north. 4/5/22.



Photopoint 3. Rock outcropping, with standing water. Facing north. 4/5/22.



Photopoint 4. Stream 8, ephemeral drainage. Facing northwest. 4/5/22.



Photopoint 5. Stream 6, ephemeral drainage. Facing south. 4/5/22.



Photopoint 6. Stream 6, standing water. Facing southwest. 4/5/22.



Photopoint 7. Wetland spot next to Stream 6. Facing south. 4/5/22.



Photopoint 8. Wetland spot with willows and rose. Facing south. 4/5/22.



Photopoint 9. Stream 4, intermittent drainage. Facing south. 4/5/22.



Photopoint 10. Potential wetland area. Facing east. 4/5/22.



Photopoint 11. Stream 6, ephemeral drainage. Facing northeast. 4/5/22.



Photopoint 12. Stream 2, ephemeral drainage. Facing south. 4/5/22.



Photopoint 13. Stream 1, intermittent drainage. Facing west. 4/5/22.



Photopoint 14. Stream 7, ephemeral drainage. Facing southeast. 4/5/22.



Photopoint 15. Wetland area along Stream 1. Facing north. 4/5/22.



Photopoint 16. Stream 3, ephemeral drainage. Facing north. 4/5/22.



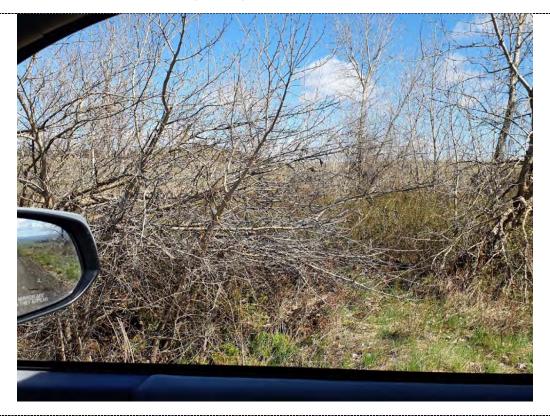
Photopoint 17. Potential wetland spot, culvert under road. Facing east. 4/5/22.



Photopoint 18. Stream 4, ephemeral drainage. Facing southwest. 4/5/22.



Photopoint 19. Stream 1, ephemeral drainage. Facing north. 4/5/22.



Photopoint 20. Wetland spot along Knight Road. Facing east. 4/5/22.



Photopoint 21. Stream 5, ephemeral drainage. Facing south. 4/5/22.



Photopoint 22. Stream 4, intermittent drainage. Facing south. 4/5/22.



Photopoint 23. XBB105. Area not a wetland. Facing east. 6/27/22.



Photopoint 24. Stream 6. Facing east. 6/27/22.



Photopoint 25. ST-100. Ephemeral drainage, 1 foot wide, 100 percent cereal rye. Facing northeast. 6/27/22.



Photopoint 26. ST-109. Conditions in upper reach, 1% slope. Facing northeast. 6/27/22.



Photopoint 27. VP-101. Vernal pool. Facing west. 6/27/22.



Photopoint 28. VP-102. Vernal pool. Facing west. 6/27/22.



Photopoint 29. VP-107. Vernal pool between two agricultural fields. Facing northeast. 6/27/22.



Photopoint 30. VP-108. Vernal pool in rangeland. Facing northeast. 6/27/22.



Photopoint 31. VP-110. Vernal pool. Facing northeast. 6/27/22.



Photopoint 32. WT-103. Wetland area near road. Facing west. 6/27/22.



Photopoint 33. WT-103. Soil pit. 6/28/22.



Photopoint 34. WT-104a. Looking upstream. Facing west. 6/28/22.



Photopoint 35. WT-104b. Looking downstream. Facing west. 6/28/22.



Photopoint 36. WT-105. Wet meadow riverine wetland complex. Facing west. 6/28/22.



Photopoint 37. WT-105a. Looking downstream. Facing west. 6/28/22.



Photopoint 38. WT-105b. Looking upstream. Facing northeast. 6/28/22.

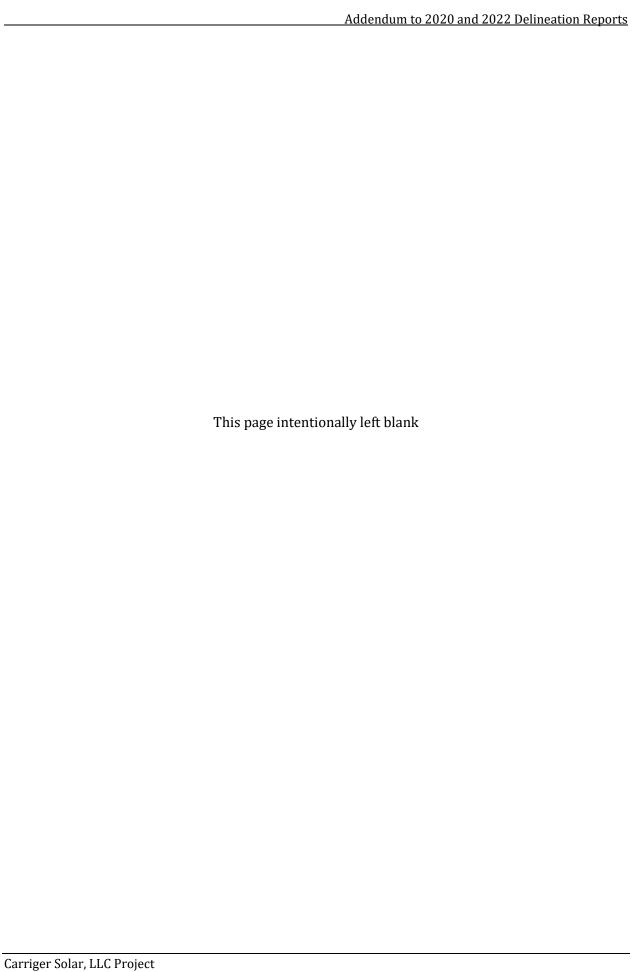


Photopoint 39. WT-105c. Facing west. 6/28/22.



Photopoint 40. WT-106. Pond. Facing west. 6/28/22.

Addendum to 2020 and 2022 Delineation Reports
Appendix B. SDAM Forms



Proje	ect # / Na	ame Carriger Solar			Assessor Katie Pyne					
Addr	ess Klickita	at County					Date 4/5/2	022		
Wate	erway Na	Me Stream 1			Coordinates at		45.831		Ν	
Read	h Bound	aries Study area width.			downstream er (ddd.mm.ss)	1 <b>d</b> Long.	120.904		W	
Prec	ipitation	w/in 48 hours (cm) 1.35	Cha	ınnel Width (m) <sub>1.</sub> .	4		urbed Site In (Describe	/ Difficult in "Notes")		
	erved	# of pools observed 0			- Iacroinvertebra	ıtas:				
Observations	(and inc	dicator status): Phalaris (FACW	s arundinacea		xon Indi Sta		Ephemer- optera?	# of Individuals 3 6		
	1. Are a	quatic macroinvertebrate	es present?			■ Yes		No		
ndicators	2. Are 6 or more individuals of the Order Ephemeroptera prese			esent?						
icat	3. Are p	erennial indicator taxa pr	resent? (refe	er to Table 1)		Yes		No		
pu	4. Are F	ACW, OBL, or SAV plants	present? (W	/ithin ½ channel widtl	h) [	■ Yes		No		
	5. What	is the slope? (In percent, r	neasured for th	ne valley, not the strea	am) _	2 9	%			
Conclusions		Are aquatic macroinvertebrates present? (Indicator 1)	: Are 6 or more uals of the Order hemeroptera present? ndicator 2)  Are SAV, FACW, plants present? ndicator 4)	If Yes: Are perennial indicator taxa present? (Indicator 3)  If No: INTERMITTENT  If Yes: What is the slope? (Indicator 5)  If No: EPHEMERAL	If Yes: PERENNIAL  If No: What is the slope? (Indicator 5)  Slope < 10.5% INTERMITTEN  Slope ≥ 10.5% EPHEMERAL	6: 6:	Slope < 16%: INTERMITTENT  Slope ≥ 16%: PERENNIAL			
	Fish	<b>ndicators:</b> hibians			Finding:	☐ In	ohemera termitter erennial			

Notes: (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)  Cows were present along the creek, and prevented observation of more macroinvertebrates.								
Difficult Situation:	Describe situation. For distraint and history of disturbance.	urbed strea	ams, note ex	tent, type,				
Prolonged Abnormal Rainfall / Snowpack	·							
☐ Below Average								
Above Average								
■ Natural or Anthropogenic Disturbance	Area is heavily grazed and utilized	by livestock.						
Other:								
<b>Additional Notes:</b> (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.								
See Photo # 001								
Predominant vegetation is reed canary grass and willows. Landowner noted that the creek flows all year round, as it is fed upstream by a spring. There are wetlands along the banks of the creek.								
Ancillary Information:			_					
Riparian Corridor								
Erosion and Deposition  The general are	ea is much drier, and there is a clear change b	petween the up	pland and the ri <sub>l</sub>	parian.				
☐ Floodplain Connectivity								
		·						
	Observed Amphibians, Snake, an	d Fish: Life History	Location	Number of Individuals				
	Taxa	Stage	Observed	Observed				
	None							

Proje	ect # / Na	ame Carriger Solar			Assessor Katie Pyne					
Addr	ess Klickita	at County			<u> </u>		Date 4/5/2	022		
Wate	erway Na	me Stream 1			Coordinates at		45.8391		Ν	
Read	h Bound	aries Study area width.			downstream er (ddd.mm.ss)	nd Long.	120.8883		W	
Prec	ipitation	w/in 48 hours (cm) 1.35	Channe	el Width (m) 1.2	25		urbed Site In (Describe			
	erved rology	% of reach w/observed % of reach w/any flow (s	surface or hypol	heic) <u>100</u>	_					
<b>Observations</b>	(and inc	ed Wetland Plants Salix sp dicator status): effusus	p (FACW), Juncus (FACW)				Ephemer- optera?	# of Individuals		
	1. Are a	quatic macroinvertebrate	es present?	•		☐ Yes		No		
ndicators	2. Are 6 or more individuals of the Order Ephemeroptera prese			esent? Yes No						
icat	3. Are p	erennial indicator taxa pr	resent? (refer to	Table 1)		Yes		No		
Ind	4. Are F	ACW, OBL, or SAV plants	present? (Within	½ channel widtl	h)	■ Yes		No		
	5. What	is the slope? (In percent, r	neasured for the va	lley, not the strea	am) .	3 9	%			
Conclusions		Are aquatic macroinvertebrates present? (Indicator 1)	: Are 6 or more uals of the Order hemeroptera present? ndicator 2)  Are SAV, FACW, plants present?	If Yes: Are perennial indicator taxa present? (Indicator 3)  If No: INTERMITTENT  If Yes: What is the slope? (Indicator 5)  If No: EPHEMERAL	Slope ≥ 10.59 EPHEMERAL	%: IT	Slope < 16%: INTERMITTENT  Slope ≥ 16%: PERENNIAL			
	Fish	<b>ndicators:</b> hibians			Finding:	In	ohemeral termitter erennial			

<b>Notes:</b> (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)								
Difficult Situation:	Describe situation. For distraction and history of disturbance.	urbed strea	ams, note ex	tent, type,				
Prolonged Abnormal Rainfall / Snowpack	· ·							
☐ Below Average								
☐ Above Average								
Natural or Anthropogenic Disturbance	Area is used for agricultural purpos	es, and veget	ation is disturbe	∌d.				
Other:								
<b>Additional Notes:</b> (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.								
See Photo # 13 and 15								
Predominant vegetation is willow, rose, rushes, and grass.  This area is disturbed and used for agricultural purposes. There is some canopy cover at the wetland spots that are dotted along the drainage, otherwise there is no canopy cover. The substrate is rocky, with gravel in the bottom.								
Anaillany Informations								
Ancillary Information:  Riparian Corridor								
Erosion and Deposition  There is a subtle	e change between the upland and the ripariar	n, the primary	change being th	ne substrate,				
☐ Floodplain Connectivity								
	Observed Amphibians, Snake, an	Life	Lagation	Number of				
	Taxa	History Stage	Location Observed	Individuals Observed				

Proje	ect # / Na	ame Carriger Solar			Assessor Katie Pyne					
Addr	ess Klickita	at County					Date 4/5/20	)22		
Wate	erway Na	me Stream 1			Coordinates at		45.8578		Ν	
Read	h Bound	aries Study area width.			downstream er (ddd.mm.ss)	nd Long	120.8742		W	
Prec	ipitation	w/in 48 hours (cm) 1.35	Channe	el Width (m) o.	5		urbed Site on (Describe i			
	erved	% of reach w/observed % of reach w/any flow (s		·	_					
Observations	(and inc	ed Wetland Plants <sub>None</sub> dicator status):					Ephemer- optera?	# of Individuals		
	1. Are a	quatic macroinvertebrate	es present?			☐ Yes		No		
ndicators	2. Are 6 or more individuals of the Order Ephemeroptera prese			sent? Yes No						
icat	3. Are p	erennial indicator taxa pr	resent? (refer to	Table 1)		Yes		No		
pu	4. Are F	ACW, OBL, or SAV plants	present? (Withir	1½ channel widt	h)	Yes		No		
	5. What	is the slope? (In percent, r	neasured for the va	lley, not the strea	am) .	4 0	%			
Conclusions		Are aquatic macroinvertebrates present? (Indicator 1)	a: Are 6 or more uals of the Order hemeroptera present? Indicator 2)  Are SAV, FACW, plants present?	If Yes: Are perennial indicator taxa present? (Indicator 3)  If No: INTERMITTENT  If Yes: What is the slope? (Indicator 5)  If No: EPHEMERAL	Slope ≥ 10.5% EPHEMERAL	%: %:	Slope < 16%: INTERMITTENT  Slope ≥ 16%: PERENNIAL			
	Fish	Indicators:			Finding:	In	ohemeral termitten erennial			

<b>Notes:</b> (explanation of any single indicator content interfere with indicators, etc.)	onclusions, description of disturbar	nces or mo	difications th	nat may				
Difficult Situation:	Describe situation. For distraint and history of disturbance.	urbed strea	ams, note ex	tent, type,				
Prolonged Abnormal Rainfall / Snowpack	·							
☐ Below Average								
Above Average								
■ Natural or Anthropogenic Disturbance	Area is used for agricultural purpos	Area is used for agricultural purposes, and vegetation is disturbed.						
Other:								
<b>Additional Notes:</b> (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.								
See Photo # 19								
Predominant vegetation is buckwheat, yarrow, grass, and clover.  This area is heavily grazed and utilized by cattle. There is little to no canopy cover, and the soil is compacted. The substrate is rocky, with gravel in the bottom.								
Ancillary Information:								
Riparian Corridor								
☐ Erosion and Deposition  There is no disti	inct change in vegetation between the upland	and the ripari	ian, only change	e in substrate.				
☐ Floodplain Connectivity								
	Observed Amphibians, Snake, an	<b>d Fish:</b> Life History Stage	Location Observed	Number of Individuals Observed				
		2 3 6 2						
	None							

Proje	ect # / Na	ame Carriger Solar			Assessor Katie I	Pyne			
Addr	ess Klickita	at County					Date 4/5/2	022	
Wate	erway Na	me Stream 2			Coordinates at		45.8427		Ν
Read	h Bound	aries Study area width.			downstream er (ddd.mm.ss)	nd Long.	120.8887		W
Prec	ipitation	w/in 48 hours (cm) 1.35	Channe	el Width (m) 1		_	urbed Site on (Describe	•	
Observed Hydrology		% of reach w/observed surface flow 0  % of reach w/any flow (surface or hyporheic) 0  # of pools observed 0							
Observations	Observe (and inc	ed Wetland Plants <sub>Navaret</sub> dicator status): willow	ttia, popcorn flower,				Ephemer- optera?	# of Individuals	
	1. Are a	quatic macroinvertebrate	es present?			☐ Yes		No	
ndicators	2. Are 6	or more individuals of th	e Order Ephemo	eroptera pres	ent?	Yes		No	
cat	3. Are p	erennial indicator taxa pr	resent? (refer to	Table 1)		☐ Yes		No	
lnd	4. Are F	ACW, OBL, or SAV plants	present? (Within	1½ channel widtl	h)	Yes		No	
	5. What	is the slope? (In percent, r	neasured for the va	lley, not the strea	am) .	3 9	%		
Conclusions		Are aquatic macroinvertebrates present? (Indicator 1)	: Are 6 or more uals of the Order hemeroptera present? ndicator 2)  Are SAV, FACW, plants present? ndicator 4)	If Yes: Are perennial indicator taxa present? (Indicator 3)  If No: INTERMITTENT  If Yes: What is the slope? (Indicator 5)  If No: EPHEMERAL	Slope ≥ 10.5% EPHEMERAL	%: %: %:	Slope < 16%: INTERMITTENT  Slope ≥ 16%: PERENNIAL		
	Fish	Indicators: hibians			Finding:	■ In	phemeral termitter erennial		

<b>Notes:</b> (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)								
Difficult Situation:	Describe situation. For distuant and history of disturbance.	urbed strea	ams, note ex	tent, type,				
Prolonged Abnormal Rainfall / Snowpack	•							
☐ Below Average								
☐ Above Average								
■ Natural or Anthropogenic Disturbance	Area is used for agricultural purpos	ses, and veget	s, and vegetation is disturbed.					
Other:								
<b>Additional Notes:</b> (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.								
See Photo # 12								
Predominant vegetation is buckwheat, with wetland vegetation in the stream channel. There are a few trees, but for the most part there is no canopy cover.								
Ancillary Information:								
Riparian Corridor								
☐ Erosion and Deposition								
There is no disti	inct change in vegetation between the upland	and the ripari	an, only substra	ate.				
☐ Floodplain Connectivity								
	Observed Amphibians, Snake, and	d Fish:						
	Таха	Life History Stage	Location Observed	Number of Individuals Observed				
	Taxa	Stage	Obscived	Obscived				
	None							

Proje	ect # / Na	ame <sub>Carriger</sub> Solar			Assessor Katie Pyne					
Addr	ess Klickita	at County					Date 4/5/20	)22		
Wate	erway Na	me Stream 3			Coordinates at downstream e		45.8463		Ν	
Read	ch Bound	aries Study area width.			(ddd.mm.ss)	Long	120.8897		W	
Prec	ipitation	w/in 48 hours (cm) 1.35	Channe	l Width (m) 1		_	curbed Site on (Describe	-		
Obs	erved	% of reach w/observed % of reach w/any flow (		 heic) <sup>0</sup>						
Hyd	rology									
		# of pools observed 0								
	Observe	ed Wetland Plants <sub>None</sub>		Observed N	/lacroinvertebra	ates:				
<b>Observations</b>	(and ind	dicator status):		Ta None		icator atus	Ephemer- optera?	# of Individuals		
90	4.4							N		
S		quatic macroinvertebrate	•		10	Yes		No	_	
ato		or more individuals of the	-		ent?	Yes		No	_	
ndicators		erennial indicator taxa pr		•		Yes		No	_	
'n		ACW, OBL, or SAV plants				Yes		No	_	
	5. What	is the slope? (In percent, r	neasured for the val	Illey, not the stream) 3 %						
Conclusions		Are aquatic macroinvertebrates present? (Indicator 1)	: Are 6 or more uals of the Order hemeroptera present? ndicator 2)  Are SAV, FACW, plants present? ndicator 4)	If Yes: Are perennial indicator taxa present? (Indicator 3)  If No: INTERMITTENT  If Yes: What is the slope? (Indicator 5)  If No: EPHEMERAL	If No: What is t slope? (Indicator 5)  Slope < 10.5 INTERMITTE!  Slope ≥ 10.5' EPHEMERA!	%: \.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.	Slope < 16%: INTERMITTENT  Slope ≥ 16%: PERENNIAL			
	☐ Fish	Indicators: hibians			Finding:	In	phemeral itermitter erennial			

<b>Notes:</b> (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)								
Difficult Situation:	Describe situation. For distance.	urbed streams, not	te extent, type,					
Prolonged Abnormal Rainfall / Snowpack	•							
☐ Below Average								
☐ Above Average								
■ Natural or Anthropogenic Disturbance	Area is used for agricultural purpos	Area is used for agricultural purposes, and vegetation is disturbed.						
Other:								
<b>Additional Notes:</b> (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.								
See Photo # 16								
Predominant vegetation is buckwheat, with upland vegetation in the stream channel. The substrate is vegetated with grasses, and the channel banks are not very well defined. There is little to no canopy cover, with a few trees congregated by the culvert under the road.								
Ancillary Information:								
Ancillary Information:  Riparian Corridor								
■ Riparian Corridor  □ Erosion and Deposition	nct difference between the upland and riparia	n.						
■ Riparian Corridor  □ Erosion and Deposition  There is no disti	nct difference between the upland and riparia	n.						
■ Riparian Corridor  □ Erosion and Deposition	nct difference between the upland and riparia	n.						
■ Riparian Corridor  □ Erosion and Deposition  There is no disti	nct difference between the upland and riparia	n.						
■ Riparian Corridor  □ Erosion and Deposition  There is no disti								
■ Riparian Corridor  □ Erosion and Deposition  There is no disti	nct difference between the upland and riparia	<b>d Fish:</b> Life	Number of					
■ Riparian Corridor  □ Erosion and Deposition  There is no disti		d Fish:	on Individuals					
■ Riparian Corridor  □ Erosion and Deposition  There is no disti	Observed Amphibians, Snake, an	<b>d Fish:</b> Life History Locatio	on Individuals					
■ Riparian Corridor  □ Erosion and Deposition  There is no disti	Observed Amphibians, Snake, an	<b>d Fish:</b> Life History Locatio	on Individuals					

Proje	ect # / Na	ame Carriger Solar			Assessor Katie I	Pyne			
Addr	ess Klickita	at County					Date 4/5/2	2022	
Wate	erway Na	me Stream 4			Coordinates at		45.82645		N
Read	ch Bound	aries Study area width.			downstream er (ddd.mm.ss)	id Long	-120.8943		W
Prec	ipitation	w/in 48 hours (cm) 1.35	Channe	el Width (m) <sub>1.</sub>	5		urbed Site on (Describe	Difficult in "Notes")	
	erved rology	# of pools observed 10							
<b>Observations</b>	(and inc	ed Wetland Plants <sub>Salix</sub> sp dicator status): effusus	pp (FACW), Juncus (FACW)				Ephemer- optera?	# of Individuals	
	1. Are a	quatic macroinvertebrate	es present?			Yes		] No	
ors	2. Are 6	or more individuals of th	e Order Ephemo	eroptera pres	ent?	Yes		] No	
Indicators	3. Are p	erennial indicator taxa pr	resent? (refer to	Table 1)		Yes		] No	
ndi	4. Are F	ACW, OBL, or SAV plants	present? (Within	1½ channel widt	h)	■ Yes		] No	
	5. What	is the slope? (In percent, r	measured for the va	lley, not the stre	am) _	3 (	%		
Conclusions		Are aquatic macroinvertebrates present? (Indicator 1)	a: Are 6 or more uals of the Order hemeroptera present? Indicator 2)  Are SAV, FACW, plants present?	If Yes: Are perennial indicator taxa present? (Indicator 3)  If No: INTERMITTENT  If Yes: What is the slope? (Indicator 5)  If No: EPHEMERAL	If No: What is the slope? (Indicator 5)  Slope < 10.59 INTERMITTEN  Slope ≥ 10.59 EPHEMERAL	6: 1 6: 1 6: 1 6: 1 6: 1	Slope < 16%: INTERMITTEN  Slope ≥ 16% PERENNIAL		
	Fish	Indicators:			Finding:	In	phemera Itermitte erennial		

<b>Notes:</b> (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)							
Difficult Situation:	Describe situation. For distuance.	urbed strea	ams, note ex	tent, type,			
☐ Prolonged Abnormal Rainfall / Snowpack	*						
☐ Below Average							
☐ Above Average				·			
■ Natural or Anthropogenic Disturbance	Area is used for agricultural purpos	ses, and veget	tation is disturbe	ed.			
Other:							
<b>Additional Notes:</b> (sketch of site, description additional sheets as necessary.	n of photos, comments on hydrologi	ical observ	ations, etc.)	Attach			
See Photo # 9							
Predominant vegetation is willow, rose, and rushes. There are trees in the upland, but the stream has limited canopy cover. The substrate is rocky with some sand.							
Ancillary Information:							
Riparian Corridor							
■ Erosion and Deposition							
There is evidence	ce of erosion throughout the reach with cut ba	anks.					
☐ Floodplain Connectivity							
i	Observed Amphibians, Snake, an	d Fish:					
		Life History	Location	Number of Individuals			
	Taxa	Stage	Observed	Observed			
	None						

Proje	ect # / Na	ame Carriger Solar			Assessor Katie Pyne					
Addr	ess Klickita	at County					Date 4/5/2	022		
Wate	erway Na	Me Stream 4			Coordinates at		45.8317		N	
Read	h Bound	aries Study area width.			downstream er (ddd.mm.ss)	nd Long	· -120.875		w	
Preci	ipitation	w/in 48 hours (cm) 1.35	Channe	el Width (m) 1.	5	_	urbed Site On (Describe	/ Difficult in "Notes")		
	erved rology	% of reach w/observed % of reach w/any flow (s	surface or hypo	·	–	*****				
Observations	(and inc	ed Wetland Plants <sub>Navare</sub> dicator status): (FACW (FACW	), Juncus effusus				Ephemer- optera?	# of Individuals		
	1. Are a	quatic macroinvertebrate	es present?	l		Yes		No		
Indicators	2. Are 6 or more individuals of the Order Ephemeroptera preso			sent? Yes No						
icat	3. Are p	erennial indicator taxa pr	resent? (refer to	Γable 1)	☐ Yes ■ No					
pu	4. Are F	ACW, OBL, or SAV plants	present? (Within	½ channel widt	h) [	■ Yes		No		
	5. What	is the slope? (In percent, r	neasured for the va	lley, not the strea	am)	3	%			
Conclusions		If Yes: Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2)  Are aquatic macroinvertebrates present? (Indicator 2)  If No: Are SAV, FACW, or OBL plants present? (Indicator 4)  If Yes: Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 5)  If No: What is the slope? (Indicator 5)  Slope ≥ 16%: PERENNIAL  Slope ≥ 10.5%: INTERMITTENT  Slope ≥ 10.5%: INTERMITTENT  Slope ≥ 10.5%: EPHEMERAL								
	Fish	ndicators:			Finding:	In	phemera termittei erennial			

<b>Notes:</b> (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)							
Difficult Situation:	Describe situation. For distuant and history of disturbance.	urbed strea	ams, note ex	tent, type,			
Prolonged Abnormal Rainfall / Snowpack							
☐ Below Average							
Above Average							
■ Natural or Anthropogenic Disturbance	Area is used for agricultural purpos	ses, and vege	tation is disturbe	∍d.			
Other:							
<b>Additional Notes:</b> (sketch of site, description additional sheets as necessary.	n of photos, comments on hydrologi	ical observ	ations, etc.)	Attach			
See Photo # 9							
Predominant vegetation is rose, rushes and pincushion plant.							
Ancillary Information:							
☐ Riparian Corridor							
■ Erosion and Deposition							
	ce of erosion throughout the reach with cut ba	anks.					
☐ Floodplain Connectivity							
_							
	Observed Amphibians, Snake, an	d Fish: Life	<u> </u>	Number of			
	Taxa	History Stage	Location Observed	Individuals Observed			

Proje	ect # / Na	ame Carriger Solar			Assessor Katie Pyne					
Addr	ess Klickita	at County			<u> </u>		Date 4/5/20	022		
Wate	erway Na	Me Stream 4			Coordinates at		45.8606		Ν	
Read	h Bound	aries Study area width.			downstream er (ddd.mm.ss)	nd Long.	120.8689		W	
Prec	ipitation	w/in 48 hours (cm) 1.35	Channe	el Width (m) o.	8		urbed Site on (Describe			
	erved	% of reach w/observed % of reach w/any flow (s		·	-					
Observations	(and inc	ed Wetland Plants <sub>None</sub> dicator status):					Ephemer- optera?	# of Individuals		
	1. Are a	quatic macroinvertebrate	es present?			Yes		No		
ndicators	2. Are 6 or more individuals of the Order Ephemeroptera prese			sent? Yes No						
icat	3. Are p	erennial indicator taxa pr	resent? (refer to	Table 1)	☐ Yes ■ No					
lnd	4. Are F	ACW, OBL, or SAV plants	present? (Withir	1½ channel widt	h)	Yes		No		
	5. What	is the slope? (In percent, r	neasured for the va	lley, not the strea	am) .	3 9	%			
Conclusions		Are aquatic macroinvertebrates present? (Indicator 1)  If <b>Yes</b> individ Ep  (I	If Yes: PERENNIAL  If No: What is the slope? (Indicator 5)  Slope < 10.59 INTERMITTEN  Slope ≥ 10.59 EPHEMERAL	%: IT	Slope < 16%: INTERMITTENT  Slope ≥ 16%: PERENNIAL					
	Fish	Indicators: hibians			Finding:	☐ In	ohemeral termitter erennial			

<b>Notes:</b> (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)								
Difficult Situation:	Describe situation. For distance.	urbed strea	ams, note ex	tent, type,				
Prolonged Abnormal Rainfall / Snowpack	•							
☐ Below Average								
☐ Above Average								
■ Natural or Anthropogenic Disturbance	Area is used for agricultural purpos	ses, and veget	tation is disturbe	ed.				
☐ Other:								
<b>Additional Notes:</b> (sketch of site, descriptio additional sheets as necessary.	n of photos, comments on hydrolog	ical observ	ations, etc.)	Attach				
See Photo # 18								
Predominant vegetation is yarrow, grass, and clover. This area is heavily grazed and utilized by cattle. There are a few trees in the upland, but the stream has little to no canopy cover, and the soil is compacted. The substrate is rocky, with gravel in the bottom.								
Ancillary Information:								
Riparian Corridor								
Erosion and Deposition  There is no dist	tinct change in vegetation between the upland	and riparian.						
☐ Floodplain Connectivity								
_								
	Observed Amphibians, Snake, an	Life	Lasation	Number of				
	Таха	History Stage	Location Observed	Individuals Observed				
	None							

Proje	ect # / Na	ame Carriger Solar			Assessor Katie	Pyne				
Addr	ess Klickita	at County					Date 4/5/2022			
Wate	erway Na	Me Stream 5			Coordinates at downstream er	Lac	45.8787	N		
Read	ch Bound	aries Study area width.			(ddd.mm.ss)	Long	120.8969	W		
Prec	ipitation	w/in 48 hours (cm) 1.35	Channe	l Width (m) <sub>0.</sub>	5	_	curbed Site / I			
Ohe	erved	% of reach w/observed								
Hydrology		% of reach w/any flow (s	surface or hypor	heic) <u></u>	_					
		# of pools observed 0								
	Oheary	ed Wetland Plants <sub>None</sub>		Observed Macroinvertebrates:						
	(and ind	dicator status):		ODSCIVEU IV	iacionivei (ebia	1165.				
itions				Ta None		icator atus	Ephemer- optera? In	# of dividuals		
<b>Observations</b>										
	1. Are a	quatic macroinvertebrate	es present?			☐ Yes	■ N	0		
ors	2. Are 6 or more individuals of the Order Ephemeroptera preser				ent?	Yes	■ N	0		
ndicators	3. Are p	erennial indicator taxa pr	esent? (refer to 1	able 1)	☐ Yes ■ No					
Ind	4. Are F	ACW, OBL, or SAV plants	present? (Within	½ channel widt	idth) Yes No					
	5. What	is the slope? (In percent, n	neasured for the val	ley, not the strea	am) <u>4</u> %					
Conclusions		Are aquatic macroinvertebrates present? (Indicator 1)	: Are 6 or more uals of the Order nemeroptera present? ndicator 2)  Are SAV, FACW, plants present?	If Yes: Are perennial indicator taxa present? (Indicator 3)  If No: INTERMITTENT  If Yes: What is the slope? (Indicator 5)  If No: EPHEMERAL	If <b>No:</b> What is the slope? (Indicator 5)  Slope < 10.5' INTERMITTEN  Slope ≥ 10.5' EPHEMERAL	%: %: %:	Slope < 16%: INTERMITTENT  Slope ≥ 16%: PERENNIAL			
	Fish	<b>ndicators:</b> hibians			Finding:	☐ In	ohemeral termittent erennial			

<b>Notes:</b> (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)								
Difficult Situation:	Describe situation. For distraint and history of disturbance.	urbed strea	ams, note ex	tent, type,				
Prolonged Abnormal Rainfall / Snowpack	·							
☐ Below Average								
Above Average								
Natural or Anthropogenic Disturbance	Area is used for agricultural purpos	es, and veget	ation is disturbe	∍d.				
Other:								
<b>Additional Notes:</b> (sketch of site, description additional sheets as necessary.	n of photos, comments on hydrologi	ical observ	ations, etc.)	Attach				
See Photo # 19								
Predominant vegetation is ponderosa pine, yarrow, grass stream channel.	, and clover. There are trees in the upland an	d there fairly ς	good canopy co	ver over the				
Ancillary Information:								
Riparian Corridor								
☐ Erosion and Deposition								
There is no disti	inct change in vegetation between the upland	and riparian.						
☐ Floodplain Connectivity								
	Observed Amphibians, Snake, and	d Fish:						
	Tour	Life History	Location	Number of Individuals				
	Taxa	Stage	Observed	Observed				
	None							

Proje	ect # / Na	ame Carriger Solar			Assessor Katie Pyne					
Addr	ess Klickita	at County			<u> </u>		Date 4/5/2	022		
Wate	erway Na	me Stream 6			Coordinates at		45.8264		N	
Read	h Bound	aries Study area width.			downstream er (ddd.mm.ss)	nd Long.	120.8943		W	
Prec	ipitation	w/in 48 hours (cm) 1.35	Channe	el Width (m) 1			urbed Site on (Describe			
	erved	% of reach w/observed % of reach w/any flow (s # of pools observed 12	surface or hypoi	·	-	*****				
Observations	(and inc	ed Wetland Plants <sub>Salix sp</sub> dicator status):	pp (FACW)				Ephemer- optera?	# of Individuals		
	1. Are a	quatic macroinvertebrate	es present?			☐ Yes		No		
ndicators	2. Are 6 or more individuals of the Order Ephemeroptera preso			sent? Yes No						
icat	3. Are p	erennial indicator taxa pr	resent? (refer to	Table 1)	☐ Yes ■ No					
Ind	4. Are F	ACW, OBL, or SAV plants	present? (Within	½ channel widtl	h)	Yes		No		
	5. What	is the slope? (In percent, r	neasured for the va	lley, not the strea	am) .	3 9	%			
Conclusions	If Yes: Are perennial indicator taxa present? (Indicator 3)  Are aquatic macroinvertebrates present? (Indicator 1)  If No: Are SAV, FACW, or OBL plants present? (Indicator 4)  If Yes: Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 3)  If No: Intermittent  If No: What is the slope? (Indicator 5)  Slope < 10.5%: INTERMITTENT  Slope < 10.5%: INTERMITTENT  Slope ≥ 10.5%: EPHEMERAL									
	Fish	Indicators:			Finding:	In	ohemera termitter erennial			

<b>Notes:</b> (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)  There are spots with wetland vegetation, but they are not dominant.								
Difficult Situation:	Describe situation. For distraint and history of disturbance.	urbed strea	ams, note ex	tent, type,				
Prolonged Abnormal Rainfall / Snowpack	•							
☐ Below Average								
Above Average								
■ Natural or Anthropogenic Disturbance	Area is used for agricultural purpos	ses, and veget	tation is disturbe	ed.				
Other:								
<b>Additional Notes:</b> (sketch of site, description additional sheets as necessary.	n of photos, comments on hydrologi	ical observ	ations, etc.)	Attach				
See Photo # 5, 6, 7, and 11								
Predominant vegetation is willow, clover, yarrow, buckwheat, and rose. There are a few trees in the wetland spots along the creek, but otherwise there is no canopy cover. The substrate is made up of sand and smaller particles. Not as rocky as other streams in the area.								
Ancillary Information:								
Riparian Corridor								
Erosion and Deposition  There is a subtle	le change in vegetation between the riparian a	and upland.						
☐ Floodplain Connectivity								
	Observed Amphibians, Snake, an	d Fish:	l	Number of				
	Taxa	History Stage	Location Observed	Individuals Observed				
	None							

Proje	ect # / Na	ame Carriger Solar		Assessor Katie Pyne					
Addr	ess Klickita	at County					Date 4/5/2	022	
Wate	erway Na	me Stream 7			Coordinates at		45.8404		N
Read	h Bound	aries Study area width.			downstream er (ddd.mm.ss)	nd Long.	120.8815		w
Preci	ipitation	w/in 48 hours (cm) 1.35	Channe	el Width (m) 1.:	25		urbed Site In (Describe	/ Difficult in "Notes")	
% of reach w/observed surface flow 0 % of reach w/any flow (surface or hyperson of the pools observed 0) # of pools observed 0					-				
Observations	(and inc	ed Wetland Plants <sub>None</sub> dicator status):					Ephemer- optera?	# of Individuals	
	1. Are a	quatic macroinvertebrate	es present?			Yes		No	
Indicators	2. Are 6 or more individuals of the Order Ephemeroptera prese			ent? [	Yes		No		
cat	3. Are perennial indicator taxa present? (refer to Table 1)			☐ Yes ■ No					
ndi	4. Are F	ACW, OBL, or SAV plants	present? (Within	½ channel widtl	h) [	Yes		No	
	5. What	is the slope? (In percent, r	measured for the va	lley, not the strea	am) _	3 9	%		
Conclusions	Are aquatic macroinvertebrates present? (Indicator 2)  If Yes: Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2)  If No: INTERMITTENT  If Yes: What is the slope? (Indicator 4)				Slope ≥ 10.5% EPHEMERAL		Slope < 16%: INTERMITTENT  Slope ≥ 16%: PERENNIAL		
	Fish	<b>ndicators:</b> hibians			Finding:	☐ In	ohemera termitter erennial		

<b>Notes:</b> (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)							
Difficult Situation:	Describe situation. For distuant and history of disturbance.	urbed strea	ams, note ex	tent, type,			
Prolonged Abnormal Rainfall / Snowpack							
☐ Below Average							
Above Average							
■ Natural or Anthropogenic Disturbance	Area is used for agricultural purpos	ses, and veget	ation is disturbe	ed.			
Other:							
<b>Additional Notes:</b> (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.							
See Photo # 14							
Predominant vegetation is buckwheat. There is no canopy cover, and the substrate is very rocky.							
Ancillary Information:							
Riparian Corridor							
☐ Erosion and Deposition							
·	inct change in vegetation, with upland vegetat	tion in the cha	nnel.				
☐ Floodplain Connectivity							
_							
	Observed Amphibians, Snake, an	<b>d Fish:</b> Life		Number of			
	Taxa	History Stage	Location Observed	Individuals Observed			

Proje	ect # / Na	ame Carriger Solar			Assessor Katie Pyne					
Addr	ess Klickita	at County					Date 4/5/2	022		
Wate	erway Na	Me Stream 8			Coordinates at		45.8299		Ν	
Read	h Bound	aries Study area width.			downstream er (ddd.mm.ss)	nd Long.	120.8945		W	
Prec	ipitation	w/in 48 hours (cm) 1.35	Chann	el Width (m) o.:	3		urbed Site In (Describe			
	erved	% of reach w/observed % of reach w/any flow (s			-					
Observations	(and inc	ed Wetland Plants <sub>None</sub> dicator status):					Ephemer- optera?	# of Individuals		
	1. Are a	quatic macroinvertebrate	es present?			☐ Yes		No		
Indicators	2. Are 6 or more individuals of the Order Ephemeroptera prese			ent?	Yes		No			
cat	3. Are p	erennial indicator taxa pr	resent? (refer to	Table 1)	☐ Yes ■ No					
ndi	4. Are F	ACW, OBL, or SAV plants	present? (Withi	n ½ channel widt	h)	Yes		No		
	5. What	is the slope? (In percent, r	measured for the va	alley, not the strea	am)	3 9	%			
If Yes: Are perential indicator taxa present?  If Yes: Are perential indicator taxa present? (Indicator 3)  If No: What is the slope? (Indicator 5)  Slope ≥ 16  If No: What is the slope? (Indicator 5)							Slope < 16%: INTERMITTENT  Slope ≥ 16%: PERENNIAL			
	Fish	I <b>ndicators:</b> hibians			Finding:	In	ohemeral termitter erennial			

<b>Notes:</b> (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)										
Difficult Situation:	Describe situation. For disturbed streams, note extent, type, and history of disturbance.									
Prolonged Abnormal Rainfall / Snowpack	•									
☐ Below Average										
Above Average	Area is used for agricultural purposes, and vegetation is disturbed.									
■ Natural or Anthropogenic Disturbance										
Other:										
<b>Additional Notes:</b> (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.										
See Photo # 4										
Predominant vegetation is clover, yarrow, and biscuitroot. Channel flows towards Stream 6. There is vegetation in the channel bottom, and is somewhat rocky. Acts somewhat as a drain dividing agricultural fields. There is no canopy cover.										
Ancillary Information:										
■ Riparian Corridor										
☐ Erosion and Deposition  There is no distinct change between the upland and riparian, with upland vegetation in the channel.										
☐ Floodplain Connectivity										
Observed Amphibians, Snake, and Fish:  Life   Number of   History   Location   Individuals										
	Taxa	Stage	Observed	Observed						
	None									

Proje	Project # / Name <sub>Carriger</sub> Solar					Assessor Katie Pyne and Jessica Taylor				
Addr	ess Klickita	at County			Date 6/27/2	2022				
Wate	erway Na	me st-100	Coordinates at	Lat.	45°51'46.87"	N	N			
Reach Boundaries Study area width.					downstream er (ddd.mm.ss)	ld Long	· 120°51'57.69	9"W	W	
Preci	Precipitation w/in 48 hours (cm) 0 Channel Width (m) 0					_	urbed Site In (Describe i	•		
	erved rology	% of reach w/observed % of reach w/any flow (s		·						
Observations	(and inc	ed Wetland Plants <sub>None</sub> dicator status):					Ephemer- optera?	# of Individuals		
	1. Are aquatic macroinvertebrates present?				Yes		No			
Indicators	2. Are 6 or more individuals of the Order Ephemeroptera pres			ent?	Yes		No			
icat	3. Are perennial indicator taxa present? (refer to Table 1)			☐ Yes ■ No						
nd	4. Are FACW, OBL, or SAV plants present? (Within ½ channel width			h) [	Yes		No			
	5. What is the slope? (In percent, measured for the valley, not the stream			am)	5	%				
Conclusions	If Yes: Are perennial indicator taxa present? (Indicator 3)  If No: What is the slope? (Indicator 1)  If No: Are SAV, FACW, or OBL plants present? (Indicator 4)  If Yes: PERENNIAL  If No: What is the slope? (Indicator 5)  If Yes: PERENNIAL  If No: What is the slope? (Indicator 5)  Slope < 16%: PERENNIAL  Slope < 10.5%: INTERMITTENT  Slope < 10.5%: INTERMITTENT									
	Fish	Indicators:			Finding:	☐ In	ohemeral termitter erennial			

<b>Notes:</b> (explanation of any single indicator content interfere with indicators, etc.)	onclusions, description of disturbar	ices or mod	difications th	nat may						
Difficult Situation:	Describe situation. For distuant and history of disturbance.	urbed strea	ams, note ex	tent, type,						
Prolonged Abnormal Rainfall / Snowpack	•									
☐ Below Average										
Above Average										
■ Natural or Anthropogenic Disturbance	Area is used for agricultural purpos	Area is used for agricultural purposes, and vegetation is disturbed.								
Other:										
<b>Additional Notes:</b> (sketch of site, description additional sheets as necessary.	n of photos, comments on hydrologi	ical observ	ations, etc.)	Attach						
Predominant vegetation is clover, yarrow, and biscuitroot. somewhat rocky. Acts somewhat as a drain dividing agric		egetation in th	e channel botto	m, and is						
Ancillary Information:										
Riparian Corridor										
☐ Erosion and Deposition										
There is no disti	inct change between the upland and riparian,	with upland ve	egetation in the	channel.						
☐ Floodplain Connectivity										
	Observed Amphibians, Snake, and									
	Toyo	Life History	Location	Number of Individuals						
	Taxa	Stage	Observed	Observed						
	None									

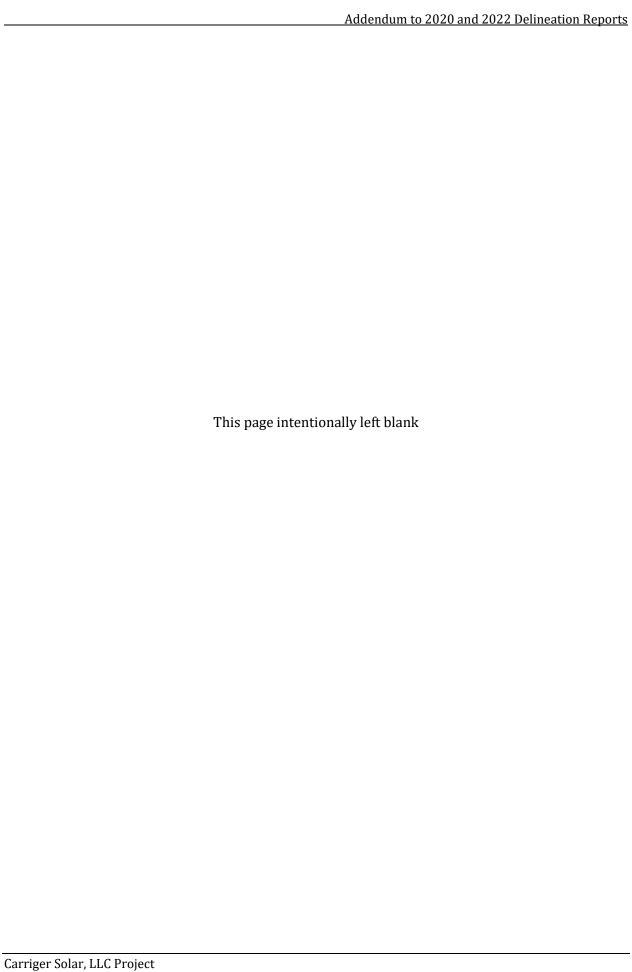
#### **Streamflow Duration Field Assessment Form**

Proje	ect # / Na	ame Carriger Solar			Assessor Katie I	Pyne and .	Jessica Taylor				
Addr	ess Klickita	at County					Date 6/27/2	:022			
Wate	erway Na	me st-109			Coordinates at		45°50'48.12"		N		
Read	h Bound	aries Study area width.			downstream er (ddd.mm.ss)	10 Long.	120°52'39.80	)"	W		
Prec	ipitation	w/in 48 hours (cm) 0	Chann	el Width (m) o.:	3		urbed Site , on (Describe i				
	erved rology	% of reach w/observed % of reach w/any flow (s			-						
Observations	(and inc	ed Wetland Plants <sub>None</sub> dicator status):					Ephemer- optera?	# of Individuals			
	1. Are a	quatic macroinvertebrate	es present?			Yes		No			
ndicators	2. Are 6	or more individuals of th	e Order Ephem	eroptera pres	eroptera present?						
cat	3. Are p	erennial indicator taxa pr	resent? (refer to	Table 1) Yes No							
ndi	4. Are F	ACW, OBL, or SAV plants	present? (Withi	n ½ channel widt	h)	Yes		No			
	5. What	is the slope? (In percent, r	measured for the va	alley, not the strea	am)	5 9	%				
Conclusions		Are aquatic macroinvertebrates present? (Indicator 1)	: Are 6 or more uals of the Order hemeroptera present? ndicator 2)  Are SAV, FACW, plants present?	If Yes: Are perennial indicator taxa present? (Indicator 3)  If No: INTERMITTENT  If Yes: What is the slope? (Indicator 5)  If No: EPHEMERAL	Slope ≥ 10.5% EPHEMERAL	%: IT	Slope < 16%: INTERMITTENT  Slope ≥ 16%: PERENNIAL				
	Fish	Indicators:			Finding:	☐ In	ohemeral termitten erennial				

<b>Notes:</b> (explanation of any single indicator c interfere with indicators, etc.)	onclusions, description of disturbar	nces or mo	difications th	nat may							
Difficult Situation:	Describe situation. For distance.	urbed strea	ams, note ex	tent, type,							
Prolonged Abnormal Rainfall / Snowpack	•										
☐ Below Average											
Above Average											
■ Natural or Anthropogenic Disturbance	Area is used for agricultural purpos	ses, and veget	tation is disturbe	ed.							
Other:  Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach											
<b>Additional Notes:</b> (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.											
Predominant vegetation is clover, yarrow, and biscuitroot somewhat rocky. There is no canopy cover.	. Channel flows towards Stream 1. There is ve	egetation in th	e channel botto	m, and is							
An allow Information											
Ancillary Information:											
Riparian Corridor											
Erosion and Deposition  There is no disti	inct change between the upland and riparian,	with unland v	egetation in the	channel							
There is no disk	mot onango botween the apiana and ripanan,	with apiana v	ogotation in the	onarmon.							
☐ Floodplain Connectivity											
	Observed Amphibians, Snake, an		1								
	Toyo	Life History	Location	Number of Individuals							
	Taxa	Stage	Observed	Observed							
	None										

Addendum	to 2020 a	nd 2022	Delineation	Renorts

# Appendix C. Wetland Datasheets and Rating Forms



See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar	Ci	ity/County: Klid	ckitat County	Sampling Date:	6/27/22
Applicant/Owner: Cypress Creek Renewables	_		State: WA	Sampling Point:	VP-101a
Investigator(s): Jessica Taylor and Katie Pyne	Se	ction, Township	o, Range: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau	Local re	elief (concave, o	convex, none): <u>flat</u>	Slop	e (%):2_
Subregion (LRR): LRR B Lat: 45°50'47.31"N		Lon	g: <u>120°52'29.70"W</u>	Datum:	NAD83
Soil Map Unit Name: Rockly-Lorena complex, 2 to 15 percen	it slopes, extre	emely stony	NWI classifi	cation: none	
Are climatic / hydrologic conditions on the site typical for this	time of year?	Yes X	(If no, exp	lain in Remarks.)	
Are Vegetation, Soil, or Hydrologysignific	cantly disturbe	ed? Are "Norn	mal Circumstances" present?	Yes X No	'
Are Vegetation, Soil, or Hydrologynatura	illy problemation	c? (If needed	d, explain any answers in Ren	narks.)	
SUMMARY OF FINDINGS – Attach site map sh	nowing san	npling point	t locations, transects,	important featu	ıres, etc.
Hydrophytic Vegetation Present? Yes X No		Is the Sample	ed Area		
Hydric Soil Present? Yes No X	_	within a Wetl		No X	
Wetland Hydrology Present? Yes X No	_				
Remarks:					
Vernal pool					
VEGETATION – Use scientific names of plants					
	solute Domi	inant Indicat	or		
`	Cover Spec	cies? Status	S Dominance Test wor	ksheet:	
1			Number of Dominant S Are OBL, FACW, or FA	•	2 (A)
3.			Total Number of Domi		(/1)
4.			Across All Strata:	•	2 (B)
	=Total	Cover	Percent of Dominant S	•	
Sapling/Shrub Stratum (Plot size: 15 )			Are OBL, FACW, or FA	AC: <u>100</u>	0.0% (A/B)
1			Prevalence Index wo		
3.			Total % Cover of:		ply by:
4.			OBL species 0		0
5			FACW species 60		20
Herb Stratum (Plot size: 5 )	=Total (	Cover	FAC species 0		0
	40 Ye	es FACV			50
2. Psilocarphus brevissimus	20 Ye	es FACV	<del>-</del>		70 (B)
3. Ceratocephala testiculata	10 N	o UPL	Prevalence Index :	= B/A = 2.43	
4			Livelyous by the Mean death	an Indiantana	
5		<u> </u>	Hydrophytic Vegetati X Dominance Test is		
7.			Prevalence Index		
8.				aptations <sup>1</sup> (Provide s	
	70 =Total (	Cover		s or on a separate s	•
Woody Vine Stratum (Plot size:)			<del></del>	pphytic Vegetation <sup>1</sup>	
1			<sup>1</sup> Indicators of hydric so be present, unless dist		
	=Total	Cover	Hydrophytic		
	<b></b>		Vegetation		
% Bare Ground in Herb Stratum 60 % Cover	of Biotic Crust	t	Present? Yes	No	-
Remarks:					

SOIL Sampling Point: VP-101a

	ription: (Describ	-	D1 -					
Depth (inches)	Matrix			ox Feature		Loc <sup>2</sup>	Toytura	Domorto
(inches)	Color (moist)		Color (moist)		Type <sup>1</sup>	LOC	Texture	Remarks
0-2	10YR 3/4	100					Loamy/Clayey	clay loam
				. <u></u>				
17			D = -1 = -1 N 4 = 41 4				21	tion Di Bon Linion M Matrix
	oncentration, D=D					pated Sa		tion: PL=Pore Lining, M=Matrix.
_	Indicators: (Appli	cable to all Li	•		otea.)			s for Problematic Hydric Soils <sup>3</sup> :
— Histosol			Sandy Re Stripped M		`			Muck (A9) <b>(LRR C)</b> Muck (A10) <b>(LRR B)</b>
	oipedon (A2)		Loamy Mu		•			Manganese Masses (F12) (LRR D)
— Black His				•	. ,			ced Vertic (F18)
	n Sulfide (A4) I Layers (A5) <b>(LRF</b>	) C)	Loamy Gl	-				red vertic (F18) Parent Material (F21)
	i Layers (A5) <b>(LRF</b> ick (A9) <b>(LRR D)</b>	( )	Redox Da	-	-			Shallow Dark Surface (F22)
	l Below Dark Surfa	νοο (Δ11)	Depleted					(Explain in Remarks)
	rk Surface (A12)	ice (ATT)	Redox De				Other	(Explain in Remarks)
	lucky Mineral (S1)		Nedox De	pressions	(10)			
	leyed Matrix (S4)	<sup>3</sup> Indicator	s of hydronhytic y	/enetation	and we	tland hy	rdrology must be prese	nt, unless disturbed or problematic.
			o or riyaropriyaro	- ogotation	and Wo	liana ny	arology muot bo proces	n, amoss distances of problematic.
	Layer (if observed							
Type: _ Depth (ir	roc	2	<u> </u>				Hydric Soil Present	? Yes No X
							Tryunc 3011 Fresent	165 NO_X_
Remarks:								
HYDROLO	GY.							
_	drology Indicator						0	and the state of Control of the state of the
-	cators (minimum o	r one is require						y Indicators (minimum of two required)
	Water (A1)		Salt Crust	,				Marks (B1) (Riverine)
	ter Table (A2)		Biotic Cru		(D40)			nent Deposits (B2) (Riverine)
Saturatio		auima)	Aquatic In					Deposits (B3) (Riverine)
					, ,			age Patterns (B10)
Sedillieli	Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres on Livin							
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4)							· · · —	eason Water Table (C2)
	oosits (B3) (Nonriv		Presence	of Reduce	ed Iron (	C4)	Crayfi	sh Burrows (C8)
X Surface	oosits (B3) <b>(Nonriv</b> Soil Cracks (B6)	rerine)	Presence Recent Iro	of Reduce on Reduct	ed Iron ( ion in Ti	C4)	Crayfi	sh Burrows (C8) ation Visible on Aerial Imagery (C9)
X Surface S	oosits (B3) <b>(Nonriv</b> Soil Cracks (B6) on Visible on Aeria	verine) I Imagery (B7)	Presence Recent Iro Thin Muck	of Reduce on Reduct Surface	ed Iron ( ion in Ti (C7)	C4)	Crayfi s (C6) Satura Shallo	sh Burrows (C8) ation Visible on Aerial Imagery (C9) www.Aquitard (D3)
X Surface Surf	oosits (B3) <b>(Nonrix</b> Soil Cracks (B6) on Visible on Aeria tained Leaves (B9	verine) I Imagery (B7)	Presence Recent Iro	of Reduce on Reduct Surface	ed Iron ( ion in Ti (C7)	C4)	Crayfi s (C6) Satura Shallo	sh Burrows (C8) ation Visible on Aerial Imagery (C9)
X Surface Surf	posits (B3) (Nonrix Soil Cracks (B6) on Visible on Aeria tained Leaves (B9 vations:	rerine) I Imagery (B7)	Presence Recent Irc Thin Muck Other (Ex	of Reduct on Reduct Surface plain in Re	ed Iron ( ion in Til (C7) emarks)	C4)	Crayfi s (C6) Satura Shallo	sh Burrows (C8) ation Visible on Aerial Imagery (C9) www.Aquitard (D3)
X Surface S Inundation Water-St Field Observing Surface Water	posits (B3) (Nonrix Soil Cracks (B6) on Visible on Aeria tained Leaves (B9 vations: er Present?	rerine) I Imagery (B7) ) Yes	Presence Recent Irc Thin Muck Other (Ex	of Reduce on Reduct Surface plain in Re	ed Iron (ion in Tile (C7) emarks)	C4)	Crayfi s (C6) Satura Shallo	sh Burrows (C8) ation Visible on Aerial Imagery (C9) www.Aquitard (D3)
X Surface Surface Surface Water Table	posits (B3) (Nonriv Soil Cracks (B6) on Visible on Aeria tained Leaves (B9 vations: er Present? Present?	rerine) I Imagery (B7) ) Yes Yes	Presence Recent Iro Thin Muck Other (Ex	of Reduct on Reduct c Surface plain in Re Depth (in Depth (in	ed Iron (ion in Till (C7) emarks) aches): _	C4)	Crayfi s (C6) Satura Shallo X FAC-N	sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3) Neutral Test (D5)
X Surface Surface Water-Surface Water Table Saturation Pr	posits (B3) (Nonriv Soil Cracks (B6) on Visible on Aeria tained Leaves (B9 vations: er Present? Present?	rerine) I Imagery (B7) ) Yes	Presence Recent Irc Thin Muck Other (Ex	of Reduce on Reduct Surface plain in Re	ed Iron (ion in Till (C7) emarks) aches): _	C4)	Crayfi s (C6) Satura Shallo	sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3) Neutral Test (D5)
X Surface Surface Water-Si Surface Water Table Saturation Projection (includes cap.)	posits (B3) (Nonriv Soil Cracks (B6) on Visible on Aeria tained Leaves (B9) vations: er Present? Present? resent?	rerine) I Imagery (B7) ) Yes Yes Yes	Presence Recent Iro Thin Muck Other (Exp No No No	of Reduct on Reduct c Surface plain in Re  Depth (in Depth (in	ed Iron (ion in Til (C7) emarks) aches): _ aches): _ aches): _	C4)	Crayfi s (C6) Satura Shallo X FAC-f	sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3) Neutral Test (D5)
X Surface Surface Water-Si Surface Water Table Saturation Pr (includes cap	posits (B3) (Nonriv Soil Cracks (B6) on Visible on Aeria tained Leaves (B9) vations: er Present? Present? resent?	rerine) I Imagery (B7) ) Yes Yes Yes	Presence Recent Iro Thin Muck Other (Exp No No No	of Reduct on Reduct c Surface plain in Re  Depth (in Depth (in	ed Iron (ion in Til (C7) emarks) aches): _ aches): _ aches): _	C4)	Crayfi s (C6) Satura Shallo X FAC-N	sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3) Neutral Test (D5)
X Surface Surface Water-Si Surface Water Table Saturation Pr (includes cap	posits (B3) (Nonriv Soil Cracks (B6) on Visible on Aeria tained Leaves (B9) vations: er Present? Present? resent?	rerine) I Imagery (B7) ) Yes Yes Yes	Presence Recent Iro Thin Muck Other (Exp No No No	of Reduct on Reduct c Surface plain in Re  Depth (in Depth (in	ed Iron (ion in Til (C7) emarks) aches): _ aches): _ aches): _	C4)	Crayfi s (C6) Satura Shallo X FAC-f	sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3) Neutral Test (D5)
X Surface Surface Water-Step Water Table Saturation Projection (includes caped by the caped by t	posits (B3) (Nonriv Soil Cracks (B6) on Visible on Aeria tained Leaves (B9) vations: er Present? Present? resent?	rerine) I Imagery (B7) ) Yes Yes Yes	Presence Recent Iro Thin Muck Other (Exp No No No	of Reduct on Reduct c Surface plain in Re  Depth (in Depth (in	ed Iron (ion in Til (C7) emarks) aches): _ aches): _ aches): _	C4)	Crayfi s (C6) Satura Shallo X FAC-f	sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3) Neutral Test (D5)
X Surface Surface Water-Step Water Table Saturation Projection (includes caped by the caped by t	posits (B3) (Nonriv Soil Cracks (B6) on Visible on Aeria tained Leaves (B9) vations: er Present? Present? resent?	rerine) I Imagery (B7) ) Yes Yes Yes	Presence Recent Iro Thin Muck Other (Exp No No No	of Reduct on Reduct c Surface plain in Re  Depth (in Depth (in	ed Iron (ion in Til (C7) emarks) aches): _ aches): _ aches): _	C4)	Crayfi s (C6) Satura Shallo X FAC-f	sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3) Neutral Test (D5)

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar	Cit	y/County:	Klickitat	County	Sampling	Date: <u>6/27</u>	7/22
Applicant/Owner: Cypress Creek Renewables				State: W	A Sampling	Point: VP	P-101b
Investigator(s): Jessica Taylor and Katie Pyne	Sec	ction, Tow	nship, Rar	nge: S12 T4N R1	5E		
Landform (hillside, terrace, etc.): plateau	Local re	lief (conca	ave, conve	x, none): <u>flat</u>		Slope (%)	):2
Subregion (LRR): <u>LRR B</u> Lat: <u>45°50'47.31"N</u>			Long: <u>12</u>	0°52'29.70"W	D	atum: NAD	083
Soil Map Unit Name: Rockly-Lorena complex, 2 to 15 percent slo	opes, extre	mely ston	у	NWI c	lassification: <u>non</u>	e	
Are climatic / hydrologic conditions on the site typical for this time	e of year?	Yes	s <u>X</u>	No (If n	o, explain in Rema	arks.)	
Are Vegetation, Soil, or Hydrologysignificant	tly disturbed	d? Are '	"Normal Ci	rcumstances" pres	sent? Yes X	No	_
Are Vegetation, Soil, or Hydrologynaturally p	problematic	? (If ne	eeded, exp	lain any answers i	n Remarks.)		
SUMMARY OF FINDINGS – Attach site map show	wing sam	pling p	oint loc	ations, transe	cts, importan	t features	, etc.
Hydrophytic Vegetation Present? Yes No X		Is the Sa	mpled Ar	ea			
Hydric Soil Present? Yes No X		within a	Wetland?	Yes _	No _X	_	
Wetland Hydrology Present? Yes No X							
Remarks: Upland plot							
opiana piot							
VEGETATION – Use scientific names of plants.							
Absolut			dicator	Daminana Taa			
Tree Stratum (Plot size: 30 ) % Cover 1.	er Speci	<u>es?</u> _ <u>S</u>	Status_	Dominance Tes	inant Species Tha	<b>+</b>	
2.				Are OBL, FACW		0	(A)
3.				Total Number of	Dominant Specie	s	
4				Across All Strata		2	_ (B)
Sapling/Shrub Stratum (Plot size: 15 )	=Total C	Cover		Percent of Domi	nant Species That	t 0.0%	(A/B)
1				Ale OBL, I ACW	, or r Ac.	0.070	_(^(D)
2.				Prevalence Inde	ex worksheet:		
3.				Total % Co	ver of:	Multiply by	<b>y</b> :
4				OBL species	0 x 1		_
5	=Total C			FACW species _ FAC species	0 x2:		_
Herb Stratum (Plot size: 5 )		,010.		FACU species	40 x 4		_
1. Ventenata dubia 60	Ye	s	UPL	UPL species	65 x 5	= 325	
2. Poa bulbosa 40	Ye		FACU	Column Totals:	105 (A)	485	_(B)
3. Eriogonum niveum 5	No		UPL_	Prevalence Ir	ndex = B/A =	4.62	_
				Hydrophytic Ve	getation Indicato		
6.	_				Test is >50%		
7.					Index is ≤3.0 <sup>1</sup>		
8					al Adaptations <sup>1</sup> (P emarks or on a se		
Woody Vine Stratum (Plot size: )	=Total C	Cover			Hydrophytic Vege		•
Woody Vine Stratum (Plot size:)  1					dric soil and wetla	٠.	,
2.					ss disturbed or pro		must
	=Total C	Cover		Hydrophytic			
0/ Pore Cround in Hark Charters 0 0/ 0 55	Diatic O			Vegetation	Voo.		
% Bare Ground in Herb Stratum 0 % Cover of E	DIOLIC Crust			Present?	Yes N	o_X_	
Remarks:							

SOIL Sampling Point: VP-101b

Profile Description Depth	ription: (Describe Matrix	to the depth		<b>ıment th</b> x Featur		ator or c	commitme absence of	,
(inches)	Color (moist)	<del></del> _	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-2	10YR 4/3	100					Loamy/Clayey	clay loam
	-							
							-	
	ncentration, D=Dep					oated Sa		tion: PL=Pore Lining, M=Matrix.
_	ndicators: (Applica	ble to all LR			oted.)			s for Problematic Hydric Soils <sup>3</sup> :
— Histosol (	` '		Sandy Red					Muck (A9) (LRR C)
	ipedon (A2)		Stripped M	•	•			Muck (A10) (LRR B)
Black His	` '		Loamy Mu					Manganese Masses (F12) (LRR D)
	n Sulfide (A4)	••	Loamy Gle	•	, ,			ced Vertic (F18)
	Layers (A5) (LRR (	•)	— Depleted N					Parent Material (F21)
	ck (A9) <b>(LRR D)</b>	- /Λ11\	Redox Dar		, ,			Shallow Dark Surface (F22)
	Below Dark Surface rk Surface (A12)	e (A11)	Depleted [ Redox Dep		` '	)	— Other	(Explain in Remarks)
	ucky Mineral (S1)		Redox Del	nession:	s (FO)			
	leyed Matrix (S4)	<sup>3</sup> Indicators	of hydrophytic y	egetation	n and we	etland hy	drology must be prese	nt, unless disturbed or problematic.
	.ayer (if observed):		,	-3		I		,
Type:	rock							
Depth (in		2	_				Hydric Soil Present	? Yes No _X_
Remarks:								
HYDROLO	GY							
_	Irology Indicators:							
	ators (minimum of c	ne is require						y Indicators (minimum of two required)
	Water (A1)		Salt Crust	` '				Marks (B1) (Riverine)
	ter Table (A2)		Biotic Crus		(D.40)			nent Deposits (B2) (Riverine)
Saturatio	, ,		Aquatic In					Deposits (B3) (Riverine)
	arks (B1) <b>(Nonriver</b> i t Deposits (B2) <b>(No</b> i	•	— Hydrogen Oxidized F		•	•		age Patterns (B10) eason Water Table (C2)
	osits (B3) (Nonrive		Presence	•		-	· · · — ·	ish Burrows (C8)
	Soil Cracks (B6)		Recent Iro			. ,	′	ation Visible on Aerial Imagery (C9)
	on Visible on Aerial I	magery (B7)	Thin Muck					ow Aquitard (D3)
	ained Leaves (B9)		Other (Exp					Neutral Test (D5)
							1	
Field Observ	ations:							
Field Observ Surface Wate		es	No	Depth (ir	nches):			
	er Present? Ye			Depth (in Depth (in	· -			
Surface Water	er Present? Ye Present? Ye	es	No		nches):		Wetland Hydrolog	y Present? Yes No _X_
Surface Wate Water Table I Saturation Pro (includes cap	er Present? Ye Present? Ye esent? Ye illary fringe)	es	No No	Depth (in	nches): _ nches): _			y Present? Yes No _X_
Surface Wate Water Table I Saturation Pro (includes cap	er Present? Ye Present? Ye esent? Ye	es	No No	Depth (in	nches): _ nches): _			y Present? Yes No _X_
Surface Wate Water Table I Saturation Pro (includes cap	er Present? Ye Present? Ye esent? Ye illary fringe)	es	No No	Depth (in	nches): _ nches): _			y Present? Yes No _X_
Surface Water Water Table I Saturation Pr (includes cap Describe Rec	er Present? Ye Present? Ye esent? Ye illary fringe)	es	No No	Depth (in	nches): _ nches): _			y Present? Yes No _X_

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar	City/County: Klickitat	County	Sampling Date:	6/27/22
Applicant/Owner: Cypress Creek Renewables		State: WA	Sampling Point:	VP-102a
Investigator(s): Jessica Taylor and Katie Pyne	Section, Township, Rar	ge: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau Lc	ocal relief (concave, conve	x, none): <u>flat</u>	Slope	(%):2
Subregion (LRR): <u>LRR B</u> Lat: <u>45°50'47.31"N</u>	Long: <u>12</u>	0°52'29.70"W	Datum:	NAD83
Soil Map Unit Name: Rockly-Lorena complex, 2 to 15 percent slopes,	extremely stony	NWI classific	ation: none	
Are climatic / hydrologic conditions on the site typical for this time of $\boldsymbol{y}$	ear? Yes X	No (If no, expla	ain in Remarks.)	
Are Vegetation, Soil, or Hydrology significantly dis	turbed? Are "Normal Ci	rcumstances" present?	Yes No	
Are Vegetation, Soil, or Hydrologynaturally proble	ematic? (If needed, exp	lain any answers in Rem	arks.)	
SUMMARY OF FINDINGS – Attach site map showing	sampling point loc	ations, transects, i	mportant featu	res, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Ar	ea		
Hydric Soil Present? Yes No X	within a Wetland?	Yes X	No	
Wetland Hydrology Present? Yes X No				
Remarks:				
Vernal pool				
VEGETATION – Use scientific names of plants.				
Absolute	Dominant Indicator			
·	Species? Status	Dominance Test work		
1		Number of Dominant S Are OBL, FACW, or FA		(A)
3.		Total Number of Domin		
4		Across All Strata:	2	(B)
	otal Cover	Percent of Dominant Sp		00/ /A/D)
Sapling/Shrub Stratum (Plot size: 15 ) 1.		Are OBL, FACW, or FA	.C: 100.	0% (A/B)
1. 2.		Prevalence Index wor	ksheet:	
3.		Total % Cover of:	Multip	ly by:
4		OBL species 0	x 1 =0	
5	Total Cours	FACW species 25		
Herb Stratum (Plot size: 5 )	otal Cover	FAC species 0 FACU species 0	x 3 = 0 x 4 = 0	
1. Navarretia intertexta 20	Yes FACW	UPL species 0	x 5 = 0	
2. Deschampsia caespitosa 5	Yes FACW	Column Totals: 25	(A) 50	O (B)
3		Prevalence Index =	B/A = 2.00	
4	<del> </del>	Livelyan by tip Vanatatio	n Indicators	
5		Hydrophytic Vegetation X Dominance Test is		
7.		Prevalence Index is		
8.			ptations¹ (Provide su	
<u>25</u> =7	otal Cover		or on a separate sh	•
Woody Vine Stratum (Plot size:)			ohytic Vegetation <sup>1</sup> (I	
1		<sup>1</sup> Indicators of hydric soi be present, unless distu		
=1	otal Cover	Hydrophytic		
% Bare Ground in Herb Stratum 80 % Cover of Biotic	Crust	Vegetation Present? Yes	X No	
Remarks:			<u> </u>	

SOIL Sampling Point: VP-102a

Profile Descripe	ription: (Describe Matrix	to the dept		u <b>ment th</b> x Featur		ator or o	confirm the absence	of indicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-3	10YR 3/3	100	- ( )				Loamy/Clayey		clay loam	
									olay roam	
								-		
	-									
								_		
	ncentration, D=Deլ					oated S			e Lining, M=Matr	
-	ndicators: (Applic	able to all L			oted.)				natic Hydric Soi	ls³:
Histosol (	•		Sandy Re					m Muck (A9) <b>(Li</b>		
	pedon (A2)		Stripped N					m Muck (A10) <b>(L</b>		
Black His	` '		Loamy Mu	,	` '			Ü	asses (F12) <b>(LR</b>	R D)
<u> </u>	Sulfide (A4)		Loamy Gl					duced Vertic (F1	,	
	Layers (A5) (LRR	C)	Depleted I		•			d Parent Materia		
	ck (A9) (LRR D)		Redox Da		, ,			y Shallow Dark	, ,	
	Below Dark Surface	e (A11)	Depleted I			)	Oth	er (Explain in R	emarks)	
	rk Surface (A12)		Redox De	pression	s (F8)					
	ucky Mineral (S1)	31				نط لمصند المت				
	eyed Matrix (S4)		s of flydropflytic v	regetation	n and we	eliano ny	drology must be pres	sent, uniess dist	urbed or probler	nauc.
Type:	ayer (if observed) rock									
Depth (in		3					Hydric Soil Prese	nt?	Yes !	No X
Remarks:							Trydrio Con 1 1000			<u> </u>
HYDROLO	GY									
-	rology Indicators									
-	ators (minimum of	one is require	•						ninimum of two i	required)
	Vater (A1)		Salt Crust	` '				ter Marks (B1) (		
	er Table (A2)		Biotic Cru						(B2) (Riverine)	
Saturatio	` '		Aquatic In					t Deposits (B3)		
	arks (B1) (Nonrive		Hydrogen		-	-		inage Patterns (	,	
	Deposits (B2) (No		Oxidized F Presence	•		-	· · · — ·	-Season Water		
	osits (B3) <b>(Nonrive</b> Soil Cracks (B6)	rine)	Recent Iro			` '		yfish Burrows (C	ೂ) n Aerial Imagery	, (CQ)
	n Visible on Aerial	Imagery (R7)				illeu Soi	· · · —	allow Aquitard (E	• •	/ (C9)
	ained Leaves (B9)	illiagery (D7)	Other (Ex		. ,	1		C-Neutral Test (I	•	
_				Jiani III IV	cmarks)		1	5-14Cdirai 1C3t (i		
Field Observ Surface Wate		es	No	Depth (i	nchee).					
Water Table I		es	No	Depth (i	· -					
Saturation Pr		es es	No	Depth (i	· -		Wetland Hydrol	nav Present?	Vos X I	No
(includes cap				Dopui (ii	_		Wettana riyaron	ogy i resemi.	<u> </u>	
	orded Data (strean	n gauge, mor	nitoring well, aeria	l photos.	previou	s inspec	tions), if available:			
		J===g=,oi		F5150,	,		,,			
Remarks:										

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar	c	ity/County	/: Klickitat	County	Sampling Date:	6/27/22
Applicant/Owner: Cypress Creek Renewables				State: WA	Sampling Point:	VP-102b
Investigator(s): Jessica Taylor and Katie Pyne	Se	ction, Tov	wnship, Raı	nge: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau	_Local r	elief (cond	cave, conve	ex, none): <u>flat</u>	Slop	oe (%):2_
Subregion (LRR): <u>LRR B</u> Lat: <u>45°50'47.31"N</u>			Long: <u>12</u>	20°52'29.70"W	Datum:	NAD83
Soil Map Unit Name: Rockly-Lorena complex, 2 to 15 percent slo	pes, extre	emely sto	ny	NWI classi	fication: none	
Are climatic / hydrologic conditions on the site typical for this time	of year?	Υe	es <u>X</u>	No (If no, ex	plain in Remarks.)	
Are Vegetation, Soil, or Hydrologysignificantly	y disturbe	ed? Are	"Normal C	ircumstances" present?	Yes X N	<u> </u>
Are Vegetation, Soil, or Hydrologynaturally pr	roblemati	c? (If r	needed, exp	olain any answers in Re	marks.)	
SUMMARY OF FINDINGS – Attach site map show	ing sar	npling	point loc	ations, transects,	important feat	ures, etc.
Hydrophytic Vegetation Present? Yes No _X		Is the S	ampled Ar	ea		
Hydric Soil Present? Yes No X		within a	Wetland?	Yes	No X	
Wetland Hydrology Present? Yes No _X						
Remarks: Upland plot						
Opiana piot						
VEGETATION – Use scientific names of plants.						
Absolute			ndicator			
Tree Stratum (Plot size: 30 ) % Cover	r Spec	cies?	Status_	Dominance Test wo		
2.				Number of Dominant Are OBL, FACW, or I		0 (A)
3.				Total Number of Dom		· ` ´
4				Across All Strata:		2 (B)
Conline/Chrish Ctratum (Diet size: 45	_=Total	Cover		Percent of Dominant	•	. O0/ (A/D)
Sapling/Shrub Stratum (Plot size: 15 ) 1.				Are OBL, FACW, or I	-AC	.0% (A/B)
1. 2.			-	Prevalence Index w	orksheet:	
3.				Total % Cover o	f: Mult	iply by:
4				· ·	0 x 1 =	0
5	 =Total	Cover		· · ·	0 x 2 =	0
Herb Stratum (Plot size: 5 )	TOLAI	Covei				280
1. Poa bulbosa 70	Y	es	FACU			125
2. Ventenata dubia 20	Y	es	UPL	Column Totals:	95 (A)	405 (B)
3. Lomatium nudicaule 5	N	<u>lo</u> _	UPL	Prevalence Index	= B/A =4.26	<u> </u>
4				Hydrophytic Vegeta	tion Indicators:	
				Dominance Test		
7.				Prevalence Index		
8.					daptations <sup>1</sup> (Provide	
95	_=Total	Cover			ks or on a separate	,
Woody Vine Stratum (Plot size:)					rophytic Vegetation <sup>1</sup>	` ' '
1			_	<sup>1</sup> Indicators of hydric s be present, unless dis		
	=Total	Cover	<u> </u>	Hydrophytic		-
				Vegetation		
% Bare Ground in Herb Stratum 0 % Cover of Bi	otic Crus	t		Present? Yes	No _X	_
Remarks:						

SOIL Sampling Point: VP-102b

Profile Descripe	ription: (Describe Matrix	to the dept		u <b>ment th</b> x Featur		ator or o	confirm the absence	of indicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-5	10YR 3/4	100	- ( )				Loamy/Clayey		silt loam	
	-							-		
	ncentration, D=Dep					oated S		ation: PL=Pore		
-	ndicators: (Applic	able to all L			otea.)			rs for Problem	-	iolis":
— Histosol (	pedon (A2)		Sandy Re Stripped N		3)			n Muck (A9) <b>(LF</b> n Muck (A10) <b>(L</b>		
Black His			Loamy Mu					Manganese Ma		PP D)
	Sulfide (A4)		Loamy Gl	•	` ,			uced Vertic (F1		.RR D)
<u> </u>	Layers (A5) <b>(LRR</b>	C)	Depleted I					Parent Materia	,	
	ck (A9) (LRR D)	-,	Redox Da					Shallow Dark	` '	
	Below Dark Surfac	e (A11)	Depleted I		` '	)		er (Explain in R		
	rk Surface (A12)	, ,	Redox De			,		` '	,	
Sandy M	ucky Mineral (S1)				` ,					
Sandy GI	eyed Matrix (S4)	<sup>3</sup> Indicator	s of hydrophytic	egetatio	n and we	etland hy	drology must be pres	ent, unless dist	urbed or prob	lematic.
Restrictive L	ayer (if observed)	:								
Type:	rock									
Depth (in	ches):	5					Hydric Soil Presen	t?	Yes	No X
HYDROLO										
-	rology Indicators									
-	ators (minimum of	one is require	•					ry Indicators (r		o required)
	Vater (A1) er Table (A2)		Salt Crust Biotic Cru	,				er Marks (B1) <b>(</b>		۵)
— Saturatio			Aquatic In		tos (B13)	`		ment Deposits Deposits (B3)		e)
	arks (B1) <b>(Nonrive</b> i	ine)	Hydrogen					nage Patterns (		
	Deposits (B2) (No		Oxidized F		-			Season Water		
	osits (B3) (Nonrive		Presence			•	· · · — ·	fish Burrows (0		
	Soil Cracks (B6)	,	Recent Iro	n Reduc	tion in Ti	illed Soil		ration Visible o	•	ery (C9)
Inundatio	n Visible on Aerial	Imagery (B7)	) Thin Muck	Surface	(C7)		Shal	low Aquitard (E	03)	
Water-St	ained Leaves (B9)		Other (Exp	olain in R	(emarks	)	FAC	-Neutral Test (l	D5)	
Field Observ	ations:									
Surface Water	er Present? Y	es	No	Depth (i	nches): _					
Water Table I		es	No		nches): _					
Saturation Pr		es	No	Depth (i	nches): _		Wetland Hydrolo	gy Present?	Yes	No X
(includes cap										
Describe Rec	orded Data (strean	n gauge, moi	nitoring well, aeria	ı pnotos,	, previou	s inspec	tions), it available:			
Remarks:										

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar	С	ity/County: Klickita	at County	Sampling Date:	6/28/22
Applicant/Owner: Cypress Creek Renewables	-		State: WA	Sampling Point:	VP-107a
Investigator(s): Jessica Taylor and Katie Pyne	Se	ction, Township, R	Range: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau	Local re	elief (concave, con	ivex, none): <u>flat</u>	Slop	e (%):2_
Subregion (LRR): LRR B Lat: 45°50'47.31"N		Long:	120°52'29.70"W	Datum:	-
Soil Map Unit Name: Rockly-Lorena complex, 2 to 15 perce	ent slopes, extre	emely stony	NWI classifi	cation: none	
Are climatic / hydrologic conditions on the site typical for thi	s time of year?	Yes X	No (If no, exp	lain in Remarks.)	
Are Vegetation, Soil, or Hydrologysigni	ficantly disturbe	ed? Are "Normal	Circumstances" present?	Yes X No	
Are Vegetation, Soil, or Hydrologynatur	rally problemati	c? (If needed, e	explain any answers in Rem	narks.)	
SUMMARY OF FINDINGS – Attach site map s	showing sar	npling point lo	ocations, transects, i	mportant featu	ıres, etc.
Hydrophytic Vegetation Present? Yes X No		Is the Sampled	Area		
Hydric Soil Present? Yes No	X	within a Wetland		No	
Wetland Hydrology Present? Yes X No					
Remarks:					
Small vernal pool between fields.					
VEGETATION – Use scientific names of plan	ts.				
		inant Indicator			
Tree Stratum (Plot size: 30 ) % 1.	Cover Spec	cies? Status	Dominance Test wor		
			Number of Dominant S Are OBL, FACW, or FA	•	1 (A)
3.			Total Number of Domi		``
4.			Across All Strata:	·	1 (B)
— (Platein 40)	=Total	Cover	Percent of Dominant S	•	2.00/ (A/D)
Sapling/Shrub Stratum (Plot size: 15 ) 1.			Are OBL, FACW, or FA	AC: 100	0.0% (A/B)
2.			Prevalence Index wo	rksheet:	
3.			Total % Cover of:	Multi	ply by:
4			OBL species 0		0
5	=Total	Cover	FACW species 45		90 0
 Herb Stratum (Plot size: 5 )	=TOLAI	Covei	FAC species 0		0
1. Navarretia intertexta	5 N	lo FACW	UPL species 5	x 5 =	25
2. Plagiobothrys scouleri		es FACW	Column Totals: 50	`	15 (B)
3. Convolvulus arvensis	5 N	lo UPL	Prevalence Index =	= B/A = <u>2.30</u>	
4 5.			Hydrophytic Vegetati	on Indicators:	
6.			X Dominance Test is		
7.			Prevalence Index	is ≤3.0 <sup>1</sup>	
8				aptations¹ (Provide s	
Waadu Viina Chrahum	50 =Total	Cover		s or on a separate s	•
Woody Vine Stratum (Plot size:)			<sup>1</sup> Indicators of hydric so	phytic Vegetation <sup>1</sup>	
1			be present, unless dist		
	=Total	Cover	Hydrophytic		
W Born Oround in Horb Otost			Vegetation		
	er of Biotic Crus	·	Present? Yes_	X No	_
Remarks:					

SOIL Sampling Point: VP-107a

Profile Desc Depth	ription: (Describe t Matrix	to the depti		<b>ument th</b> ox Feature		itor or c	onfirm the absence o	of indicators.)	
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-4	10YR 3/3	100	,		<del></del>		Loamy/Clayey	clay loam	
			_						
	oncentration, D=Depl					oated Sa		tion: PL=Pore Lining, M=N	
_	ndicators: (Applica	ble to all Li			oted.)			s for Problematic Hydric	Soils <sup>3</sup> :
Histosol	· ,		Sandy Re		_			Muck (A9) (LRR C)	
	ipedon (A2)		Stripped N	•	•			Muck (A10) (LRR B)	
Black His	` '		Loamy Mu					Manganese Masses (F12) (	LRR D)
	n Sulfide (A4)		Loamy Gl	-	, ,			ced Vertic (F18)	
	Layers (A5) (LRR C	•)	Depleted I	,	,			Parent Material (F21)	`
	ck (A9) <b>(LRR D)</b> l Below Dark Surface	. (Δ11)	Redox Da Depleted I		` '			Shallow Dark Surface (F22 · (Explain in Remarks)	)
	rk Surface (A12)	(A11)	Redox De			,	Other	(Explain in Remarks)	
	ucky Mineral (S1)		Nedox De	pressions	5 (10)				
	leyed Matrix (S4)	<sup>3</sup> Indicator	s of hydrophytic v	/egetation	n and we	tland hv	drology must be prese	nt, unless disturbed or prol	olematic.
	_ayer (if observed):		, , ,			Ť	37 1	, ,	
Type:	rock								
Depth (in		4					Hydric Soil Present	? Yes	No X
Remarks:	<u> </u>								
HYDROLO	GY								
	drology Indicators:								
_	ators (minimum of o	ne is require	ed: check all that	apply)			Secondar	y Indicators (minimum of ty	vo required)
	Water (A1)	,	Salt Crust					r Marks (B1) (Riverine)	
	ter Table (A2)		Biotic Cru	` '				nent Deposits (B2) (Riveri	ne)
Saturatio			Aquatic In		es (B13)	)		Deposits (B3) (Riverine)	•
Water Ma	arks (B1) (Nonriveri	ne)	Hydrogen				Drain	age Patterns (B10)	
Sedimen	t Deposits (B2) (Non	riverine)	Oxidized F	Rhizosph	eres on l	Living R	oots (C3) Dry-S	eason Water Table (C2)	
Drift Dep	osits (B3) (Nonriver	ine)	Presence			. ,		ish Burrows (C8)	
	Soil Cracks (B6)		Recent Iro			lled Soil	· · · · —	ation Visible on Aerial Imaç	gery (C9)
	on Visible on Aerial Ir	magery (B7)						ow Aquitard (D3)	
Water-St	ained Leaves (B9)		Other (Exp	olain in R	emarks)		X_FAC-I	Neutral Test (D5)	
Field Observ									
Surface Wate			No <u>X</u>	Depth (in	· -				
Water Table			No X	Depth (in			Madan dillodonia	D	NI -
Saturation Pr		s	No <u>X</u>	Depth (in	nches): _		Wetland Hydrolog	yy Present? Yes X	No
(includes cap	orded Data (stream	dalido mos	nitoring woll coris	l photos	provious	e inenee	tions) if available:		
Describe Kec	orueu Dala (Silealii	yauye, 11101	morning well, aella	ıı priotos,	hienion	э шэрес	uons), ii avallable.		
Remarks:									

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar		City/Cour	nty: Klickitat (	County	Sampling Date:	6/28/22
Applicant/Owner: Cypress Creek Renewables				State: WA	Sampling Point:	VP-107b
Investigator(s): Jessica Taylor and Katie Pyne		Section, T	ownship, Ran	ge: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau	L	ocal relief (co	ncave, conve	x, none): <u>flat</u>	Slop	pe (%):2_
Subregion (LRR): LRR B Lat: 45°50'47.	31"N		Long: 120	0°52'29.70"W	Datum:	NAD83
Soil Map Unit Name: Rockly-Lorena complex, 2 to 19	5 percent slopes	, extremely s	tony	NWI classific	cation: none	
Are climatic / hydrologic conditions on the site typica	I for this time of	year?	Yes X	No (If no, expl	ain in Remarks.)	
Are Vegetation , Soil , or Hydrology	significantly di	sturbed? A	re "Normal Ci	rcumstances" present?	Yes No	0
Are Vegetation, Soil, or Hydrology	naturally probl	ematic? (I	f needed, expl	lain any answers in Rem	narks.)	
SUMMARY OF FINDINGS – Attach site r			g point loca	ations, transects, i	mportant feat	ures, etc.
Hydrophytic Vegetation Present? Yes	No X	Is the	Sampled Are	ea		
	No X		n a Wetland?		No X	
Wetland Hydrology Present? Yes	No X					
Remarks:		•				
Upland plot						
VEGETATION – Use scientific names of	_	Dominant	Indicator I			
Tree Stratum (Plot size: 30 )	Absolute % Cover	Dominant Species?	Status	Dominance Test work	«sheet:	
1				Number of Dominant S	species That	
2				Are OBL, FACW, or FA	/C:	0 (A)
3.				Total Number of Domir	nant Species	0 (D)
4		Total Cover		Across All Strata:		2 (B)
Sapling/Shrub Stratum (Plot size: 15	,	Total Covel		Percent of Dominant S Are OBL, FACW, or FA	•	).0% (A/B)
1.	_'			7110 002,171011, 0117		(, 42)
2.				Prevalence Index wor	rksheet:	
3.	_			Total % Cover of:	Mult	tiply by:
4				OBL species 0		0
5		Tatal Causa		FACW species 0		0
<u>Herb Stratum</u> (Plot size: 5 )		Total Cover		FAC species 0 FACU species 40		0 160
1. Achillea millefolium	20	Yes	FACU	UPL species 15		75
2. Lomatium grayi	5	No	UPL	Column Totals: 55		235 (B)
3. Elymus elymoides	20	Yes	FACU	Prevalence Index =	B/A = 4.27	7
4. Taeniatherum caput-medusae	10	No	UPL			
5			l	Hydrophytic Vegetation		
6 7.			<del></del>	Dominance Test is Prevalence Index is		
7. 8.			<del></del>	Morphological Ada		supporting
	 55 =	Total Cover			s or on a separate	
Woody Vine Stratum (Plot size:	)			Problematic Hydro	phytic Vegetation <sup>1</sup>	(Explain)
1				<sup>1</sup> Indicators of hydric so	il and wetland hyd	rology must
2			<b> </b>	be present, unless dist	urbed or problema	tic.
	=	Total Cover		Hydrophytic		
% Bare Ground in Herb Stratum 50 %	6 Cover of Biotic	: Crust		Vegetation Present? Yes	No_X	
Remarks:						
nomains.						

SOIL Sampling Point: VP-107b

Profile Desc Depth	ription: (Describe to Matrix	to the dept		<b>ıment th</b> x Featur		ator or o	confirm the absence of	of indicators.)		
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	1	Remarks	
0-4	10YR 3/4	100	, ,				Loamy/Clayey		silt loam	
	101110/1									
								-		
	oncentration, D=Depl					oated S		ation: PL=Pore I		
l <sup>-</sup>	ndicators: (Applica	ble to all L			oted.)			s for Problema	-	oils³:
Histosol	` '		Sandy Red					Muck (A9) (LRF		
	ipedon (A2)		Stripped M	,	•			Muck (A10) (LR		
Black His	` '		Loamy Mu					Manganese Mas		RR D)
I — · ·	n Sulfide (A4)		Loamy Gle	-				ced Vertic (F18)		
	Layers (A5) (LRR C	5)	Depleted N		•			Parent Material (	,	
	ck (A9) <b>(LRR D)</b>	. (Δ11)	Redox Dar		` '			Shallow Dark Sเ r (Explain in Ren	, ,	
	Below Dark Surface rk Surface (A12)	(A11)	Depleted Depleted Dep			)	Othe	r (Explain in Ren	narks)	
	ucky Mineral (S1)		— Kedox Del	JI ESSIOI I	S (FO)					
	leyed Matrix (S4)	<sup>3</sup> Indicator	rs of hydronhytic y	egetatio	n and we	tland h	drology must be prese	ent unless distur	hed or proble	ematic
	ayer (if observed):	maioatoi	- I I I I I I I I I I I I I I I I I I I	gotatio	Trana we	Allana III	Tarology muot bo prooc	mit, umood diotal	- Propin	
Type:	rock									
Depth (in		4	_				Hydric Soil Present	·?	Yes	No X
Remarks:		•	<u> </u>				,	•		
HYDROLO	GY									
Wetland Hyd	Irology Indicators:									
	ators (minimum of o	ne is requir						ry Indicators (mi		required)
	Nater (A1)		Salt Crust	` '				r Marks (B1) <b>(R</b> i	,	
	ter Table (A2)		Biotic Crus					ment Deposits (E		<del>)</del>
— Saturatio	` '	,	Aquatic Inv		` '			Deposits (B3) (R		
	arks (B1) (Nonriveri		Hydrogen					age Patterns (B	-	
	t Deposits (B2) (Nor		Oxidized R			-	· · · —	Season Water Ta		
	osits (B3) <b>(Nonriver</b> Soil Cracks (B6)	iiie)	Recent Iro			` '		fish Burrows (C8 ration Visible on	•	ny (Ca)
	on Visible on Aerial I	magery (B7				ileu ooi	· · ·	ow Aquitard (D3	_	ary (C3)
	ained Leaves (B9)	magery (D7	Other (Exp					Neutral Test (D5		
Field Observ	/ations:						_	•	,	
Surface Water		s	No X	Depth (i	nches):					
Water Table					nches):					
Saturation Pr	resent? Ye	es —		Depth (i			Wetland Hydrolog	gy Present? `	Yes	No X
(includes cap	illary fringe)				-					
Describe Red	corded Data (stream	gauge, moi	nitoring well, aeria	l photos,	previou	s inspec	tions), if available:			
Remarks:										

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar	C	City/County:	Klickitat C	County	Sampling Date:	6/28/22
Applicant/Owner: Cypress Creek Renewables				State: WA	Sampling Point:	VP-108a
Investigator(s): Jessica Taylor and Katie Pyne	S	ection, Towr	nship, Ranç	ge: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau	Local	relief (conca	ave, convex	, none): <u>flat</u>	Slop	e (%):2_
Subregion (LRR): LRR B Lat: 45°50'56.95"N			Long: 120	)°52'45.26"W	Datum:	NAD83
Soil Map Unit Name: Goldendale silt loam, basalt substratur	m, 2 to 5 perc	ent slopes		NWI classific	cation: none	
Are climatic / hydrologic conditions on the site typical for this	time of year?	? Yes	s_X_	No (If no, expl	ain in Remarks.)	
Are Vegetation, Soil, or Hydrologysignificant	icantly disturb	ed? Are "	'Normal Cir	cumstances" present?	Yes X No	
Are Vegetation, Soil, or Hydrologynatura	ally problemat	ic? (If ne	eded, expl	ain any answers in Rem	arks.)	
SUMMARY OF FINDINGS – Attach site map sl	howing sa	mpling p	oint loca	itions, transects, i	mportant featu	ıres, etc.
Hydrophytic Vegetation Present? Yes X No		Is the Sa	mpled Are	a		
Hydric Soil Present? Yes No X			Wetland?	Yes X	No	
Wetland Hydrology Present? Yes X No	_					
Remarks:						
Very rocky vernal pool with algal matting on the edge.						
   VEGETATION – Use scientific names of plant	 S.					
Abs	solute Don		dicator			
Tree Stratum (Plot size: 30 ) % (	Cover Spe	cies? S	Status_	Dominance Test work		
2.				Number of Dominant S Are OBL, FACW, or FA	•	2 (A)
3.				Total Number of Domir	-	``
4.				Across All Strata:	·	2 (B)
Operation of Observations (Districtions 45)	=Total	Cover		Percent of Dominant S	•	> 00/ /A/D)
Sapling/Shrub Stratum (Plot size: 15 ) 1.				Are OBL, FACW, or FA	AC: 100	0.0% (A/B)
2.				Prevalence Index wor	rksheet:	
3.				Total % Cover of:	Multi	ply by:
4				OBL species10		10
5		Cover	<del></del>	FACW species 65		30
 Herb Stratum (Plot size: 5 )	=10tai	Cover		FAC species 0 FACU species 0		0
,	50 Y	es F	ACW	UPL species 0		0
	15 Y	es F	ACW	Column Totals: 75	(A) 1	40 (B)
	10	No (	OBL	Prevalence Index =	= B/A = <u>1.87</u>	
4			—— <u> </u>	Hydrophytic Vegetation		
			<del></del>	X Dominance Test is		
7.				Prevalence Index is		
8.				Morphological Ada		
	75 =Total	Cover			s or on a separate s	•
Woody Vine Stratum (Plot size:)				Problematic Hydro		` ' '
1				<sup>1</sup> Indicators of hydric so be present, unless dist		
	=Total	Cover		Hydrophytic		
	_			Vegetation		
	of Biotic Crus	st		Present? Yes _	No	-
Remarks:						

SOIL Sampling Point: VP-108a

Profile Descripe	ription: (Describe Matrix	to the depti		<b>ument th</b> ox Featur		ator or o	confirm the absence	of indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-4	10YR 3/3	100	- / /				Loamy/Clayey	clay loam	
	-								
	ncentration, D=Dep					oated S		ation: PL=Pore Lining, M=N	
-	ndicators: (Applica	able to all Li			otea.)			rs for Problematic Hydric	Solis":
— Histosol (	ipedon (A2)		Sandy Re Stripped N		:1			Muck (A9) <b>(LRR C)</b> Muck (A10) <b>(LRR B)</b>	
Black His			Loamy Mu					Manganese Masses (F12) <b>(</b>	I PP I/I
	n Sulfide (A4)		Loamy Gl	,	\ /			uced Vertic (F18)	LKK D)
<u> </u>	Layers (A5) (LRR (	2)	Depleted I					Parent Material (F21)	
	ck (A9) (LRR D)	-,	Redox Da					Shallow Dark Surface (F22	)
	Below Dark Surfac	e (A11)	Depleted I		` '	)	<u> </u>	r (Explain in Remarks)	,
	rk Surface (A12)	,	Redox De			,		,	
Sandy M	ucky Mineral (S1)				. ,				
Sandy GI	eyed Matrix (S4)	<sup>3</sup> Indicator	s of hydrophytic	/egetatio	n and we	tland hy	drology must be prese	ent, unless disturbed or prob	olematic.
Restrictive L	ayer (if observed):								
Type:	rock								
Depth (in	ches):	4					Hydric Soil Presen	t? Yes	No X
HYDROLO									
-	rology Indicators:		- dbb - 11 4b -4	I>			0 1 -		
-	ators (minimum of o	one is require	•					ry Indicators (minimum of ty	<u>vo requirea)</u>
	Vater (A1) er Table (A2)		Salt Crust Biotic Crust	,				er Marks (B1) <b>(Riverine)</b> ment Deposits (B2) <b>(Riveri</b> i	20)
Saturatio			Aquatic In		es (B13)	١		Deposits (B3) (Riverine)	16)
	arks (B1) <b>(Nonriver</b>	ine)	Hydrogen					nage Patterns (B10)	
	t Deposits (B2) (No		Oxidized F					Season Water Table (C2)	
	osits (B3) (Nonrive		Presence			-	· · · —	fish Burrows (C8)	
X Surface S	Soil Cracks (B6)		Recent Iro	n Reduc	tion in Ti	lled Soil		ration Visible on Aerial Imag	gery (C9)
Inundatio	n Visible on Aerial I	magery (B7)	Thin Muck	Surface	(C7)		Shall	low Aquitard (D3)	
Water-St	ained Leaves (B9)		Other (Exp	olain in R	emarks)		X FAC	-Neutral Test (D5)	
Field Observ	ations:								
Surface Water	er Present? Ye	es	No <u>X</u>	Depth (ii	nches): _				
Water Table I		es	No <u>X</u>	Depth (ii					
Saturation Pr		es	No <u>X</u>	Depth (ii	nches): _		Wetland Hydrolo	gy Present? Yes X	No
(includes cap									
Describe Rec	orded Data (stream	ı gauge, mor	nitoring well, aeria	ıı pnotos,	previou	s inspec	tions), if available:		
Remarks:									

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar	(	City/County: k	Klickitat County	Sampling [	Date: <u>6/28/22</u>
Applicant/Owner: Cypress Creek Renewables			State:	WA Sampling F	Point: VP-108b
Investigator(s): Jessica Taylor and Katie Pyne	S	ection, Towns	hip, Range: S12 T4N	R15E	
Landform (hillside, terrace, etc.): plateau	Local	relief (concave	e, convex, none): <u>fla</u>	t	_ Slope (%):2_
Subregion (LRR): LRR B Lat: 45°50'56.95"N		Lo	ong: <u>120°52'45.26"W</u>	Da	itum: NAD83
Soil Map Unit Name: Goldendale silt loam, basalt substrat	tum, 2 to 5 perc	ent slopes	NV	VI classification: <u>none</u>	!
Are climatic / hydrologic conditions on the site typical for the	nis time of year?	? Yes_	X No (	(If no, explain in Rema	rks.)
Are Vegetation, Soil, or Hydrologysign	nificantly disturb	ed? Are "No	ormal Circumstances" <sub>l</sub>	present? Yes X	No
Are Vegetation, Soil, or Hydrologynate	urally problemat	tic? (If need	ded, explain any answe	ers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map	showing sa	mpling poi	int locations, tran	sects, important	features, etc.
Hydrophytic Vegetation Present? Yes No	Х	Is the Sam	pled Area		
Hydric Soil Present? Yes No	X	within a W	etland? Ye	es No_X	_
Wetland Hydrology Present? Yes No _	X				
Remarks: Upland plot					
Opiana piot					
VEGETATION – Use scientific names of plai	nts.				
		ninant Indic			
Tree Stratum (Plot size: 30 ) 9	% Cover Spe	ecies? Sta	<del></del>	Test worksheet:	
2.				ominant Species That CW, or FAC:	0 (A)
3.				er of Dominant Species	```
4.			Across All St	rata:	3 (B)
	=Total	Cover		ominant Species That	0.00/ (4/5)
Sapling/Shrub Stratum (Plot size: 15 ) 1.			Are OBL, FA	.CW, or FAC:	(A/B)
2			Prevalence I	Index worksheet:	
3.				Cover of:	Multiply by:
4			OBL species		
5			FACW specie		
 Herb Stratum   (Plot size:  5  )	=1 otai	Cover	FAC species FACU specie		
1. Achillea millefolium	30 Y	es FA	· · · · · · · · · · · · · · · · · · ·		
2. Lomatium grayi	10	No UF	Column Tota	lls: 85 (A)	370 (B)
3. Elymus elymoides		es FA		ce Index = B/A =	4.35
4. <u>Madia gracilis</u> 5.		es UF		Vegetetien Indicator	
				Vegetation Indicator	S:
6. 7.				ice Index is ≤3.0 <sup>1</sup>	
8.				ogical Adaptations <sup>1</sup> (Pro	
_	85 =Total	Cover		n Remarks or on a sep	
Woody Vine Stratum (Plot size:)			I —	atic Hydrophytic Veget	` ' '
1				f hydric soil and wetlan ınless disturbed or prot	, ,,
	=Total	Cover	Hydrophytic	•	
_			Vegetation		
% Bare Ground in Herb Stratum 20 % Cov	er of Biotic Crus	st	Present?	Yes No	<u> </u>
Remarks:					

SOIL Sampling Point: VP-108b

	•	to the depti				itor or c	confirm the absence of	of indicators.)
Depth (inches)	Matrix			x Featur		Loc <sup>2</sup>	Toyturo	Domorko
(inches)	Color (moist)	<u>%</u> _	Color (moist)		Type <sup>1</sup>	Loc	Texture	Remarks
0-4	10YR 3/4	100					Loamy/Clayey	silt loam
		. <u> </u>						
<sup>1</sup> Type: C=Co	oncentration, D=Dep	letion, RM=F	Reduced Matrix, C	S=Cove	red or Co	oated S	and Grains. <sup>2</sup> Loca	ation: PL=Pore Lining, M=Matrix.
Hydric Soil	ndicators: (Applica	ble to all L	RRs, unless othe	rwise n	oted.)		Indicator	s for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Sandy Red	lox (S5)			1 cm	Muck (A9) (LRR C)
Histic Ep	ipedon (A2)		Stripped M	atrix (S6	<b>i</b> )		2 cm	Muck (A10) (LRR B)
Black Hi	stic (A3)		Loamy Mu	cky Mine	eral (F1)		Iron-N	Manganese Masses (F12) (LRR D)
Hydroge	n Sulfide (A4)		Loamy Gle	yed Mat	rix (F2)		Redu	ced Vertic (F18)
Stratified	Layers (A5) (LRR 0	<b>(</b> )	Depleted N	/latrix (F	3)		Red F	Parent Material (F21)
1 cm Mu	ck (A9) <b>(LRR D)</b>		Redox Dar	k Surfac	e (F6)		Very	Shallow Dark Surface (F22)
Depleted	Below Dark Surface	e (A11)	Depleted [	ark Surl	ace (F7)	)	Other	r (Explain in Remarks)
Thick Da	rk Surface (A12)		Redox Dep	ressions	s (F8)			
Sandy M	ucky Mineral (S1)							
Sandy G	leyed Matrix (S4)	<sup>3</sup> Indicator	s of hydrophytic v	egetatio	n and we	tland hy	drology must be prese	ent, unless disturbed or problematic.
Restrictive I	ayer (if observed):							
Type:	rock							
Depth (ir	iches):	4					Hydric Soil Present	? Yes No X
Remarks:								
rtomanto.								
HYDROLO	GY							
_	drology Indicators:	no io roquir	od: abook all that	annlu)			Sacandar	nulndiantara (minimum of two required)
-	ators (minimum of c	ne is require						ry Indicators (minimum of two required)
	Water (A1)		Salt Crust Biotic Crus	` '				r Marks (B1) <b>(Riverine)</b> ment Deposits (B2) <b>(Riverine)</b>
	ter Table (A2)				oo (P12)			Deposits (B3) (Riverine)
Saturatio	arks (B1) <b>(Nonriver</b> i	ino)	Aquatic Inv Hydrogen					age Patterns (B10)
	t Deposits (B2) <b>(No</b> i		Oxidized R		, ,			Season Water Table (C2)
	osits (B3) (Nonrive		Presence of			_	· · · — ·	ish Burrows (C8)
	Soil Cracks (B6)	iiie)	Recent Iro		,	. ,		ration Visible on Aerial Imagery (C9)
	on Visible on Aerial I	magery (B7)				iica ooii		ow Aquitard (D3)
	ained Leaves (B9)	magery (br)	Other (Exp					Neutral Test (D5)
_			Other (Exp	iaiii iii i	Ciliarits)		<u></u>	redutal rest (D0)
Field Obser			Na V	D = = 4h /:-				
Surface Water		es			nches): _			
Water Table		es			nches): _		Watland Huduala	www.Dunasaut2 Vas Na V
Saturation P		es	No <u>X</u>	Depth (ii	iches):_		vveuana Hyarolog	gy Present? Yes No _X
(includes cap			itaring wall agric	nhataa	provious	inonoo	tions) if available.	
Describe Re	corded Data (stream	gauge, mor	illoring well, aerla	priotos,	previous	sinspec	aions), ii avallable:	
Pemarka:								
Remarks:								

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar		City/County: Klickita	t County	Sampling Date:	6/28/22
Applicant/Owner:			State: WA	Sampling Point:	VP-110a
Investigator(s): Jessica Taylor and Katie Pyne		Section, Township, Ra	inge: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau	Loc	cal relief (concave, conv	ex, none): <u>flat</u>	Slop	e (%):2_
Subregion (LRR): <u>LRR B</u> Lat: <u>45°50'56.9</u>	5"N	Long: <u>1</u>	20°52'45.26"W	Datum:	NAD83
Soil Map Unit Name: Rocky-Lorena complex, 2 to 15	percent slopes, e	extremely stony	NWI classific	cation: none	
Are climatic / hydrologic conditions on the site typical	for this time of ye	ear? Yes X	No (If no, expl	lain in Remarks.)	
Are Vegetation, Soil, or Hydrology	significantly dist	urbed? Are "Normal 0	Circumstances" present?	Yes X No	·
Are Vegetation, Soil, or Hydrology	naturally probler	matic? (If needed, ex	plain any answers in Rem	narks.)	
SUMMARY OF FINDINGS – Attach site m	ap showing	sampling point lo	cations, transects, i	mportant featu	ıres, etc.
Hydric Soil Present? Yes X	lo lo	Is the Sampled A within a Wetland		No	
Remarks: Vernal pool near road.	alo más				
VEGETATION – Use scientific names of p		Dominant Indicator	<u> </u>		
Tree Stratum (Plot size: 30 )		Species? Status	Dominance Test work	ksheet:	
1			Number of Dominant S	•	
2.	·		Are OBL, FACW, or FA		2 (A)
3. 4.	·		Total Number of Domir Across All Strata:		2 (B)
Sapling/Shrub Stratum (Plot size: 15	=Tc	otal Cover	Percent of Dominant S Are OBL, FACW, or FA	•	0.0% (A/B)
2.	· <del></del> -		Prevalence Index wo	rksheet:	
3.			Total % Cover of:	Multi	ply by:
4			OBL species10		10
5			FACW species 60		20
Herb Stratum (Plot size: 5 )	=10	otal Cover	FAC species 0 FACU species 0		0
1. Plagiobothrys scouleri	30	Yes FACW	UPL species 0		0
Navarretia intertexta	30	Yes FACW	Column Totals: 70		30 (B)
3. Myosurus minimus	10	No OBL	Prevalence Index =	B/A = 1.86	
4					
5			Hydrophytic Vegetation		
6. 7.			X Dominance Test is X Prevalence Index i		
7. 8.				iptations <sup>1</sup> (Provide s	supportina
	70 =To	otal Cover		s or on a separate s	
Woody Vine Stratum (Plot size:			Problematic Hydro	phytic Vegetation <sup>1</sup>	(Explain)
1. 2.	·		<sup>1</sup> Indicators of hydric so be present, unless dist		
	=To	otal Cover	Hydrophytic Vegetation Present? Yes	·	_
Remarks:					

SOIL Sampling Point: VP-110a

	ription: (Describe t	to the depth				tor or c	onfirm the absence	e of indicators.)		
Depth	Matrix			x Featur		. 2				
(inches)	Color (moist)	<u></u>	Color (moist)	<u></u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	_	Remarks	
0-6	10YR 3/2	50	10YR 4/6	_50	C	M_	Loamy/Clayey	_	silt loam	
							•			
										_
							-			—
							-	_		
								_		
	ncentration, D=Depl					oated Sa			Lining, M=Matrix.	
=	ndicators: (Applica	ble to all LR			oted.)				atic Hydric Soils <sup>3</sup> :	
Histosol	` '		Sandy Red					cm Muck (A9) (LR		
	ipedon (A2)		Stripped M	,	•			cm Muck (A10) <b>(L</b>		
Black His	` '		Loamy Mu	-				-	sses (F12) <b>(LRR D)</b>	
	n Sulfide (A4)		Loamy Gle	-	. ,			educed Vertic (F18	•	
	Layers (A5) (LRR C	5)	Depleted N		-			ed Parent Material		
1 cm Mu	ck (A9) <b>(LRR D)</b>		X Redox Dar		. ,			ery Shallow Dark S		
:	Below Dark Surface	e (A11)	Depleted [	Dark Sur	face (F7)		Ot	her (Explain in Re	emarks)	
	rk Surface (A12)		? Redox De	oression	s (F8)					
	ucky Mineral (S1)	2								
Sandy G	leyed Matrix (S4)	³Indicators	of hydrophytic v	egetatio	n and we	tland hy	drology must be pre	esent, unless distu	urbed or problematic.	
	.ayer (if observed):									
Type: _	rock		_							
Depth (in	ches):	6	_				Hydric Soil Pres	ent?	Yes <u>X</u> No	
Remarks:										
HYDROLO	GY									
Wetland Hyd	Irology Indicators:									
_	ators (minimum of o	ne is require	d; check all that a	apply)			Secon	dary Indicators (m	inimum of two require	ed)
Surface \	Nater (A1)		Salt Crust	(B11)			W	ater Marks (B1) <b>(F</b>	Riverine)	
	ter Table (A2)		Biotic Crus	` '				ediment Deposits		
Saturatio			Aquatic In		tes (B13)			ift Deposits (B3) <b>(</b>		
	arks (B1) <b>(Nonriveri</b>	ne)	Hydrogen		, ,			ainage Patterns (l	•	
	t Deposits (B2) (Nor		Oxidized F		` '			y-Season Water l	•	
	osits (B3) (Nonriver		Presence			-	· · —	ayfish Burrows (C		
	Soil Cracks (B6)	-,	Recent Iro		,	,		-	n Aerial Imagery (C9)	
	on Visible on Aerial Ir	magery (B7)	Thin Muck				` ′	nallow Aquitard (D	<b>3</b> , ( ,	
	ained Leaves (B9)		Other (Exp		` '			AC-Neutral Test (E		
Field Observ					,		<u></u>			
Surface Water		s	No X	Depth (i	nches):					
Water Table		s			nches):					
Saturation Pr					nches):		Wetland Hydro	logy Present?	Yes X No	
(includes cap		<u> </u>	<u> </u>	Dopui (i	_		Wolland Hydro	nogy i roconti	<u> </u>	—
	corded Data (stream	gauge, moni	toring well, aeria	l photos	, previous	inspec	tions), if available:			
	\					,,==	,,			
Remarks:										

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar	City/County: Klickitat County Sampling Date: 6/28/22
Applicant/Owner: Cypress Creek Renewables	State: WA Sampling Point: VP-110b
Investigator(s): Jessica Taylor and Katie Pyne	Section, Township, Range: S12 T4N R15E
Landform (hillside, terrace, etc.): plateau Loc	cal relief (concave, convex, none): flat Slope (%): 2
Subregion (LRR): <u>LRR B</u> Lat: <u>45°50'47.31"N</u>	Long: 120°52'29.70"W Datum: NAD83
Soil Map Unit Name: Rockly-Lorena complex, 2 to 15 percent slopes, of	extremely stony NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year	ar? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly dist	urbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally problem	natic? (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	Is the Sampled Area
Hydric Soil Present? Yes No X	within a Wetland? Yes No _X_
Wetland Hydrology Present? Yes No _X	
Remarks: Upland plot	
opiana piot	
VEGETATION – Use scientific names of plants.	
	Dominant Indicator
Tree Stratum (Plot size: 30 ) % Cover 5	Species? Status Dominance Test worksheet:
2.	Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
3.	Total Number of Dominant Species
4	Across All Strata: 2(B)
	otal Cover Percent of Dominant Species That
Sapling/Shrub Stratum (Plot size: 15 ) 1.	Are OBL, FACW, or FAC: 0.0% (A/B)
2	Prevalence Index worksheet:
3.	Total % Cover of: Multiply by:
4	OBL species 0 x1 = 0
5	TACW species 0 x 2 = 0  FAC species 0 x 3 = 0
Herb Stratum (Plot size: 5 )	FAC species 0 x 3 = 0 FACU species 0 x 4 = 0
1. Bromus tectorum 40	Yes UPL UPL species 80 x 5 = 400
2. Ventenata dubia 40	Yes         UPL         Column Totals:         80         (A)         400         (B)
3	Prevalence Index = B/A = 5.00
4	Hydrophytic Vegetation Indicators:
	Dominance Test is >50%
7	Dravalance Index is <2.01
8.	Morphological Adaptations <sup>1</sup> (Provide supporting
	otal Cover data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size:)	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	otal Cover Hydrophytic
	Vegetation
% Bare Ground in Herb Stratum 20 % Cover of Biotic C	Present?         Yes         No         X
Remarks:	

SOIL Sampling Point: VP-110b

	• •	to the dept				ator or o	confirm the absence	of indicators.)	
Depth (inches)	Matrix Color (moist)	——————————————————————————————————————	Color (moist)	x Feature %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Pon	narks
			Color (moist)		туре				
0-6	10YR 3/4	100					Loamy/Clayey	SIII	loam
								-	
1T C-C-			Dadwaad Matrix C				21	ation. DI – Dana Linis	
	ncentration, D=Dep					oated S		ation: PL=Pore Lining  rs for Problematic	
Histosol	`	ible to all L	•		otea.)				-
	ipedon (A2)		Sandy Red Stripped M		:1			i Muck (A9) <b>(LRR C)</b> i Muck (A10) <b>(LRR E</b>	
Black His			Loamy Mu	•	•			Manganese Masses	
	n Sulfide (A4)		Loamy Gle	-				ivarigariese wasses uced Vertic (F18)	(F12) ( <b>LKK D)</b>
	Layers (A5) (LRR C	:)	Depleted N					Parent Material (F21	1)
	ck (A9) (LRR D)	•)	Redox Dar		•			Shallow Dark Surfa	•
	Below Dark Surface	- (Δ11)	Depleted [			١		er (Explain in Remark	
	rk Surface (A12)	3 (7 (1 1)	Redox Dep			,		. (Explain in Fromail	,
	ucky Mineral (S1)			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	3 (1. 0)				
	leyed Matrix (S4)	<sup>3</sup> Indicator	rs of hydrophytic v	egetation	n and we	tland hy	drology must be prese	ent, unless disturbed	or problematic.
	.ayer (if observed):					Ť		·	·
Type:	rock								
Depth (ir		6	<u> </u>				Hydric Soil Presen	t? Yes	No _X
Remarks:			_				•		
rtomanto.									
HYDROLO	GY								
Wetland Hyd	Irology Indicators:								
_	ators (minimum of c	ne is requir	ed; check all that	apply)			Seconda	ry Indicators (minim	um of two required)
	Nater (A1)	•	Salt Crust					er Marks (B1) (River	
	ter Table (A2)		Biotic Crus	` '				ment Deposits (B2)	
Saturation			Aquatic In		es (B13)	)		Deposits (B3) (Rive	
Water M	arks (B1) (Nonriveri	ine)	Hydrogen					nage Patterns (B10)	
Sedimen	t Deposits (B2) (Noi	nriverine)	Oxidized F	Rhizosph	eres on l	Living R	oots (C3) Dry-	Season Water Table	(C2)
Drift Dep	osits (B3) (Nonriver	rine)	Presence	of Reduc	ed Iron (	(C4)	Cray	fish Burrows (C8)	
Surface	Soil Cracks (B6)		Recent Iro	n Reduc	tion in Ti	lled Soil	s (C6) Satu	ration Visible on Aer	rial Imagery (C9)
Inundatio	n Visible on Aerial I	magery (B7	) Thin Muck	Surface	(C7)		Shal	low Aquitard (D3)	
Water-St	ained Leaves (B9)		Other (Exp	lain in R	emarks)		FAC	-Neutral Test (D5)	
Field Observ	vations:								
Surface Water	er Present? Ye	es	No X	Depth (in	nches): _				
Water Table	Present? Ye	es		Depth (in	nches): _				
Saturation Pr	esent? Ye	es	No X	Depth (ir	nches): _		Wetland Hydrolo	gy Present? Yes	No X
(includes cap									
Describe Red	corded Data (stream	gauge, mo	nitoring well, aeria	l photos,	previous	s inspec	tions), if available:		
Pomorko:									
Remarks:									

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar	City/County: Klickitat	County	Sampling Date:	6/27/22
Applicant/Owner: Cypress Creek Renewables		State: WA	Sampling Point:	WT-103a
Investigator(s): Jessica Taylor and Katie Pyne	Section, Township, Ra	nge: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau Lo	ocal relief (concave, conve	ex, none): <u>flat</u>	Slope	e (%): <u>2</u>
Subregion (LRR): <u>LRR B</u> Lat: <u>45°50'47.31"N</u>	Long: <u>1</u> 2	20°52'29.70"W	Datum:	NAD83
Soil Map Unit Name: Rockly-Lorena complex, 2 to 15 percent slopes	extremely stony	NWI classific	ation: none	
Are climatic / hydrologic conditions on the site typical for this time of	/ear? Yes X	No (If no, expl	ain in Remarks.)	
Are Vegetation, Soil, or Hydrologysignificantly dis		ircumstances" present?	Yes X No	
Are Vegetation, Soil, or Hydrologynaturally proble	ematic? (If needed, exp	olain any answers in Rem	arks.)	
SUMMARY OF FINDINGS – Attach site map showing	sampling point loo	ations, transects, i	mportant featu	res, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled A	rea		
Hydric Soil Present? Yes X No	within a Wetland?		No	
Wetland Hydrology Present? Yes X No No				
Remarks:				
Wetland along fence near road.				
VEGETATION – Use scientific names of plants.				
Absolute	Dominant Indicator			
Tree Stratum (Plot size: 30 ) % Cover	Species? Status	Dominance Test work	sheet:	
1.		Number of Dominant S		2 (4)
2. 3.		Are OBL, FACW, or FA		2 (A)
4.		Total Number of Domin Across All Strata:	•	2 (B)
=	Total Cover	Percent of Dominant S	pecies That	``
Sapling/Shrub Stratum (Plot size: 15 )		Are OBL, FACW, or FA	C: <u>100</u>	.0% (A/B)
1				
2. 3.		Prevalence Index wor  Total % Cover of:	<b>'ksheet:</b> Multip	alv hv
4.		OBL species 0		) )
5.		FACW species 70	x 2 = 14	40
	Total Cover	FAC species 20		0
Herb Stratum (Plot size: 5 )	Yes FACW	FACU species 0 UPL species 0		<u>)                                    </u>
1. Juncus balticus       70         2. Poa pratensis       20	Yes FACW Yes FAC	UPL species 0 Column Totals: 90		00 (B)
3.		Prevalence Index =		(2)
4.				
5		Hydrophytic Vegetation		
6		X Dominance Test is		
7		X Prevalence Index is Morphological Ada		upporting
	Total Cover		or on a separate s	
Woody Vine Stratum (Plot size:)		Problematic Hydro	phytic Vegetation <sup>1</sup> (	Explain)
1 · _ · · _ · · _ ·		<sup>1</sup> Indicators of hydric soi		
	Total Cover	be present, unless distu	arbed or broblemati	U.
		Hydrophytic Vegetation		
% Bare Ground in Herb Stratum 0 % Cover of Biotic	Crust	Present? Yes_	X No	<u>.                                    </u>
Remarks:				

SOIL Sampling Point: WT-103a

Profile Descriptio Depth	n: (Describe to Matrix	o the dept		<b>ment th</b> k Featur		itor or c	onfirm the absence	of indicators.)		
	olor (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-14	10YR 2/2	100	, ,				Loamy/Clayey		clay loam	-
14-16	10YR 4/1	100					Loamy/Clayey		clay	
<u> </u>	10111 7/1	100					Loanry/Olayey		olay	
<del></del>										
<sup>1</sup> Type: C=Concent						oated S		cation: PL=Pore		
Hydric Soil Indica	tors: (Applicat	ole to all L			oted.)			ors for Problem	-	oils":
Histosol (A1)	m (AQ)		Sandy Red		• • • • • • • • • • • • • • • • • • • •			m Muck (A9) <b>(Li</b>		
Histic Epipedon (A2) ————————————————————————————————————								m Muck (A10) <b>(L</b>		DD D\
X Hydrogen Sulfi	,		Loamy Gle	•	` '			i-Manganese Ma duced Vertic (F1	. , .	(ט אוו.
	rs (A5) <b>(LRR C</b> )	)	Depleted M	-				d Parent Materia	•	
1 cm Muck (As	. , .	•	Redox Dar		-			y Shallow Dark		
	w Dark Surface	(A11)	Depleted D		. ,	)		er (Explain in R		
Thick Dark Sur		` '	Redox Dep		, ,			( )	,	
Sandy Mucky I	, ,				` '					
Sandy Gleyed		<sup>3</sup> Indicato	rs of hydrophytic ve	egetatio	n and we	tland hy	drology must be pres	sent, unless dist	urbed or probl	ematic.
Restrictive Layer	(if observed):									
Type:										
Depth (inches)	:						Hydric Soil Prese	nt?	Yes X	No
Remarks:										
HYDROLOGY										
Wetland Hydrolog	y Indicators:									
Primary Indicators	(minimum of or	ne is requir	ed; check all that a	ipply)				<u>ary Indicators (r</u>		o required)
Surface Water	` '		Salt Crust (	` '				ter Marks (B1) (	•	
High Water Ta	` '		Biotic Crus					liment Deposits		e)
X Saturation (A3	,		Aquatic Inv		, ,			t Deposits (B3)		
	B1) <b>(Nonriverir</b> osits (B2) <b>(Non</b>		X Hydrogen S		-			inage Patterns ( -Season Water		
	osits (B2) <b>(Non</b> (B3) <b>(Nonriveri</b>		Oxidized R Presence of			_		-Season Water yfish Burrows (0		
Surface Soil C		<i></i>	Recent Iron			,		uration Visible o	,	ery (C9)
	ible on Aerial Im	nagery (R7						allow Aquitard (E	_	51 y (O3)
Water-Stained			Other (Exp					C-Neutral Test (I	•	
Field Observation	. ,								,	
Surface Water Pre		5	No I	Depth (i	nches):					
Water Table Prese				Depth (i	´ <b>-</b>	14				
Saturation Present				Depth (i	′ -	0	Wetland Hydrole	ogy Present?	Yes X	No
(includes capillary	fringe)									
Describe Recorded	d Data (stream o	gauge, mo	nitoring well, aerial	photos,	previous	s inspec	tions), if available:			
Remarks:										

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar		City/County: Klickitat	County	Sampling Date: 6	6/27/22
Applicant/Owner: Cypress Creek Renewables			State: WA	Sampling Point:	WT-103b
Investigator(s): Jessica Taylor and Katie Pyne		Section, Township, Ran	ge: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau	Loca	I relief (concave, conve	x, none): <u>flat</u>	Slope	(%):2
Subregion (LRR): LRR B Lat: 45°50'47.	31"N	Long: 12	0°52'29.70"W	Datum: N	NAD83
Soil Map Unit Name: Rockly-Lorena complex, 2 to 1		tremely stony	NWI classific	cation: none	
Are climatic / hydrologic conditions on the site typica				-	
Are Vegetation , Soil , or Hydrology	significantly distu	bed? Are "Normal Ci	rcumstances" present?		
Are Vegetation, Soil, or Hydrology	_		lain any answers in Rem	arks.)	
SUMMARY OF FINDINGS – Attach site i	<del></del>		-		es, etc.
Hydrophytic Vegetation Present? Yes	No X	Is the Sampled Are	ea		
	No X	within a Wetland?		No X	
	No X				
Remarks:		•			
Upland plot					
VEGETATION – Use scientific names of	-				
<u>Tree Stratum</u> (Plot size: 30 )		ominant Indicator pecies? Status	Dominance Test work	sheet:	
1.	<u> </u>		Number of Dominant S		
2.			Are OBL, FACW, or FA	•	(A)
3			Total Number of Domir	ant Species	
4			Across All Strata:	2	(B)
Sapling/Shrub Stratum (Plot size: 15	=lot	al Cover	Percent of Dominant S	•	0/. (A/D)
Sapling/Shrub Stratum (Plot size: 15 1.	_'		Are OBL, FACW, or FA	AC: 0.0°	<u>%</u> (A/B)
2.			Prevalence Index wor	ksheet:	
3.			Total % Cover of:	Multiply	y by:
4.			OBL species 0	x 1 =0	
5			FACW species 0	x 2 = 0	
Hank Christian (Diet sins)	=Tot	al Cover	FACILITIES 0		
Herb Stratum (Plot size: 5 )  1. Taeniatherum caput-medusae	100	Yes UPL	FACU species 80 UPL species 105		
Bromus japonicus	80	Yes FACU	Column Totals: 185		5 (B)
3. Tragopogon porrifolius	5	No UPL	Prevalence Index =		
4.					
5			Hydrophytic Vegetation		
6			Dominance Test is		
7.			Prevalence Index is	s ≤3.0 ˈ ptations¹ (Provide su	
8		al Cover		ptations (Provide su s or on a separate sh	
Woody Vine Stratum (Plot size:		ai Oovei		phytic Vegetation <sup>1</sup> (E	,
1.	<b>-</b> '		<sup>1</sup> Indicators of hydric so		
2.			be present, unless dist		
	=Tot	al Cover	Hydrophytic		
0/ Para Cround in Harb Strature 0	/ Cover of Disting	uet	Vegetation	N- V	
	% Cover of Biotic Cr	usi	Present? Yes _	No X	
Remarks:					

SOIL Sampling Point: WT-103b

Profile Desc Depth	ription: (Describe t Matrix	to the depti		ument th x Featur		ator or c	onfirm the absence o	f indicators.)
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16	10YR 3/1	100	- ( /				Loamy/Clayey	clay loam
	ncentration, D=Depl					oated Sa		tion: PL=Pore Lining, M=Matrix.
_	ndicators: (Applica	ble to all Li			oted.)			s for Problematic Hydric Soils <sup>3</sup> :
— Histosol	` '		Sandy Re					Muck (A9) (LRR C)
	ipedon (A2)		Stripped N	•	•			Muck (A10) (LRR B)
Black His	` '		Loamy Mu					Manganese Masses (F12) (LRR D)
	n Sulfide (A4)		Loamy Gle	•	, ,			ced Vertic (F18)
	Layers (A5) (LRR C	)	Depleted I					Parent Material (F21)
	ck (A9) (LRR D)	(8.4.4)	Redox Da		, ,		<u> </u>	Shallow Dark Surface (F22)
	Below Dark Surface	(A11)	Depleted I		, ,	)	Other	(Explain in Remarks)
	rk Surface (A12)		Redox De	pressions	s (F8)			
	ucky Mineral (S1) leyed Matrix (S4)	3Indicator	e of hydrophytic y	ogotatio	and we	stland by	drology must be prese	nt, unless disturbed or problematic.
		Illuicator	s of flydropflytic t	regetation	i and we	lianu ny	diology must be prese	nit, unless disturbed of problematic.
	.ayer (if observed):							
Type: _ Depth (ir	rchoe).		<u>—</u>				Hydric Soil Present	? Yes No _X
Remarks:			<del>_</del>				nyunc 3011 Fresent	: 165 NO A
HYDROLO	GY							
_	Irology Indicators:							
-	ators (minimum of o	ne is require						y Indicators (minimum of two required)
	Water (A1)		Salt Crust	` '				r Marks (B1) (Riverine)
	ter Table (A2)		Biotic Crus		(D.40)			nent Deposits (B2) (Riverine)
Saturatio	` '	ma\	Aquatic In Hydrogen					Deposits (B3) (Riverine)
	arks (B1) <b>(Nonriveri</b> ı t Deposits (B2) <b>(Non</b>	•	Oxidized F		•	•		age Patterns (B10) eason Water Table (C2)
	osits (B3) (Nonriver		Presence			-	· · · —	ish Burrows (C8)
	Soil Cracks (B6)	iii <i>e)</i>	Recent Irc			. ,		ation Visible on Aerial Imagery (C9)
	on Visible on Aerial Ir	magery (B7)				ilica coli		ow Aquitard (D3)
	ained Leaves (B9)	nagory (D7)	Other (Exp					Neutral Test (D5)
Field Observ	/ations:						<u> </u>	
Surface Wate	er Present? Yes	S	No X	Depth (in	nches):			
Water Table			No X	Depth (in	· -			
Saturation Pr	resent? Yes	s	No X	Depth (in	· -		Wetland Hydrolog	y Present? Yes No _X
(includes cap	illary fringe)							
Describe Red	corded Data (stream	gauge, mor	nitoring well, aeria	l photos,	previous	s inspec	tions), if available:	
Remarks:								
1								

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar		City/Coun	nty: Klickitat (	County	Sampling Date:	6/27/22
Applicant/Owner: Cypress Creek Renewables				State: WA	Sampling Point:	WT-104a
Investigator(s): Jessica Taylor and Katie Pyne		Section, To	ownship, Ran	ge: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau	Lo	cal relief (co	ncave, conve	x, none): <u>flat</u>	Slo	pe (%): <u>2</u>
Subregion (LRR): <u>LRR B</u> Lat: <u>45°50'47.31</u>	"N		Long: <u>12</u>	0°52'29.70"W	Datum:	NAD83
Soil Map Unit Name: Blockhouse silt loam, 0 to 5 perc	ent slopes			NWI classific	cation: none	
Are climatic / hydrologic conditions on the site typical for	or this time of y	ear?	Yes X	No (If no, expl	ain in Remarks.)	
Are Vegetation , Soil , or Hydrology	significantly dis	sturbed? Ar	re "Normal Ci	rcumstances" present?	Yes X N	0
Are Vegetation, Soil, or Hydrology	naturally proble	ematic? (If	f needed, exp	lain any answers in Rem	arks.)	
SUMMARY OF FINDINGS – Attach site ma			point loc	ations, transects, i	mportant feat	ures, etc.
Hydric Soil Present? Yes X N	o o		Sampled Are a Wetland?		No	
Remarks: Riverine wetland, with obligate plants in the channel.						
VEGETATION – Use scientific names of p		Dominant	Indicator I			
<u>Tree Stratum</u> (Plot size: 30 )		Dominant Species?	Status	Dominance Test work	sheet:	
1.				Number of Dominant S	pecies That	
2				Are OBL, FACW, or FA	.C:	2 (A)
3. 4.				Total Number of Domin Across All Strata:	ant Species	2 (B)
Sapling/Shrub Stratum (Plot size: 15	=T )	otal Cover		Percent of Dominant S Are OBL, FACW, or FA	•	00.0% (A/B)
2.				Prevalence Index wor	ksheet:	
3				Total % Cover of:		tiply by:
5.				OBL species 80 FACW species 35		70
J		otal Cover		FAC species 5	x3=	15
Herb Stratum (Plot size: 5 )		010.		FACU species 0	x 4 =	0
1. Myosurus minimus	60	Yes	OBL	UPL species 0	x 5 =	0
2. Plagiobothrys scouleri	20	Yes	FACW	Column Totals: 120	)(A)	165 (B)
3. Eleocharis palustris	15	No	OBL	Prevalence Index =	B/A = 1.3	8
4. Juncus balticus	15	No No	FACW	Harden alexal a Manadadia		
Rorippa curvisiliqua     Rumex crispus	<u>5</u> -	No No	OBL FAC	Hydrophytic Vegetation X Dominance Test is		
7.			TAC	X Prevalence Index is		
8.				Morphological Ada		supporting
	120 =T	otal Cover			or on a separate	
Woody Vine Stratum (Plot size:	)			Problematic Hydro	phytic Vegetation <sup>1</sup>	(Explain)
1. 2.				<sup>1</sup> Indicators of hydric soi be present, unless distu		
	=T	otal Cover	_	Hydrophytic Vegetation Present? Yes	•	_
Remarks:			<u> </u>			

SOIL Sampling Point: WT-104a

Profile Desc Depth	ription: (Describe to Matrix	to the depth		ument th		tor or o	confirm the absence of	of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 2/2	80	10YR 4/6	20	C	M		
0-4	1011 2/2		10114/0			IVI	Loamy/Clayey	clay loam
1Tune: C=C			Paduaad Matrix (				and Crains 21 age	otion: DI -Doro Lining M-Metrix
	ncentration, D=Depl					baled 5		ation: PL=Pore Lining, M=Matrix.  rs for Problematic Hydric Soils <sup>3</sup> :
-	ndicators: (Applica	Die to all Li			oteu.)			-
— Histosol	` '		Sandy Re		• • • • • • • • • • • • • • • • • • • •			Muck (A9) (LRR C)
	ipedon (A2)		Stripped N	•	•			Muck (A10) (LRR B)
Black His	` '		Loamy Mu	-				Manganese Masses (F12) (LRR D)
<u> </u>	n Sulfide (A4)		Loamy Gle	•	` '			uced Vertic (F18)
	Layers (A5) (LRR C	5)	Depleted I	`	,			Parent Material (F21)
	ck (A9) (LRR D)	(* 4 4)	X Redox Da		` '			Shallow Dark Surface (F22)
<u> </u>	Below Dark Surface	e (A11)	Depleted I				Otne	r (Explain in Remarks)
	rk Surface (A12)		? Redox De	pressions	s (F8)			
	ucky Mineral (S1)	3						
	leyed Matrix (S4)	Indicator	s of hydrophytic v	/egetatioi	n and we	tland hy	/drology must be prese	ent, unless disturbed or problematic.
	ayer (if observed):							
Type: _	rock							
Depth (ir	iches):	4					Hydric Soil Present	t? Yes <u>X</u> No
Remarks:								
HYDROLO	GY							
	Irology Indicators:							
_	ators (minimum of o	no is roquire	ad: check all that	annly)			Seconda	ry Indicators (minimum of two required)
	•	ne is require						•
	Water (A1)		Salt Crust	` '				er Marks (B1) (Riverine)
	ter Table (A2)		Biotic Crus	, ,	(D40)			ment Deposits (B2) (Riverine)
X Saturation	` '	\	Aquatic In		, ,			Deposits (B3) (Riverine)
	arks (B1) (Nonriveri		Hydrogen		, ,			nage Patterns (B10)
	t Deposits (B2) (Nor	•	Oxidized F			_	· · · · —	Season Water Table (C2)
	osits (B3) (Nonriver	ine)	Presence		,	,	′	fish Burrows (C8)
	Soil Cracks (B6)		Recent Iro			iea Soii	` ′	ration Visible on Aerial Imagery (C9)
	on Visible on Aerial I	magery (B7)			. ,			low Aquitard (D3)
	ained Leaves (B9)		Other (Exp	plain in R	emarks)		<u>X</u> FAC-	-Neutral Test (D5)
Field Observ		_	No. V	Do:#- /'	n o h = = \			
Surface Water			No X	Depth (ii	′ –			
Water Table			No X	Depth (ii	′ -		l	
Saturation Pr		s <u>X</u>	No	Depth (ii	nches): _	2	Wetland Hydrolog	gy Present? Yes X No
(includes cap				1 1 4				
Describe Red	corded Data (stream	gauge, mor	nitoring well, aeria	ıl photos,	previous	inspec	ctions), if available:	
Remarks:								
					_			

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar		City/Cou	nty: Klickitat	County	Sampling Date:	6/27/22
Applicant/Owner: Cypress Creek Renewables				State: WA	Sampling Point:	WT-104b
Investigator(s): Jessica Taylor and Katie Pyne		Section, T	ownship, Rar	nge: S12 T4N R15E		
Landform (hillside, terrace, etc.):	I	Local relief (co	ncave, conve	x, none): <u>flat</u>	Slop	oe (%):2_
Subregion (LRR): LRR B Lat: 45°50'47.	31"N		Long: _12	0°52'29.70"W	Datum:	NAD83
Soil Map Unit Name: Blockhouse silt loam, 0 to 5 pe	rcent slopes				cation: none	
Are climatic / hydrologic conditions on the site typical		year?	Yes X	No (If no, expl	lain in Remarks.)	
Are Vegetation , Soil , or Hydrology	significantly o	listurbed? A	re "Normal Ci	rcumstances" present?		)
Are Vegetation, Soil, or Hydrology	_			lain any answers in Rem	<del></del>	
SUMMARY OF FINDINGS – Attach site n	_			-	•	ures, etc.
Hydrophytic Vegetation Present? Yes	No X	Is the	Sampled Ar	ea		
	No X		n a Wetland?		No X	
	No X					
Remarks:		•				
Upland plot						
VEGETATION – Use scientific names of	-					
<u>Tree Stratum</u> (Plot size: 30 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test work	ksheet:	
1.	70 00001	Ореспесь:		Number of Dominant S		
2.				Are OBL, FACW, or FA	•	0 (A)
3.	_			Total Number of Domir	nant Species	
4				Across All Strata:		2 (B)
Cardina/Ohmah Chartura / Distaire 45	·	=Total Cover		Percent of Dominant S	•	. O0/ (A/D)
Sapling/Shrub Stratum (Plot size: 15 1.	_)			Are OBL, FACW, or FA	1C:	.0% (A/B)
2.				Prevalence Index wor	rksheet:	
3.				Total % Cover of:		iply by:
4.				OBL species 0	x 1 =	0
5				FACW species0		0
	=	=Total Cover		FAC species 0		0
Herb Stratum (Plot size: 5 )	E	No	LIDI	FACU species 50		200
Lomatium nudicaule    Eriogonum compositum	5	No No	UPL UPL	UPL species 45 Column Totals: 95		225 425 (B)
Bromus inermis	10	No	FACU	Prevalence Index =		
4. Bromus tectorum	20	Yes	UPL			
5. Centaurea cyanus	40	Yes	FACU	Hydrophytic Vegetation	on Indicators:	
6. Tragopogon porrifolius	5	No	UPL	Dominance Test is		
7.				Prevalence Index i		
8		Total Cover		Morphological Ada	iptations (Provide : s or on a separate :	
Woody Vine Stratum (Plot size:		= Fotal Cover		Problematic Hydro		•
1				<sup>1</sup> Indicators of hydric so		
2.				be present, unless dist		
		Total Cover		Hydrophytic		
		_		Vegetation		
% Bare Ground in Herb Stratum 0 %	6 Cover of Bioti	c Crust	_	Present? Yes_	No_X	_
Remarks:						

SOIL Sampling Point: WT-104b

	• ,	to the depth				itor or c	confirm the absence of	of indicators.)
Depth (inches)	Matrix Color (moist)	<u></u> %	Color (moist)	x Feature %		Loc <sup>2</sup>	Texture	Remarks
(inches) 0-12			Coloi (moist)	70	Type <sup>1</sup>	LUC		
0-12	10YR 3/3	100					Loamy/Clayey	silt loam
1 <del>T</del>			Dadward Makris C				21 a a	tion. DI - Dona Limina, M-Matrix
	ncentration, D=Dep					oated S		tion: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :
_	`	able to all Lr	•		otea.)			•
— Histosol	ipedon (A2)		Sandy Red Stripped M		:)			Muck (A9) (LRR C) Muck (A10) (LRR B)
Black Hi			Loamy Mu	•	•			Manganese Masses (F12) (LRR D)
	n Sulfide (A4)		Loamy Gle	•	. ,			ced Vertic (F18)
	l Layers (A5) <b>(LRR</b> (	C)	Depleted N	-				Parent Material (F21)
	ck (A9) <b>(LRR D)</b>	0)	Redox Dar	-	-			Shallow Dark Surface (F22)
	ו Below Dark Surfac	- (Δ11)	Depleted D		. ,			Explain in Remarks)
	rk Surface (A12)	C (A11)	Redox Dep					(Explain in Remarks)
	lucky Mineral (S1)			7103310110	3 (1 0)			
	leyed Matrix (S4)	3Indicator	s of hydrophytic y	egetation	n and we	tland hy	drology must be prese	nt, unless disturbed or problematic.
			,	-3				
Type:	_ayer (if observed)	•						
Depth (ir	ochee):		_				Hydric Soil Present	? Yes No X
			_				Tryunc don't resent	163 160
Remarks:								
HYDROLO	GY							
	drology Indicators:	1						
_	cators (minimum of		ed: check all that a	apply)			Secondar	y Indicators (minimum of two required)
-	Water (A1)	ono io roquire	Salt Crust					r Marks (B1) (Riverine)
	ter Table (A2)		Biotic Crus	` '				nent Deposits (B2) (Riverine)
Saturation			Aquatic Inv		es (B13)			Deposits (B3) (Riverine)
	arks (B1) <b>(Nonrive</b> r	ine)	Hydrogen					age Patterns (B10)
	t Deposits (B2) (No		Oxidized F		` '			Season Water Table (C2)
	osits (B3) (Nonrive		Presence			-	· · · — ·	ish Burrows (C8)
	Soil Cracks (B6)	•	Recent Iro			. ,		ation Visible on Aerial Imagery (C9)
	on Visible on Aerial	Imagery (B7)	Thin Muck	Surface	(C7)			ow Aquitard (D3)
	tained Leaves (B9)		Other (Exp	lain in R	emarks)		FAC-	Neutral Test (D5)
Field Obser	vations:						T	
Surface Wat	er Present? Y	es	No X	Depth (in	nches):			
Water Table	Present? Y	es			nches): _			
Saturation P	resent? Y	es		Depth (in			Wetland Hydrolog	gy Present? Yes No_X_
(includes cap	oillary fringe)				_			
Describe Re	corded Data (stream	n gauge, mon	itoring well, aeria	l photos,	previous	s inspec	tions), if available:	
Remarks:								

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar		City/Cou	nty: Klickitat	County	Sampling Date:	6/28/22
Applicant/Owner: Cypress Creek Renewables				State: WA	Sampling Point:	WT-105a
Investigator(s): Jessica Taylor and Katie Pyne		Section, T	ownship, Ra	nge: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau		ocal relief (co	ncave, conve	ex, none): <u>flat</u>	Slop	oe (%):2
Subregion (LRR): LRR B Lat: 45°50'47.3°	1"N		Long: <u>1</u> :	20°52'29.70"W	Datum:	NAD83
Soil Map Unit Name: Blockhouse silt loam, 0 to 5 per	ent slopes				cation: none	
Are climatic / hydrologic conditions on the site typical f	or this time of	year?	Yes X	No (If no, expl	lain in Remarks.)	
Are Vegetation , Soil , or Hydrology	significantly d	isturbed? A	.re "Normal C	Circumstances" present?		3
Are Vegetation, Soil, or Hydrology				plain any answers in Rem	<u> </u>	
SUMMARY OF FINDINGS – Attach site m			g point lo	cations, transects, i	mportant feat	ures, etc.
Hydrophytic Vegetation Present? Yes X N	lo	Is the	Sampled A	rea		
<u> </u>	lo	withir	n a Wetland	? Yes X	No	
Wetland Hydrology Present? Yes X N	lo					
Remarks: Riverine wetland/wet meadow. Obligate plants in cha	nnel, damp so	ils, fully veget	ated, multiple	e relic channels.		
VEGETATION Have in the	-14-					
VEGETATION – Use scientific names of p	Absolute	Dominant	Indicator			
<u>Tree Stratum</u> (Plot size: 30 )	% Cover	Species?	Status	Dominance Test work	ksheet:	
1				Number of Dominant S	pecies That	
2.				Are OBL, FACW, or FA	4C:	1 (A)
3. 4.				Total Number of Domir Across All Strata:	nant Species	1 (B)
	` <del></del> =	Total Cover		Percent of Dominant S	•	
Sapling/Shrub Stratum (Plot size: 15 1.	.)			Are OBL, FACW, or FA	AC: 10	0.0% (A/B)
2.				Prevalence Index wo	 rksheet:	
3.				Total % Cover of:		iply by:
4.				OBL species 0	x 1 =	0
5.				FACW species 90	) x 2 =	180
	=	Total Cover		FAC species 0		0
Herb Stratum (Plot size: 5	40	Nia	EAC)A/	FACU species 20		80
Equisetum hyemale     Plagiobothrys scouleri	10	No No	FACW FACW	UPL species 0 Column Totals: 110		0 260 (B)
3. Phleum pratense	20	No No	FACU	Prevalence Index =		
4. Juncus ensifolius	70	Yes	FACW			
5.				Hydrophytic Vegetation	on Indicators:	
6				X Dominance Test is		
7.				X Prevalence Index i		
8	110 =	Total Cover		Morphological Ada data in Remarks	iptations ' (Provide s or on a separate :	
Woody Vine Stratum (Plot size:		Total Gover		Problematic Hydro		,
1.				Indicators of hydric so		
2.				be present, unless dist	•	0,
	=	Total Cover		Hydrophytic		
% Bare Ground in Herb Stratum 0 %	Cover of Biotic	c Crust		Vegetation Present? Yes	X No	
Remarks:		-		<u> </u>		

SOIL Sampling Point: WT-105a

	ription: (Describe Matrix	to the depth		<b>ıment th</b> x Featur		itor or c	confirm the absence of	of indicators.)
Depth (inches)	Color (moist)		Color (moist)	% realui	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-12	10YR 3/1	70	10YR 3/6	30	C	M	Loamy/Clayey	clay with sand inclusion
0-12	10110 3/1		10110 3/0				Loanly/Clayey	Ciay with Sand Inclusion
								-
<sup>1</sup> Type: C=Co	oncentration, D=Dep	letion RM=F	Reduced Matrix C	S=Cove	red or Co	nated S	and Grains <sup>2</sup> Loca	tion: PL=Pore Lining, M=Matrix.
	ndicators: (Applica					outou o		s for Problematic Hydric Soils <sup>3</sup> :
Histosol			Sandy Red		otou.,			Muck (A9) (LRR C)
	ipedon (A2)		Stripped M		3)			Muck (A10) (LRR B)
Black His			Loamy Mu	-	-			Vanganese Masses (F12) (LRR D)
	n Sulfide (A4)		Loamy Gle	-				ced Vertic (F18)
	Layers (A5) (LRR C	;)	Depleted N	-	. ,			Parent Material (F21)
	ck (A9) (LRR D)		X Redox Dar	-	-			Shallow Dark Surface (F22)
— Depleted	Below Dark Surface	e (A11)	Depleted D	ark Sur	face (F7)	)	Other	(Explain in Remarks)
Thick Da	rk Surface (A12)		? Redox Dep	ression	s (F8)			
Sandy M	ucky Mineral (S1)		<del></del>					
Sandy G	leyed Matrix (S4)	<sup>3</sup> Indicators	s of hydrophytic v	egetatio	n and we	tland hy	drology must be prese	nt, unless disturbed or problematic.
Restrictive I	_ayer (if observed):							
Type:	rock							
Depth (ir	nches):	12	<u>_</u>				Hydric Soil Present	? Yes <u>X</u> No
Remarks:								
HYDROLO	GY							
_	drology Indicators:							
-	cators (minimum of o	ne is require						y Indicators (minimum of two required)
	Water (A1)		Salt Crust	,				r Marks (B1) <b>(Riverine)</b>
	ter Table (A2)		Biotic Crus					ment Deposits (B2) (Riverine)
X Saturation	` '		Aquatic Inv					Deposits (B3) (Riverine)
	arks (B1) (Nonriveri		Hydrogen					age Patterns (B10)
	t Deposits (B2) (Nor	-	Oxidized F			_	· · · — ·	Season Water Table (C2) ish Burrows (C8)
	osits (B3) <b>(Nonriver</b> Soil Cracks (B6)	ine)	Presence of Recent Iro		,	,	<u> </u>	ration Visible on Aerial Imagery (C9)
	on Visible on Aerial I	magery (R7)				ilea Soil		ow Aquitard (D3)
	tained Leaves (B9)	magery (D7)	Other (Exp					Neutral Test (D5)
Field Observ	. ,			Tall III I	- Ciriaino)		<u> </u>	rteatar rest (Bo)
Surface Water		ie.	No X	Denth (i	nches):			
Water Table		s			nches):			
Saturation P		s X			nches):		Wetland Hydrolog	gy Present? Yes X No
(includes cap				Dopui (ii	_		- Trottana riyarolog	,, 1000mi 100 <u>//</u> no
	corded Data (stream	gauge, mon	itoring well, aeria	photos.	previous	sinspec	tions), if available:	
	(	5 51,	J,	,	,		,,	
Remarks:								

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Project/Site: Carriger Solar		City/Cou	nty: Klickitat	Sampling Date:	6/28/22	
Applicant/Owner: Cypress Creek Renewables				State: WA	Sampling Point:	WT-105b
Investigator(s): Jessica Taylor and Katie Pyne		Section, T	ownship, Ra	nge: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau	L	ocal relief (co	oncave, conve	ex, none): <u>flat</u>	Slop	e (%):2_
Subregion (LRR): <u>LRR B</u> Lat: <u>45°50'47.31</u>	"N		Long: <u>1</u> 2	20°52'29.70"W	Datum:	NAD83
Soil Map Unit Name: Blockhouse silt loam, 0 to 5 percentage	ent slopes			NWI classif	ication: none	
Are climatic / hydrologic conditions on the site typical for	or this time of	year?	Yes X	No (If no, exp	olain in Remarks.)	
Are Vegetation, Soil, or Hydrology	significantly di	isturbed? A	re "Normal C	ircumstances" present?	Yes X No	·
Are Vegetation, Soil, or Hydrology	naturally probl	lematic? (I	f needed, exp	olain any answers in Ren	narks.)	
SUMMARY OF FINDINGS – Attach site ma	ap showing	g sampline	g point loc	ations, transects,	important feat	ıres, etc.
Hydrophytic Vegetation Present? Yes No	X	Is the	Sampled A	rea		
	X	withi	n a Wetland	? Yes	No X	
	<u> </u>					
Remarks: Upland plot						
орына рос						
VEGETATION – Use scientific names of p	lants.					
	Absolute	Dominant	Indicator			
Tree Stratum (Plot size: 30 ) 1.	% Cover	Species?	Status	Dominance Test wor		
2.				Number of Dominant S Are OBL, FACW, or F		0 (A)
3.				Total Number of Domi		``
4				Across All Strata:		2 (B)
Capling/Chrub Ctratum / Dlat size 45	=	Total Cover		Percent of Dominant S	•	00/ (A/D)
Sapling/Shrub Stratum (Plot size: 15 1.	)			Are OBL, FACW, or F	AC:	.0% (A/B)
2				Prevalence Index wo	rksheet:	
3.				Total % Cover of	: Multi	ply by:
4				OBL species 0		0
5		Total Cover		FACW species 19		30 0
Herb Stratum (Plot size: 5 )		Total Cover		FAC species 0		60
1. Equisetum hyemale	15	No	FACW	UPL species 8		100
2. Convolvulus arvensis	5	No	UPL	Column Totals: 11	0 (A) 4	190 (B)
3. Tragopogon porrifolius	5	No	UPL	Prevalence Index	= B/A = <u>4.45</u>	
Achillea millefolium     Medicago sativa	<u>15</u> 20	No Yes	FACU_ UPL	Hydrophytic Vogotati	ion Indicators:	
6. Taeniatherum caput-medusae	50	Yes	UPL	Hydrophytic Vegetati  Dominance Test is		
7				Prevalence Index		
8.					aptations <sup>1</sup> (Provide :	
		Total Cover			s or on a separate s	,
Woody Vine Stratum (Plot size:	)				ophytic Vegetation <sup>1</sup>	,
1 2.				<sup>1</sup> Indicators of hydric so be present, unless dis		
· · · · · · · · · · · · · · · · · · ·		Total Cover		Hydrophytic	tarboa or problema	
				Vegetation		
% Bare Ground in Herb Stratum 0 % 0	Cover of Biotic	Crust	_	Present? Yes	No_X	_
Remarks:						

SOIL Sampling Point: WT-105b

		depth needed to doc		dicator or	confirm the absence	of indicators.)
Depth	Matrix		x Features	1 (	-	
(inches)	Color (moist) %	Color (moist)	<u></u> % <u>Ty</u>	pe <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0-10	10YR 3/2 10	0			Loamy/Clayey	sandy loam
					_	<u> </u>
		_				
<sup>1</sup> Type: C=Co	oncentration, D=Depletion,	RM=Reduced Matrix (	CS=Covered	or Coated	Sand Grains <sup>2</sup> Loc	cation: PL=Pore Lining, M=Matrix.
	Indicators: (Applicable to					ors for Problematic Hydric Soils <sup>3</sup> :
Histosol		Sandy Re		,		n Muck (A9) (LRR C)
	pipedon (A2)	Stripped N				n Muck (A10) <b>(LRR B)</b>
Black His			icky Mineral (	(E1)		-Manganese Masses (F12) (LRR D)
I —	n Sulfide (A4)		eyed Matrix (			uced Vertic (F18)
	I Layers (A5) (LRR C)		Matrix (F3)	F2)		Parent Material (F21)
I ——	ck (A9) (LRR D)		rk Surface (F	6)		/ Shallow Dark Surface (F22)
I —			•	,		
I — ·	Below Dark Surface (A11		Dark Surface		Oun	er (Explain in Remarks)
	ark Surface (A12) lucky Mineral (S1)	— Redox De	pressions (F8	P)		
I — '	• ' '	diagtors of budroubution	ocatation on	d watland l	audrologu muot bo proo	ent, unless disturbed or problematic.
		dicators of flydropflytic v	regetation an	u wellanu i	T	ent, unless disturbed or problematic.
l .	_ayer (if observed):					
Type:	rock					
Depth (ir	nches): 10				Hydric Soil Preser	nt? Yes No _X
Remarks:						
HYDROLO	GY					
	drology Indicators:					
_	cators (minimum of one is	required: check all that	annly)		Seconda	ary Indicators (minimum of two required)
1	Water (A1)	Salt Crust				er Marks (B1) (Riverine)
I —	ter Table (A2)	Biotic Cru	,			
I — `	tor rubic (/tz)					, , ,
	n (Δ3)			R13)	Sed	iment Deposits (B2) (Riverine)
I —	on (A3) arks (B1) (Nonriverine)	Aquatic In	vertebrates (	,	Sed Drift	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine)
Water M	arks (B1) (Nonriverine)	Aquatic In Hydrogen	vertebrates ( Sulfide Odor	(C1)	Sed Drift Drai	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10)
Water M Sedimen	arks (B1) (Nonriverine) at Deposits (B2) (Nonriver	Aquatic In Hydrogen ine) Oxidized F	vertebrates ( Sulfide Odor Rhizospheres	(C1) on Living	Sed Srift Drift Drain Roots (C3) Dry-	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2)
Water M Sedimen Drift Dep	arks (B1) (Nonriverine) at Deposits (B2) (Nonriver posits (B3) (Nonriverine)	Aquatic In Hydrogen ine) Oxidized F Presence	vertebrates ( Sulfide Odor Rhizospheres of Reduced I	(C1) on Living ron (C4)	Sed Drift Drait Drait Dry Cray	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8)
Water M Sedimen Drift Dep Surface	arks (B1) (Nonriverine) at Deposits (B2) (Nonriveriosits (B3) (Nonriverine) Soil Cracks (B6)	Aquatic In Hydrogen Oxidized F Presence Recent Iro	vertebrates ( Sulfide Odor Rhizospheres of Reduced I on Reduction	(C1) on Living ron (C4) in Tilled So	Sed	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9)
Water M Sedimen Drift Dep Surface	arks (B1) (Nonriverine) at Deposits (B2) (Nonriverine) sosits (B3) (Nonriverine) Soil Cracks (B6) on Visible on Aerial Image	Aquatic In Hydrogen  ine) Oxidized F Presence Recent Irc  ry (B7) Thin Muck	vertebrates ( Sulfide Odor Rhizospheres of Reduced I on Reduction Surface (C7	(C1) on Living fron (C4) in Tilled So	Sed	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) offish Burrows (C8) uration Visible on Aerial Imagery (C9) Illow Aquitard (D3)
Water M Sedimen Drift Dep Surface Inundatio Water-Si	arks (B1) (Nonriverine) at Deposits (B2) (Nonriverine) sosits (B3) (Nonriverine) Soil Cracks (B6) on Visible on Aerial Image tained Leaves (B9)	Aquatic In Hydrogen  ine) Oxidized F Presence Recent Irc  ry (B7) Thin Muck	vertebrates ( Sulfide Odor Rhizospheres of Reduced I on Reduction	(C1) on Living fron (C4) in Tilled So	Sed	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9)
Water M Sedimen Drift Dep Surface Inundatio Water-Si	arks (B1) (Nonriverine) at Deposits (B2) (Nonriverine) sosits (B3) (Nonriverine) Soil Cracks (B6) on Visible on Aerial Image tained Leaves (B9) vations:	Aquatic In Hydrogen Oxidized F Presence Recent Irc Ty (B7) Other (Exp	vertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction Surface (C7 Dain in Rema	(C1) on Living ron (C4) in Tilled So )	Sed	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) offish Burrows (C8) uration Visible on Aerial Imagery (C9) Illow Aquitard (D3)
Water M Sedimen Drift Dep Surface Inundatio Water-Si Field Observ Surface Water	arks (B1) (Nonriverine) at Deposits (B2) (Nonriver posits (B3) (Nonriverine) Soil Cracks (B6) on Visible on Aerial Image tained Leaves (B9) vations: er Present? Yes	Aquatic In Hydrogen Oxidized F Presence Recent Irc Ty (B7) No X	vertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction Surface (C7 Dain in Rema	(C1) on Living from (C4) in Tilled Sc ) arks)	Sed	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) offish Burrows (C8) uration Visible on Aerial Imagery (C9) Illow Aquitard (D3)
Water M Sedimen Drift Dep Surface: Inundatio Water-Si Field Observ Surface Wate Water Table	arks (B1) (Nonriverine) at Deposits (B2) (Nonriver posits (B3) (Nonriverine) Soil Cracks (B6) on Visible on Aerial Image tained Leaves (B9) vations: er Present? Yes Present? Yes	Aquatic In Hydrogen Oxidized F Presence Recent Iro Thin Muck Other (Exp	vertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction Surface (C7 Dain in Remandant Depth (inches	(C1) on Living to ron (C4) in Tilled Sc ) arks) es):	Sed	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) In the first of the fi
Water M Sedimen Drift Dep Surface Inundatio Water-Si Field Observ Surface Wate Water Table Saturation Pi	arks (B1) (Nonriverine) at Deposits (B2) (Nonriver cosits (B3) (Nonriverine) Soil Cracks (B6) on Visible on Aerial Image tained Leaves (B9)  vations: er Present? Present? Yes resent? Yes	Aquatic In Hydrogen Oxidized F Presence Recent Irc Ty (B7) No X	vertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction Surface (C7 Dain in Rema	(C1) on Living to ron (C4) in Tilled Sc ) arks) es):	Sed	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) In the first of the fi
Water M Sedimen Drift Dep Surface Inundatio Water-Si Field Obser Surface Wate Water Table Saturation Pi (includes cap	arks (B1) (Nonriverine) arks (B1) (Nonriverine) ant Deposits (B2) (Nonriverine) sosits (B3) (Nonriverine) Soil Cracks (B6) on Visible on Aerial Image tained Leaves (B9)  vations: er Present? Present? Yes present? Yes oillary fringe)	Aquatic In   Hydrogen   Oxidized F   Presence   Recent Irc   Thin Muck   Other (Exp   No   X   No   X   No   X	vertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction a Surface (C7 plain in Rema Depth (inche Depth (inche	(C1) on Living pron (C4) in Tilled Sc ) arks) es): es):	Sed	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) In the first of the fi
Water M Sedimen Drift Dep Surface Inundatio Water-Si Field Obser Surface Wate Water Table Saturation Pi (includes cap	arks (B1) (Nonriverine) at Deposits (B2) (Nonriver cosits (B3) (Nonriverine) Soil Cracks (B6) on Visible on Aerial Image tained Leaves (B9)  vations: er Present? Present? Yes resent? Yes	Aquatic In   Hydrogen   Oxidized F   Presence   Recent Irc   Thin Muck   Other (Exp   No   X   No   X   No   X	vertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction a Surface (C7 plain in Rema Depth (inche Depth (inche	(C1) on Living pron (C4) in Tilled Sc ) arks) es): es):	Sed	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) In the first of the fi
Water M Sedimen Drift Dep Surface Inundatio Water-Si Field Obser Surface Wate Water Table Saturation Pi (includes cap	arks (B1) (Nonriverine) arks (B1) (Nonriverine) ant Deposits (B2) (Nonriverine) sosits (B3) (Nonriverine) Soil Cracks (B6) on Visible on Aerial Image tained Leaves (B9)  vations: er Present? Present? Yes present? Yes oillary fringe)	Aquatic In   Hydrogen   Oxidized F   Presence   Recent Irc   Thin Muck   Other (Exp   No   X   No   X   No   X	vertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction a Surface (C7 plain in Rema Depth (inche Depth (inche	(C1) on Living pron (C4) in Tilled Sc ) arks) es): es):	Sed	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) In the first of the fi
Water M Sedimen Drift Dep Surface S Inundatio Water-St  Field Obser Surface Water Water Table Saturation Po (includes cap Describe Rec	arks (B1) (Nonriverine) arks (B1) (Nonriverine) ant Deposits (B2) (Nonriverine) sosits (B3) (Nonriverine) Soil Cracks (B6) on Visible on Aerial Image tained Leaves (B9)  vations: er Present? Present? Yes present? Yes oillary fringe)	Aquatic In   Hydrogen   Oxidized F   Presence   Recent Irc   Thin Muck   Other (Exp   No   X   No   X   No   X	vertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction a Surface (C7 plain in Rema Depth (inche Depth (inche	(C1) on Living pron (C4) in Tilled Sc ) arks) es): es):	Sed	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) In the first of the fi
Water M Sedimen Drift Dep Surface S Inundatio Water-St  Field Obser Surface Water Water Table Saturation Po (includes cap Describe Rec	arks (B1) (Nonriverine) arks (B1) (Nonriverine) ant Deposits (B2) (Nonriverine) sosits (B3) (Nonriverine) Soil Cracks (B6) on Visible on Aerial Image tained Leaves (B9)  vations: er Present? Present? Yes present? Yes oillary fringe)	Aquatic In   Hydrogen   Oxidized F   Presence   Recent Irc   Thin Muck   Other (Exp   No   X   No   X   No   X	vertebrates (I Sulfide Odor Rhizospheres of Reduced I on Reduction a Surface (C7 plain in Rema Depth (inche Depth (inche	(C1) on Living pron (C4) in Tilled Sc ) arks) es): es):	Sed	iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) In the first of the fi

# U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Arid West Region

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Carriger Solar		City/County:	Klickitat (	County	Sampling Date:	6/28/22
Applicant/Owner: Cypress Creek Renewables				State: WA	Sampling Point:	WT-106a
Investigator(s): Jessica Taylor and Katie Pyne		Section, Town	nship, Ran	ge: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau	Loca	al relief (conca	ave, conve	x, none): flat	Slop	e (%): 2
Subregion (LRR): LRR B Lat: 45°50'47.31"	N		Long: 120	0°52'29.70"W	Datum:	
Soil Map Unit Name: Blockhouse silt loam, 0 to 5 perce	nt slopes			NWI classific	cation: none	
Are climatic / hydrologic conditions on the site typical fo	r this time of yea	ar? Yes	s_X_	No (If no, expl	lain in Remarks.)	
Are Vegetation, Soil, or Hydrologys	ignificantly distu	ırbed? Are "	Normal Cir	rcumstances" present?	Yes X No	ı
Are Vegetation, Soil, or Hydrology r	aturally problem	natic? (If ne	eded, expl	ain any answers in Rem	narks.)	
SUMMARY OF FINDINGS – Attach site ma	p showing s	ampling p	oint loca	ations, transects, i	mportant featu	ıres, etc.
Hydrophytic Vegetation Present? Yes X No	1	Is the Sa	mpled Are	ea		
			Wetland?		No	
Wetland Hydrology Present? Yes X No						
Remarks:						
Artificially created pond. Berm in wet meadow.						
VEGETATION – Use scientific names of pl	ante					
VEGETATION – Ose scientific flames of pr		ominant Ind	dicator I			
Tree Stratum (Plot size: 30 )	% Cover S	pecies? S	Status	Dominance Test work	ksheet:	
1.				Number of Dominant S	•	2 (A)
2. 3.				Are OBL, FACW, or FA		3 (A)
4.				Total Number of Domir Across All Strata:	•	3 (B)
	=To	tal Cover		Percent of Dominant S	pecies That	
Sapling/Shrub Stratum (Plot size: 15 )				Are OBL, FACW, or FA	<b>↓C:</b> 100	0.0% (A/B)
1				D	ulanda a sta	
2. 3.				Prevalence Index wor Total % Cover of:		ply by:
4.				OBL species 30	<del></del>	30
5.				FACW species 90	) x 2 = 1	80
	=To	tal Cover		FAC species 5		15
Herb Stratum (Plot size: 5 )  1. Phalaris arundinacea	50	Yes F	ACW	FACU species 0 UPL species 0		0
2. Plagiobothrys scouleri	30 —		ACW	Column Totals: 12		25 (B)
3. Equisetum hyemale	10		ACW	Prevalence Index =	` ′	``
4. Rumex crispus	5	No	FAC			
5. Eleocharis palustris	30	Yes	OBL	Hydrophytic Vegetation		
6 7.				X Dominance Test is X Prevalence Index i		
7. 8.					is ⊴3.0 iptations¹ (Provide s	supportina
	125 =To	tal Cover			s or on a separate s	
Woody Vine Stratum (Plot size:)				Problematic Hydro	phytic Vegetation <sup>1</sup>	(Explain)
1.				<sup>1</sup> Indicators of hydric so		
2		tal Cover	<b></b> ├	be present, unless dist	urped or problemat	IC.
		00101		Hydrophytic Vegetation		
% Bare Ground in Herb Stratum 0 % C	over of Biotic C	rust		Present? Yes_	No	_
Remarks:		<u></u>	Į.			

SOIL Sampling Point: WT-106a

	ription: (Describe	to the depth				tor or c	onfirm the absenc	e of indicators.)
Depth	Matrix			x Featur		1 - 2	T	Downster
(inches)	Color (moist)		Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16	10YR 2/1	100					Loamy/Clayey	clay
l ———		·						_
								_
<sup>1</sup> Type: C=Cd	oncentration, D=Dep	letion, RM=R	educed Matrix,	CS=Cove	ered or Co	oated Sa	and Grains. <sup>2</sup> Lo	ocation: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators: (Applica	able to all LR	Rs, unless oth	erwise n	oted.)		Indica	tors for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Sandy Re	dox (S5)			1	cm Muck (A9) (LRR C)
Histic Ep	ipedon (A2)		Stripped N	∕latrix (S	3)		2 0	cm Muck (A10) (LRR B)
Black His	stic (A3)		Loamy Mu	icky Mine	eral (F1)		Iro	n-Manganese Masses (F12) (LRR D)
X Hydroge	n Sulfide (A4)		Loamy GI	eyed Ma	trix (F2)		? Re	educed Vertic (F18)
Stratified	Layers (A5) (LRR (	C)	Depleted	Matrix (F	3)		Re	ed Parent Material (F21)
1 cm Mu	ck (A9) (LRR D)		Redox Da	rk Surfac	e (F6)		Ve	ery Shallow Dark Surface (F22)
Depleted	Below Dark Surface	e (A11)	Depleted	Dark Sur	face (F7)		Ot	her (Explain in Remarks)
	rk Surface (A12)		Redox De	pression	s (F8)			
I —	ucky Mineral (S1)	_						
Sandy G	leyed Matrix (S4)	<sup>3</sup> Indicators	of hydrophytic	/egetatio	n and we	tland hy	drology must be pre	esent, unless disturbed or problematic.
Restrictive I	_ayer (if observed):							
Type:			_					
Depth (ir	nches):		_				Hydric Soil Prese	ent? Yes <u>X</u> No
Remarks:								
LIVEROLO	.0.							
HYDROLO								
_	drology Indicators:							
	cators (minimum of o	one is required						dary Indicators (minimum of two required)
X Surface	` ,		Salt Crust	` '				ater Marks (B1) (Riverine)
	ter Table (A2)		Biotic Cru		(D40)			ediment Deposits (B2) (Riverine)
Saturatio	` '	:\	Aquatic In		, ,			ift Deposits (B3) (Riverine)
	arks (B1) <b>(Nonriver</b> i It Deposits (B2) <b>(No</b> i		X Hydrogen					ainage Patterns (B10)
	osits (B3) (Nonrive	•	Oxidized I			-		y-Season Water Table (C2) ayfish Burrows (C8)
	Soil Cracks (B6)	ille)	Recent Iro		,	,		ituration Visible on Aerial Imagery (C9)
	on Visible on Aerial I	magery (R7)	Thin Muck			ileu Soli		nallow Aquitard (D3)
	tained Leaves (B9)	magery (D7)	Other (Ex					AC-Neutral Test (D5)
Field Observ	. ,		OUTICI (EX	piaiii iii i	(Ciriai K3)		<u> </u>	NO-NEGRIAI TEST (DS)
Surface Water		es X	No	Depth (i	nchoc):	2		
Water Table		es	No X		· -			
Saturation P		es X	No	Depth (i Depth (i	· · ·	0	Wetland Hydro	logy Present? Yes X No
(includes cap		<u> </u>		Deptii (i	_		Wetland Hydro	nogy i resent: res_X_ No
	corded Data (stream	gauge, moni	toring well, aeria	al photos	, previous	s inspec	tions), if available:	
	·					-		
Remarks:								
L								

# U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Arid West Region

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Carriger Solar	Ci	ty/Count	y: Klickitat	County	Sampling Date:	6/28/22
Applicant/Owner: Cypress Creek Renewables				State: WA	Sampling Point:	WT-106b
Investigator(s): Jessica Taylor and Katie Pyne	Se	ction, To	wnship, Ra	nge: S12 T4N R15E		
Landform (hillside, terrace, etc.): plateau	_Local re	elief (con	cave, conv	ex, none): <u>flat</u>	Slop	oe (%):2_
Subregion (LRR): <u>LRR B</u> Lat: <u>45°50'47.31"N</u>			_ Long: <u>1</u> :	20°52'29.70"W	Datum:	NAD83
Soil Map Unit Name: Blockhouse silt loam, 0 to 5 percent slopes				NWI classi	fication: none	
Are climatic / hydrologic conditions on the site typical for this time $% \left( 1\right) =\left( 1\right) \left( $	of year?	Υ	es X	No (If no, ex	plain in Remarks.)	
Are Vegetation, Soil, or Hydrology significantly	disturbe	d? Are	e "Normal C	Circumstances" present?	Yes X No	
Are Vegetation, Soil, or Hydrologynaturally pro	oblematio	c? (If	needed, ex	plain any answers in Re	marks.)	
SUMMARY OF FINDINGS – Attach site map showi	ng san	npling	point lo	cations, transects,	important feat	ures, etc.
Hydrophytic Vegetation Present? Yes No X		Is the S	Sampled A	rea		
Hydric Soil Present? Yes No X		within	a Wetland	? Yes	No X	
Wetland Hydrology Present? Yes No _X						
Remarks: Upland plot						
opiana piot						
VEGETATION – Use scientific names of plants.						
Absolute <u>Tree Stratum</u> (Plot size: 30 ) % Cover			Indicator Status	Dominance Test wo	rkshoot:	
1.	_ Орес		Otatus	Number of Dominant		
2.				Are OBL, FACW, or F		0 (A)
3				Total Number of Dom	inant Species	
4	 =Total (	Cover -		Across All Strata:		1 (B)
Sapling/Shrub Stratum (Plot size: 15 )	TOLAI (	Cover		Percent of Dominant Are OBL, FACW, or F	•	.0% (A/B)
1				, 022, . , .011, 0		(, , ,
2.				Prevalence Index wo	orksheet:	
3				Total % Cover o		iply by:
4				· ·	0 x 1 = 0 x 2 =	0
5	 =Total (	Cover		· · ·	0 x2= 0 x3=	0
Herb Stratum (Plot size: 5 )	-					360
1. Bromus japonicus 80	Ye	es	FACU	UPL species 1	10 x 5 =	50
2. Achillea millefolium 10	_ <u>N</u>		FACU		` ′	110 (B)
3. Taeniatherum caput-medusae 10	_ <u>N</u>	<u> </u>	UPL	Prevalence Index	= B/A = 4.10	)
5.				Hydrophytic Vegetat		
6.				Dominance Test		
7.				Prevalence Index		
8	- <del></del>				laptations <sup>1</sup> (Provide : ks or on a separate :	
Woody Vine Stratum (Plot size: )	_=Total (	Cover			rophytic Vegetation <sup>1</sup>	•
1				<sup>1</sup> Indicators of hydric s		
2.				be present, unless dis		
	=Total (	Cover		Hydrophytic		
0/ Para Cround in Horb Strature 0 0/ 0/ 0/	otio Omiri			Vegetation	M- V	
% Bare Ground in Herb Stratum 0 % Cover of Bio	ouc Crust		_	Present? Yes	No_X	_
Remarks:						

SOIL Sampling Point: WT-106b

	ription: (Describe	to the depth				tor or c	confirm the absence	e of indicators.	)	
Depth	Matrix			x Featur		. 2	<b>-</b> .			
(inches)	Color (moist)	<u> </u>	Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-4	10YR 3/2	100					Loamy/Clayey	_	clay	
								_		
								_		
								_		
								_		
<sup>1</sup> Type: C=Co	ncentration, D=Depl	etion, RM=R	educed Matrix, C	CS=Cove	ered or Co	oated S	and Grains. <sup>2</sup> Lo	ocation: PL=Por	e Lining, M=Ma	trix.
Hydric Soil I	ndicators: (Applica	ble to all LF	Rs, unless other	erwise n	oted.)		Indica	tors for Probler	matic Hydric So	oils³:
Histosol	(A1)		Sandy Re	dox (S5)			1 0	cm Muck (A9) <b>(L</b>	.RR C)	
Histic Ep	ipedon (A2)		Stripped N	latrix (Se	3)			cm Muck (A10) (	LRR B)	
Black His	stic (A3)		Loamy Mu	icky Mine	eral (F1)		—— Iro	n-Manganese M	lasses (F12) <b>(Li</b>	RR D)
— Hydroger	n Sulfide (A4)		Loamy Gle				— Re	educed Vertic (F	18)	•
	Layers (A5) (LRR C	;)	Depleted I					ed Parent Materia	•	
	ck (A9) (LRR D)	•	Redox Da		-			ery Shallow Dark	, ,	
	Below Dark Surface	e (A11)	Depleted [		. ,			her (Explain in R	, ,	
	rk Surface (A12)	,	Redox De		, ,			` '	,	
	ucky Mineral (S1)		<del></del> '		( - /					
	leyed Matrix (S4)	<sup>3</sup> Indicators	of hydrophytic v	egetatio	n and we	tland hy	drology must be pre	esent, unless dis	turbed or proble	ematic.
Restrictive L	.ayer (if observed):									
Type:	rock									
Depth (in		4	_				Hydric Soil Pres	ent?	Yes	No X
Remarks:			_							
ixemaiks.										
HYDROLO	GY									
_	Irology Indicators:									
Primary Indic	<u>ators (minimum of o</u>	ne is require	d; check all that	apply)			Secon	dary Indicators (	minimum of two	required)
	Vater (A1)		Salt Crust	` '				ater Marks (B1)		
High Wa	ter Table (A2)		Biotic Crus	st (B12)			Se	ediment Deposits	s (B2) (Riverine	)
Saturatio	n (A3)		Aquatic In	vertebrat	tes (B13)			ift Deposits (B3)	` '	
Water Ma	arks (B1) <b>(Nonriveri</b>	ne)	Hydrogen	Sulfide (	Odor (C1)	)	Dr	rainage Patterns	(B10)	
Sedimen	t Deposits (B2) (Nor	rriverine)	Oxidized F	Rhizosph	eres on L	iving R	oots (C3) Dr	y-Season Water	Table (C2)	
Drift Dep	osits (B3) (Nonriver	ine)	Presence	of Reduc	ced Iron (	C4)	Cr	ayfish Burrows (	C8)	
Surface S	Soil Cracks (B6)		Recent Iro	n Reduc	tion in Ti	lled Soil	s (C6) Sa	aturation Visible	on Aerial Image	ry (C9)
Inundatio	n Visible on Aerial I	magery (B7)	Thin Muck	Surface	(C7)		Sh	nallow Aquitard (I	D3)	
Water-St	ained Leaves (B9)		Other (Exp	olain in R	Remarks)		FA	AC-Neutral Test (	(D5)	
Field Observ	ations:									
Surface Water	er Present? Ye	s	No X	Depth (i	nches):					
Water Table	Present? Ye	s	No X	Depth (i	nches):					
Saturation Pr	esent? Ye	s	No X	Depth (i	nches):		Wetland Hydro	logy Present?	Yes	No X
(includes cap	illary fringe)				_					
Describe Rec	corded Data (stream	gauge, mon	itoring well, aeria	l photos	, previous	inspec	tions), if available:			
Damerick										
Remarks:										

## **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): VP-101	Date of site visit: 6/27/22
Rated by Jess Taylor and Katie Pyne	Trained by Ecology? Yes <sup>X</sup> No Date of training
HGM Class used for rating	Wetland has multiple HGM classes?Y XN
•	ut the figures requested (figures can be combined).
OVERALL WETLAND CATEGORY	II (based on functions or special characteristics X )

## 1. Category of wetland based on FUNCTIONS

	Category I — Total score = 22-27
	_Category II - Total score = 19-21
	_Category III - Total score = 16-18
X	Category IV — Total score = 9-15

FUNCTION		mprov iter Q	ing uality	Hy	ydrolo	gic		Habitat		
		Circle the appropriate ratings								
Site Potential	Н	M	L	Н	M	L	Н	М	L	
Landscape Potential	Н	М	L	Н	М	L	H	M	L	
Value	Н	М	L	Н	М	L	Н	М	L	TOTAL
Score Based on Ratings		4			4			5		13

### Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H 8 = H,H,M7 = H,H,L 7 = H,M,M6 = H,M,L 6 = M,M,M5 = H,L,L 5 = M,M,L4 = M,L,L3 = L, L, L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY Circle the appropriate category
Vernal Pools X	III III
Alkali	I
Wetland of High Conservation Value	I
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I
Aspen Forest	I
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	

## Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

#### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

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

For questions 1-4, 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 1-4 apply, and go to Question 5.

1.	Does the entire unit <b>meet both</b> of the following criteria? The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size At least 30% of the open water area is deeper than 10 ft (3 m)
	NO – go to 2 <b>YES –</b> The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks; The water leaves the wetland <b>without being impounded</b> .
	NO - go to 3  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 foot deep).
3.	Does the entire wetland unit <b>meet all</b> 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 10 years.
	NO - go to 4 YES - The wetland class is <b>Riverine NOTE:</b> The Riverine wetland can contain depressions that are filled with water when the river is not flooding.
4.	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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	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 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND 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 wetland 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 (the riverine portion is within	Donrossional	
the boundary of depression)	Depressional	
Depressional + Lake Fringe	Depressional	
Riverine + Lake Fringe	Riverine	

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.

<u>DEPRESSIONAL WETLANDS</u> Water Quality Functions - Indicators that the site functions to improve water quality	Points (only 1 score per box)
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 has no surface water outlet  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing, unconstricted, surface outlet  points = 3  Wetland has a permanently flowing, unconstricted, surface outlet  points = 1	5
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)  YES = 3 NO = 0	0
D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)  Wetland has persistent, ungrazed, vegetation for $> ^2/_3$ of area  Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area  Wetland has persistent, ungrazed vegetation from $^1/_{10}$ to $< ^1/_3$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area  points = 0	0
D 1.4. Characteristics of seasonal ponding or inundation:  This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 1  points = 0	1
Total for D 1 Add the points in the boxes above	6
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the D 2.0. Does the landscape have the potential to support the water quality function of the site?	ne first page
D 2.1. Does the wetland 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  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	0
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the	ne 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, or lake 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 water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?  Yes = 1 No = 0	0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES	
if there is a TMDL for the drainage or basin in which the wetland is found)? Yes = $2 \text{ No} = 0$	0
if there is a TMDL for the drainage or basin in which the wetland is found)? Yes = 2 No = 0  Total for D 3 Add the points in the boxes above	0

DEPRESSIONAL WETLANDS	Points (only 1 score
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.	per box)
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:	8
Wetland has no surface water outlet points = 8	
Wetland has an intermittently flowing outlet points = 4	
Wetland has a highly constricted permanently flowing outlet points = 4	
Wetland has a permanently flowing unconstricted surface outlet points = 0 (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")	
D 4.2. <u>Depth of storage during wet periods</u> : Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).	0
Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding points = 8	
Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent pondingpoints = 6	
The wetland is a headwater wetland points = 4	
Seasonal ponding: 1 ft - < 2 ft points = 4	
Seasonal ponding: 6 in - < 1 ft points = 2	
Seasonal ponding: < 6 in or wetland has only saturated soils points = 0	
Total for D 4 Add the points in the boxes above	8
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the	he first page
D 5.0. Does the landscape have the potential to support the 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 a land use that generates runoff? Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 No = 0	0
Total for D 5 Add the points in the boxes above	0
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on to	he first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The wetland is in a landscape that has flooding problems.	0
Choose the description that best matches conditions around the wetland being rated. Do not add points.	١٥
Choose the highest score if more than one condition is met.	
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has	
damaged human or natural resources (e.g., houses or salmon redds), AND	
Flooding occurs in sub-basin that is immediately down-gradient of wetland points = 2	
Surface flooding problems are in a sub-basin farther down-gradient points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the	
water stored by the wetland cannot reach areas that flood.	
Explain why points = 0	
There are no problems with flooding downstream of the wetland points = 0	
D 6.2. Has the site has 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	0
The state points in the boxes doore	U

<u>Rating of Value</u> If score is: <u>2-4 = H</u> <u>1 = M</u> <u>0 = L</u>

RIVERINE WEILANDS		/only 1 score
Water Quality Functions - Indicators that the site functions to impro	ove water quality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sedime	ents during a flooding event:	
Depressions cover > 1/3 area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; n	ot Cowardin classes):	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	points = 10	
Forest or shrub $^{1}/_{3} - ^{2}/_{3}$ area of the wetland	points = 5	
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	
Ungrazed herbaceous plants $^{1}/_{3} - ^{2}/_{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
Total for R 1 Add	I the points in the boxes above	
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L	Record the rating on	the first page
	•	
R 2.0. Does the landscape have the potential to support the water quality fu	unction of the site?	
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or f	orests that have been clearcut	
within the last 5 years?	Yes = 1 No = 0	
R 2.4. Is > 10% of the area within 150 ft of wetland in land uses that generate pollu	tants Yes = 1 No = 0	
R 2.5. Are there other sources of pollutants coming into the wetland that are not li	sted in questions	
R 2.1-R 2.4? Source	Yes = 1 No = 0	
Total for R 2 Add	I the points in the boxes above	
Rating of Landscape Potential If score is:3-6 = H1 or 2 = M0 = L	Record the rating on	the first page
R 3.0. Is the water quality improvement provided by the site valuable to so	ciety?	
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributa mi?	ry that drains to one within 1	
	Yes = 1 No = 0	
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens	? Yes = 1 No = 0	
R 3.3. Has the site been identified in a watershed or local plan as important for mai		
YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	
Total for R 3 Add	the points in the boxes above	1

Rating of Value If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

RIVERINE WETLANDS	
Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion	(only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	, ,
R 4.1. Characteristics of the overbank storage the wetland provides:	
Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the	
stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average	
width of stream between banks).	
If the ratio is more than 2 points = 10	
If the ratio is 1-2 points = 8	
If the ratio is ½-<1 points = 4	
If the ratio is ¼-< ½ points = 2	
If the ratio is < 1/4 points = 1	_
R 4.2. Characteristics of plants that slow down water velocities during floods: <i>Treat large woody debris as forest or</i>	
shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).	
Forest or shrub for more than $^2/_3$ the area of the wetland points = 6	
Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area points = 4	
Forest or shrub for $> 1/100$ area OR emergent plants $> 1/100$ area points = 2	
Plants do not meet above criteria points = 0	
Total for R 5 Add the points in the boxes above	
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on	the first nage
Record the ruting of	the jiist page
D.C.O. Dono the landescence have the notantial to average the budgelesis functions of the site?	
R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
R 5.1. Is the stream or river adjacent to the wetland downcut? Yes = $0 \text{ No} = 1$	
R 5.2. Does the up-gradient watershed include a UGA or incorporated area? Yes = 1 No = 0	
R 5.3. Is the up-gradient stream or river controlled by dams? Yes = $0 \text{ No} = 1$	
Total for R 5 Add the points in the boxes above	
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on	the first page
R 6.0. Are the hydrologic functions provided by the site valuable to society?	
R 6.1. Distance to the nearest areas downstream that have flooding problems? Choose the description that best fits	
the site.	
The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to	
human or natural resources points = 2	
Surface flooding problems are in a basin farther down-gradient points = 1	
No flooding problems anywhere downstream points = 0	
R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control	
plan? Yes = 2 No = 0	
Total for R 6 Add the points in the boxes above	
Rating of Value If score is:2-4 = H1 = M0 = L Record the rating on	the first page

LAKE FRINGE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water	r quality.	Points (only 1 score per box)
L 1.0. Does the site have the potential to improve water quality?		
L 1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes):		
Plants are more than 33 ft (10 m) wide	points = 6	
Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide	points = 3	
Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide	points = 1	
Plants are less than 6 ft wide	points = 0	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that re points, and do not include any open water in your estimate of coverage. The herbaceouthe dominant form or as an understory in a shrub or forest community. These are not Cof cover is total cover in the wetland, but it can be in patches. Herbaceous does not include Cover of herbaceous plants is $> 90\%$ of the vegetated area Cover of herbaceous plants is $> \frac{2}{3}$ of the vegetated area Cover of herbaceous plants is $> \frac{1}{3}$ of the vegetated area Other plants that are not aquatic bed $> \frac{2}{3}$ wetland Other plants that are not aquatic bed in $> \frac{1}{3}$ vegetated area Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland	us plants can be either Cowardin classes. Area	
Total for L 1 Add the points	s in the boxes above	

Rating of Site Potential If score is: 8-12 = H 4-7 = M 0-3 = L

Record the rating on the first page

L 2.0. Does the landscape have the potential to support the water quality function of the site?		
L 2.1. Is the lake used by power boats?	Yes = 1 No = 0	
L 2.2. Is > 10% of the area within 150 ft of wetland on the upland side in land uses	that generate pollutants?  Yes = 1 No = 0	
L 2.3. Does the lake have problems with algal blooms or excessive plants such as m	nilfoil? Yes = 1 No = 0	
Total for L 2 Ad	d the points in the boxes above	

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

Record the rating on the first page

L 3.0. Is the water quality improvement provided by the site valuable to	o society?
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources?	Yes = 1 No = 0
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aq 303(d) list)?	uatic resource in the basin is on the  Yes = 1 No = 0
L 3.3. Has the site been identified in a watershed or local plan as important for YES if there is a TMDL for the lake or basin in which wetland is found.	r maintaining water quality? <i>Answer</i> Yes = 2 No = 0
Total for L 3	Add the points in the boxes above

<u>Rating of Value</u> If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

LAKE FRINGE WETLANDS  Hydrologic Functions - Indicators that the wetland unit functions to reduce sh	oreline erosion	Points (only 1 score per box)
L 4.0. Does the site have the potential to reduce shoreline erosion?		
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore ( <b>do not</b> Choose the highest scoring description that matches conditions in the wetland.	include Aquatic Bed):	
> ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 6	
> ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide	points = 4	
> ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 4	
Plants are at least 6 ft (2 m) wide (do not include Aquatic Bed)	points = 2	
Plants are less than 6 ft (2 m) wide (do not include Aquatic Bed)	points = 0	
	5 1.1 1:	

Rating of Site Potential If score is: \_\_\_6 = M \_\_\_0-5 = L

Record the rating on the first page

L 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0	
L 5.2. Is the fetch on the lake side of the wetland at least 1 mile in distance?	Yes = 1 No = 0	
Total for L 5	Add the points in the boxes above	

Rating of Landscape Potential If score is: 2 = H 1 = M 0 = L

Record the rating on the first page

L 6.0. Are the hydrologic functions provided by the site valuable to society?		
L 6.1. Are there resources, both human and natural, along the shore that can be impacted by erosion of the shore than one resource is present, choose the one with the highest score.  There are human structures or old growth/mature forests within 25 ft of OHWM of the shore wetland		
	points = 2	
There are nature trails or other paths and recreational activities within 25 ft of OHWM	points = 1	
Other resources that could be impacted by erosion	points = 1	
There are no resources that can be impacted by erosion along the shores of the wetland	points = 0	

Rating of Value If score is: \_\_2 = H \_\_\_1 = M \_\_\_0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

SLOPE WETLANDS	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per
	box)
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of average slope of wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of	
horizontal distance)	
Slope is 1% or less points = 3	
Slope is > 1% - 2% points = 2	
Slope is > 2% - 5% points = 1 Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (use NRCS definitions): Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you</i>	
have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are	
higher than 6 in.	
Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	
Dense, uncut, herbaceous plants > ½ of area points = 3	
Dense, woody, plants > ½ of area points = 2	
Dense, uncut, herbaceous plants > ¼ of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L Record the rating on t	he first page
S 2.0. Does the landscape have the potential to support the water quality function at the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	
Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	
Other sources Yes = 1 No = 0	
Total for S 2 Add the points in the boxes above	
Rating of Landscape Potential If score is:1-2 = M0 = L Record the rating on t	he first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (within 1 mi)?	
Yes = 1 No = 0	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the	
basin is on the 303(d) list. Yes = 1 No = 0	
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer	
YES if there is a TMDL for the drainage or basin in which wetland is found)? Yes = $2 \text{ No} = 0$	
Total for S 3 Add the points in the boxes above	
Rating of Value If score is:2-4 = H1 = M0 = L Record the rating on t	he first page

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and ero	osion	Points (only 1 score per box)
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the possible appropriate for the description that best fits conditions in the wetland. Stems of plants should enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.  Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		
Rating of Site Potential If score is:1 = M0 = L Recor	rd the rating on t	he first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site	?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excerning runoff?	ss surface es = 1 No = 0	
Rating of Landscape Potential If score is:1 = M0 = L Recor	rd the rating on t	he first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has surface flooding problems that result in human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream  S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional plan?	points = 2 points = 1 points = 0	
Total for S 6 Add the points in the	es = 2 No = 0 e boxes above	

NOTES and FIELD OBSERVATIONS:

Rating of Value If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	score per box)
H 1.0. Does the wetland have the potential to provide habitat for many species?	· ·
H 1.1. Structure of the plant community:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  X Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% cover  Emergent plants > 40 in (> 100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs have >30% cover)  Forested (areas where trees have >30% cover)  2 checks: points = 1 1 check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	0
H 1.3. Surface water  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR  10% of its area during the March to early June OR in August to the end of September? Answer YES  for Lake Fringe wetlands.  Yes = 3 points & go to H 1.4 No = go to H 1.3.2  H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Yes = 3 No = 0	0
H 1.4. 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. You do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species 3  Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0	0
H 1.5. Interspersion of habitats  Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure0
Riparian braided channels with 2 classes	

H 1.6. Special habitat features	4
Check the habitat features that are present in the wetland. The number of checks is the number of points.	1
x Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface	
ponding or in stream.	
Cattails or bulrushes are present within the wetland.	
Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.	
Emergent or shrub vegetation in areas that are permanently inundated/ponded.	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree	
slope) OR signs of recent beaver activity	
Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	1
Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Record the rating on the first page	Ι.
Accord the rating on the just page	
H 2.0. Does the landscape have the potential to support habitat functions of the site?	
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:	_
Calculate: % undisturbed habitat $0 + (6\% \text{ moderate})$ + $(6\% \text{ moderate})$ and low intensity land uses)/2] $50 = 50$ %	3
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	3
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] = 50 %$	3
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches points = 1	
Undisturbed habitat < 10% of Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon:	0
> 50% of Polygon is high intensity land use points = (- 2)	
Does not meet criterion above points = 0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by	0
irrigation practices, dams, or water control structures. Generally, this means outside boundaries of	
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	6
Rating of Landscape Potential If score is: 4-9 = H 1-3 = M < 1 = L Record the rating on the first page	
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose the highest score</i>	
that applies to the wetland being rated	0
Site meets ANY of the following criteria: points = 2	
8 It has 3 or more priority habitats within 100 m (see Appendix B)	
8 It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)	
X It is mapped as a location for an individual WDFW species	
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
It has been categorized as an important habitat site in a local or regional comprehensive plan, in a	
Shoreline Master Plan, or in a watershed plan	
Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1	
Site does not meet any of the criteria above points = 0	
Rating of Value If score is: 2 = H1 = M0 = L Record the rating on the first page	

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

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	Yes
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater	
input.	
$\mathcal{N}$ Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.	
Surface water is present for less than 120 days during the wet season.	
Yes – Go to SC 1.1 No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)?  Yes = Category II No = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
☼ The wetland has a conductivity > 3.0 mS/cm.	
The wetland has a conductivity > 3.0 ms/cm. The wetland has a conductivity between 2.0 and 3.0 ms, and more than 50% of the plant cover in the	
wetland can be classified as "alkali" species (see Table 4 for list of plants found in alkali systems).	
salt.	
OR does the wetland unit meet two of the following three sub-criteria?	
Salt encrustations around more than 75% of the edge of the wetland	
Solution is a round more than 75% of the edge of the wetland    More than ¾ of the plant cover consists of species listed on Table 4	
★ A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands	
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cat. I
Yes = Category I No= Not an alkali wetland	
163 - Category 1 110-110t all alkali wedana	
SC 2.0. Westlands of High Consequention Value (WHICV)	
SC 3.0. Wetlands of High Conservation Value (WHCV)	
SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to <b>SC 3.2</b> No – Go to <b>SC 3.3</b> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV	
SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed	
on their website? Yes = Category I No =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b></i>	
you will still need to rate the wetland based on its functions.	
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or	
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field key to	
identify organic soils. Yes – Go to <b>SC 4.3</b> No – Go to <b>SC 4.2</b>	
SC 4.2. Does an area within the wetland 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 <b>SC 4.3</b> No = <b>Is not a bog for rating</b>	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of	
the total plant cover consists of species in Table 5? Yes = <b>Category I bog</b> No – Go to <b>SC 4.4</b>	
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
Yes = Category I bog No – Go to SC 4.5	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and	
mucks? Yes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6	
SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks,	
AND one of the two following conditions is met:	
★ Marl deposits [calcium carbonate (CaCO <sub>3</sub> ) precipitate] occur on the soil surface or plant stems	Cat. I
$\aleph$ The pH of free water is $\ge$ 6.8 AND electrical conductivity is $\ge$ 200 uS/cm at multiple locations within the	
wetland Yes = Is a Category I calcareous fen No = Is not a calcareous fen	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present	
in question H 1.1)	
The wetland is within the 100 year floodplain of a river or stream	
★ Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species	
* There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for these priority habitats developed by WDFW	
(see definitions in question H3.1)	
Yes – Go to SC 5.1 No = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? Yes = Category I No – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species? Yes = Category I No – Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by	Cat. II
cover) are fast growing species (see Table 7)? Yes = Category II No – Go to SC 5.4 SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	
Yes = Category II No = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics Choose the highest rating if wetland falls into several categories	II
If you answered No for all types, enter "Not Applicable" on Summary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

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

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

- **X** Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- \*\*Old-growth/Mature forests: Old-growth east of Cascade crest \_ Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. 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 and 80-160 years old east of the Cascade crest.
- **K Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **K Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **K** 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.
- **K** 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.
- **X** Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- \* Talus: Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- K 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 > 12 in (30 cm)in eastern 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.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **K** Eastside Steppe: Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **X Iuniper Savannah:** All juniper woodlands.

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

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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): VP-102	Date of site visit: $\frac{6/28/22}{2}$				
Rated by Jess Taylor and Katie Pyne -	Frained by Ecology? Yes X No Date of training				
HGM Class used for rating	Wetland has multiple HGM classes?Y XN				
NOTE: Form is not complete without the Source of base aerial photo/map	ne figures requested (figures can be combined).				
OVERALL WETLAND CATEGORY	(based on functions or special characteristics X )				

## 1. Category of wetland based on FUNCTIONS

	Category I — Total score = 22-27
	Category II - Total score = 19-21
	Category III — Total score = 16-18
Χ	Category IV – Total score = 9-15

FUNCTION	Improving Water Quality		Hydrologic		Habitat					
			Circle	the a	ppropi	riate ro	itings	;		
Site Potential	Н	M	L	Н	M	L	Н	М	L	
Landscape Potential	Н	М	L	Н	М	L	H	M	L	
Value	Н	М	L	Н	М	L	Н	М	L	TOTAL
Score Based on Ratings		4			4			5		13

### Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H 8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY Circle the appropriate category			
Vernal Pools X	III III			
Alkali	I			
Wetland of High Conservation Value	I			
Bog and Calcareous Fens	I			
Old Growth or Mature Forest – slow growing	I			
Aspen Forest	I			
Old Growth or Mature Forest – fast growing	II			
Floodplain forest	II			
None of the above				

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

#### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

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

For questions 1-4, 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 1-4 apply, and go to Question 5.

1.	Does the entire unit <b>meet both</b> of the following criteria? The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size At least 30% of the open water area is deeper than 10 ft (3 m)
	NO – go to 2 <b>YES –</b> The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks; The water leaves the wetland <b>without being impounded</b> .
	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 foot deep).
3.	Does the entire wetland unit <b>meet all</b> 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 10 years.
	NO - go to 4 YES - The wetland class is <b>Riverine NOTE:</b> The Riverine wetland can contain depressions that are filled with water when the river is not flooding.
4.	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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	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 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND 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 wetland 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 (the riverine portion is within	Depressional	
the boundary of depression)		
Depressional + Lake Fringe	Depressional	
Riverine + Lake Fringe	Riverine	

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

DEPRESSIONAL WETLANDS	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
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 has no surface water outlet  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing, unconstricted, surface outlet  points = 3  Wetland has a permanently flowing, unconstricted, surface outlet	5
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)  YES = 3 NO = 0	0
D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes) Wetland has persistent, ungrazed, vegetation for $> ^2/_3$ of area Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area Wetland has persistent, ungrazed vegetation from $^1/_{10}$ to $< ^1/_3$ of area Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area points = 0	0
D 1.4. Characteristics of seasonal ponding or inundation:  This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 1  Area seasonally ponded is < ¼ total area of wetland	1
Total for D 1 Add the points in the boxes above	6
Rating of Site Potential If score is:12- 16 = H6- 11 = M0- 5 = L Record the rating on the D 2.0. Does the landscape have the potential to support the water quality function of the site?	ne first page
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0	0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0	0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0	0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions	0 0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0	0 0 0 0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above	0 0 0 0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  Record the rating on the	0 0 0 0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  Record the rating on the control of the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?	0 0 0 0 0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is: 3 or 4 = H 1 or 2 = M 0 = L  Record the rating on the stream of the	0 0 0 0 0 0 ne 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 receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?  Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES)	0 0 0 0 0 0 ne first page

<u>DEPRESSIONAL WETLANDS</u>	Points
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.	(only 1 score per box)
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:	8
Wetland has no surface water outlet points = 8	١٥
Wetland has an intermittently flowing outlet points = 4	
Wetland has a highly constricted permanently flowing outlet points = 4	
Wetland has a permanently flowing unconstricted surface outlet points = 0 (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")	
D 4.2. <u>Depth of storage during wet periods</u> : <i>Estimate the height of ponding above the bottom of the outlet. For</i>	0
wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).	
Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding points = 8	
Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent pondingpoints = 6  The wetland is a headwater wetland points = 4	
The wetland is a headwater wetland points = 4 Seasonal ponding: 1 ft - < 2 ft points = 4	
Seasonal ponding: 6 in - < 1 ft points = 2	
Seasonal ponding: < 6 in or wetland has only saturated soils  points = 0	
Total for D 4  Add the points in the boxes above	8
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on tile	_
Record the racing on the racing of the racin	ie jii st paye
D 5.0. Does the landscape have the potential to support the 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 a land use that generates runoff? Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?	0
Yes = 1 No = 0	0
Total for D 5 Add the points in the boxes above	0
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on to	he first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The wetland is in a landscape that has flooding problems.	0
Choose the description that best matches conditions around the wetland being rated. Do not add points.	0
Choose the highest score if more than one condition is met.	
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has	
damaged human or natural resources (e.g., houses or salmon redds), AND	
Flooding occurs in sub-basin that is immediately down-gradient of wetland points = 2	
Surface flooding problems are in a sub-basin farther down-gradient points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.	
Explain why points = 0	
There are no problems with flooding downstream of the wetland points = 0	
D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control	0
plan? Yes = 2 No = 0	
Total for D 6 Add the points in the boxes above	0

<u>Rating of Value</u> If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

RIVERINE WEILANDS	(only 1 score	
Water Quality Functions - Indicators that the site functions to improve water quality	per box)	
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event:		
Depressions cover $> \frac{1}{3}$ area of wetland points = 6		
Depressions cover $> \frac{1}{10}$ area of wetland points = 3		
Depressions present but cover $< \frac{1}{10}$ area of wetland points = 1		
No depressions present points = 0		
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):		
Forest or shrub $> \frac{2}{3}$ the area of the wetland points = 10		
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland points = 5		
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland points = 5		
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland points = 2		
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland points = 0		
Total for R 1 Add the points in the boxes above		
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating of Site Potential If score is: 12-16 = H 12	n the first page	
R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA? Yes = $2 \text{ No} = 0$		
R 2.2. Does the contributing basin include a UGA or incorporated area? Yes = 1 No = 0		
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut		
within the last 5 years? Yes = 1 No = 0		
R 2.4. Is $>$ 10% of the area within 150 ft of wetland in land uses that generate pollutants Yes = 1 No = 0		
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions		
R 2.1-R 2.4? Source Yes = 1 No = 0		
Total for R 2 Add the points in the boxes above		
Rating of Landscape Potential If score is: 3-6 = H 1 or 2 = M 0 = L Record the rating of	n the first page	
R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?		
Yes = 1 No = 0		

Rating of Value If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

Total for R 3

R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?

YES if there is a TMDL for the drainage in which wetland is found.

R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer

Record the rating on the first page

Yes = 1 No = 0

 $Yes = 2 \quad No = 0$ 

Add the points in the boxes above

RIVERINE WETLANDS	Points
Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion	(only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	per senj
R 4.1. Characteristics of the overbank storage the wetland provides:	T
Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the	
stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average	
width of stream between banks).	
If the ratio is more than 2 points = 10	
If the ratio is 1-2 points = 8	
If the ratio is ½-<1 points = 4	
If the ratio is ¼-< ½ points = 2	
If the ratio is < 1/4 points = 1	_
R 4.2. Characteristics of plants that slow down water velocities during floods: <i>Treat large woody debris as forest or</i>	
shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).	
Forest or shrub for more than $^2/_3$ the area of the wetland points = 6	
Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area points = 4	
Forest or shrub for $> 1/10$ area OR emergent plants $> 1/3$ area points = 2	
Plants do not meet above criteria points = 0	
Total for R 5 Add the points in the boxes above	
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on	the first nage
Record the rating of	the jiist page
D.C.O. Dona the level and a superbolic property of the superbolic production of the site of	
R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
R 5.1. Is the stream or river adjacent to the wetland downcut? Yes = $0$ No = $1$	
R 5.2. Does the up-gradient watershed include a UGA or incorporated area? Yes = 1 No = 0	
R 5.3. Is the up-gradient stream or river controlled by dams? Yes = $0 \text{ No} = 1$	
Total for R 5 Add the points in the boxes above	
Rating of Landscape Potential If score is:3 = H1 or 2 = M0 = L Record the rating on	the first page
R 6.0. Are the hydrologic functions provided by the site valuable to society?	
R 6.1. Distance to the nearest areas downstream that have flooding problems? Choose the description that best fits	
the site.	
The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to	
human or natural resources points = 2	
Surface flooding problems are in a basin farther down-gradient points = 1	
No flooding problems anywhere downstream points = 0	
R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control	1
plan? Yes = 2 No = 0	
Total for R 6 Add the points in the boxes above	
Rating of Value If score is:2-4 = H1 = M0 = L Record the rating on	the first page

LAKE FRINGE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality.	Points (only 1 score per box)
L 1.0. Does the site have the potential to improve water quality?	·
L 1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes):	
Plants are more than 33 ft (10 m) wide points = 6	
Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide points = 3	
Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide points = 1	
Plants are less than 6 ft wide points = 0	
Plants are less than 6 ft wide points = 0  L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is $> 90\%$ of the vegetated area points = 6  Cover of herbaceous plants is $> \frac{2}{3}$ of the vegetated area points = 3  Other plants that are not aquatic bed $> \frac{2}{3}$ wetland points = 1  Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland points = 0	
Total for L 1 Add the points in the boxes above	

Rating of Site Potential If score is: 8-12 = H 4-7 = M 0-3 = L

Record the rating on the first page

L 2.0. Does the landscape have the potential to support the water quality function of the site?	
L 2.1. Is the lake used by power boats?	Yes = 1 No = 0
L 2.2. Is > 10% of the area within 150 ft of wetland on the upland side in land uses t	hat generate pollutants?  Yes = 1 No = 0
L 2.3. Does the lake have problems with algal blooms or excessive plants such as m	Ifoil? Yes = 1 No = 0
Total for L 2 Add	the points in the boxes above

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

Record the rating on the first page

L 3.0. Is the water quality improvement provided by the site valuable to soc	iety?
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources?	Yes = 1 No = 0
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aquatic 303(d) list)?	resource in the basin is on the Yes = 1 No = 0
L 3.3. Has the site been identified in a watershed or local plan as important for main YES if there is a TMDL for the lake or basin in which wetland is found.	ntaining water quality? <i>Answer</i> Yes = 2 No = 0
Total for L 3 Add	the points in the boxes above

<u>Rating of Value</u> If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

LAKE FRINGE WETLANDS  Hydrologic Functions - Indicators that the wetland unit functions to reduce shoreline erosic	Points (only 1 score per box)
L 4.0. Does the site have the potential to reduce shoreline erosion?	
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore ( <b>do not</b> include Aquatic Choose the highest scoring description that matches conditions in the wetland.  > ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide  > ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide  > ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide  Plants are at least 6 ft (2 m) wide (do not include Aquatic Bed)  Plants are less than 6 ft (2 m) wide (do not include Aquatic Bed)  points:	= 6 = 4 = 4 = 2

Rating of Site Potential If score is: \_\_\_6 = M \_\_\_0-5 = L

Record the rating on the first page

L 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0	
L 5.2. Is the fetch on the lake side of the wetland at least 1 mile in distance?	Yes = 1 No = 0	
Total for L 5	Add the points in the boxes above	

Rating of Landscape Potential If score is: 2 = H 1 = M 0 = L

Record the rating on the first page

L 6.0. Are the hydrologic functions provided by the site valuable to society?		
L 6.1. Are there resources, both human and natural, along the shore that can be impacted by erosion of the shore than one resource is present, choose the one with the highest score.  There are human structures or old growth/mature forests within 25 ft of OHWM of the shore wetland		
	points = 2	
There are nature trails or other paths and recreational activities within 25 ft of OHWM	points = 1	
Other resources that could be impacted by erosion	points = 1	
There are no resources that can be impacted by erosion along the shores of the wetland	points = 0	

Rating of Value If score is: \_\_2 = H \_\_\_1 = M \_\_\_0 = L

Record the rating on the first page

**NOTES and FIELD OBSERVATIONS:** 

SLOPE WETLANDS	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of average slope of wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
Slope is 1% or less points = 3	
Slope is > 1% - 2% points = 2	
Slope is > 2% - 5% points = 1	
Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (use NRCS definitions): Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.  Dense, uncut, herbaceous plants > 90% of the wetland area	
Dense, uncut, herbaceous plants > ½ of area points = 3	
Dense, woody, plants > ½ of area points = 2	
Dense, uncut, herbaceous plants > ¼ of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L Record the rating on t	he first page
S 2.0. Does the landscape have the potential to support the water quality function at the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources  Yes = 1 No = 0	
Total for S 2 Add the points in the boxes above	
Rating of Landscape Potential If score is: 1-2 = M 0 = L Record the rating on t	he first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (within 1 mi)?  Yes = 1 No = 0	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list.  Yes = 1 No = 0	
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which wetland is found)? Yes = 2 No = 0	
Total for S 3 Add the points in the boxes above	
Rating of Value If score is:2-4 = H1 = M0 = L   Record the rating on t	he first page

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and	nd erosion	Points (only 1 score per box)
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose appropriate for the description that best fits conditions in the wetland. Stems of plants enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.  Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		
Rating of Site Potential If score is:1 = M0 = L	Record the rating on t	he first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the	ne site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that general runoff?	te excess surface Yes = 1 No = 0	
Rating of Landscape Potential If score is:1 = M0 = L	Record the rating on t	he first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has surface flooding problems that re human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream	points = 2 points = 1 points = 0	
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a replan?	egional flood control $Yes = 2  No = 0$	
Total for S 6 Add the point	s in the boxes above	

NOTES and FIELD OBSERVATIONS:

Rating of Value If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	score per box)
H 1.0. Does the wetland have the potential to provide habitat for many species?	·
H 1.1. Structure of the plant community:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  X Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% cover  Emergent plants > 40 in (> 100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs have >30% cover)  Forested (areas where trees have >30% cover)  2 checks: points = 2 2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	0
H 1.3. Surface water  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR  10% of its area during the March to early June OR in August to the end of September? Answer YES  for Lake Fringe wetlands.  Yes = 3 points & go to H 1.4 No = go to H 1.3.2  H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Yes = 3 No = 0	0
H 1.4. 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. You do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species 3  Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0	0
H 1.5. Interspersion of habitats  Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure0
Riparian braided channels with 2 classes	

1 1.6. Special habitat features  Check the habitat features that are present in the wetland. The number of checks is the number of points.  × Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface				
<ul> <li>Loose rocks larger than 4 in OR large, downed, woody debris (&gt; 4 in diameter) within the area of surface</li> </ul>				
ponding or in stream.				
Cattails or bulrushes are present within the wetland.				
Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.				
Emergent or shrub vegetation in areas that are permanently inundated/ponded.				
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree				
slope) OR signs of recent beaver activity				
Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs,				
herbaceous, moss/ground cover)				
Total for H 1 Add the points in the boxes above 1				
ating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Record the rating on the first page				
1 2.0. Does the landscape have the potential to support habitat functions of the site?				
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:				
Calculate: % undisturbed habitat $0$ + [(% moderate and low intensity land uses)/2] $50$ = $50$ %				
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3				
20-33% of 1km Polygon points = 2				
· · · · · · · · · · · · · · · · · · ·				
10-19% of 1km Polygon points = 1				
<10% of 1km Polygon points = 0				
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.				
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] = 50 = 50$				
Undisturbed habitat > 50% of Polygon points = 3				
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2				
Undisturbed habitat 10 - 50% and > 3 patches points = 1				
Undisturbed habitat < 10% of Polygon points = 0				
1.2.2. Land use intensity in 1 km Polygon:				
> 50% of Polygon is high intensity land use points = (- 2)				
Does not meet criterion above points = 0				
'				
d 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by				
irrigation practices, dams, or water control structures. <i>Generally, this means outside boundaries of</i>				
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0				
Total for H 2 Add the points in the boxes above 6				
ating of Landscape Potential If score is: 4-9 = H 1-3 = M < 1 = L Record the rating on the first page				
H 3.0. Is the habitat provided by the site valuable to society?				
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose the highest score</i>				
that applies to the wetland being rated				
Site meets ANY of the following criteria: points = 2				
It has 3 or more priority habitats within 100 m (see Appendix B)				
It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)				
* It is mapped as a location for an individual WDFW species				
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources				
* It has been categorized as an important habitat site in a local or regional comprehensive plan, in a				
Shoreline Master Plan, or in a watershed plan				
Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1				
Site does not meet any of the criteria above points = 0				
ating of Value If score is: 2 = H 1 = M 0 = L Record the rating on the first page				

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

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	Yes
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater	
input.	
${\cal N}$ Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
ℵ The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
Surface water is present for less than 120 days during the wet season.	
Yes – Go to SC 1.1 No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? Yes = Category II No = Category III	Cat. III
	Cut. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
★ The wetland has a conductivity > 3.0 mS/cm.	
☼ The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the	
wetland can be classified as "alkali" species (see Table 4 for list of plants found in alkali systems).	
If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of	
salt.	
OR does the wetland unit meet two of the following three sub-criteria?	
Salt encrustations around more than 75% of the edge of the wetland	
<del>-</del>	
More than % of the plant cover consists of species listed on Table 4	
X A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	0
Yes = Category I No= Not an alkali wetland	
SC 3.0. Wetlands of High Conservation Value (WHCV)	
SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cot
Yes = Category I No = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV	
SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed	
on their website? Yes = Category I No =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or	
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field key to	
identify organic soils. Yes – Go to <b>SC 4.3</b> No – Go to <b>SC 4.2</b>	
SC 4.2. Does an area within the wetland 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 <b>SC 4.3</b> No = <b>Is not a bog for rating</b>	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of	
the total plant cover consists of species in Table 5? Yes = Category I bog No – Go to SC 4.4	
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with 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 5 provide more than 30% of the cover under the canopy?	Cat. I
Yes = Category I bog No – Go to SC 4.5	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and	
mucks? Yes = <b>Is a Calcareous Fen for purpose of rating</b> No – Go to <b>SC 4.6</b>	
SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks,	
AND one of the two following conditions is met:	
★ Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems	Cat. I
* The pH of free water is $\geq$ 6.8 AND electrical conductivity is $\geq$ 200 uS/cm at multiple locations within the	Juli I
wetland Yes = Is a Category I calcareous fen No = Is not a calcareous fen	
wetiand 163 - 13 a category i calcareous ien 100 - 15 not a calcareous ien	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets <b>at least one</b> of the following three criteria? ( <i>Continue only if you have identified that a forested class is present in question H 1.1</i> )	
The wetland is within the 100 year floodplain of a river or stream	
Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species	
* There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for these priority habitats developed by WDFW	
(see definitions in question H3.1)	
Yes – Go to SC 5.1 No = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? Yes = Category I No – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover of woody species?  Yes = Category I No – Go to SC 5.3	Cat. I
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (see Table 7)?  Yes = Category II No – Go to SC 5.4	Cat. II
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	Cat. II
Yes = Category II No = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics	П
Choose the highest rating if wetland falls into several categories	["
If you answered No for all types, enter "Not Applicable" on Summary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

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

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

- **X** Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- \*\*Old-growth/Mature forests: Old-growth east of Cascade crest \_ Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. 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 and 80-160 years old east of the Cascade crest.
- **K Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **K Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **K** 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.
- **K** 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.
- **X** Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- \* Talus: Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- K 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 > 12 in (30 cm)in eastern 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.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **K** Eastside Steppe: Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **X Iuniper Savannah:** All juniper woodlands.

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

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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): WT-103	Date of site visit: $\frac{6/27/22}{1}$
Rated by Jess Taylor and Katie Pyne	Trained by Ecology? Yes <sup>X</sup> No Date of training
HGM Class used for rating	Y XN
NOTE: Form is not complete without Source of base aerial photo/map	ut the figures requested (figures can be combined).
OVERALL WETLAND CATEGORY	IV (based on functions or special characteristics )

## 1. Category of wetland based on FUNCTIONS

	_Category I — Total score = 22-27
	_Category II — Total score = 19-21
	_Category III — Total score = 16-18
X	_Category IV — Total score = 9-15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
			Circle	the a	ppropi	riate ro	ntings			
Site Potential	Н	M	L	Н	M	L	Н	М	L	
Landscape Potential	Н	М	L	Н	М	L	H	М	L	
Value	Н	М	L	Н	М	L	Н	М	L	TOTAL
Score Based on Ratings		4			4			5		13

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY Circle the appropriate category		
Vernal Pools	II III		
Alkali	I		
Wetland of High Conservation Value	I		
Bog and Calcareous Fens	I		
Old Growth or Mature Forest – slow growing	I		
Aspen Forest	I		
Old Growth or Mature Forest – fast growing	II		
Floodplain forest	II		
None of the above			

## Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

#### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

#### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

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

For questions 1-4, 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 1-4 apply, and go to Question 5.

1.	Does the entire unit <b>meet both</b> of the following criteria? The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size At least 30% of the open water area is deeper than 10 ft (3 m)		
	NO – go to 2 <b>YES –</b> The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)		
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks; The water leaves the wetland <b>without being impounded</b> .		
	NO - go to 3  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 foot deep).		
3.	Does the entire wetland unit <b>meet all</b> 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 10 years.		
	NO - go to 4 YES – The wetland class is <b>Riverine NOTE:</b> The Riverine wetland can contain depressions that are filled with water when the river is not flooding.		
4.	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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>		
	NO – go to 5 YES – The wetland class is <b>Depressional</b>		
5.	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 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND 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 wetland 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 (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

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.

DEDDESSIONAL WETLANDS	Points
<u>DEPRESSIONAL WETLANDS</u> Water Quality Functions - Indicators that the site functions to improve water quality	
water quality runctions materials that the site functions to improve water quality	score per box)
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland:	5
Wetland has no surface water outlet points = 5	3
Wetland has an intermittently flowing outlet points = 3	
Wetland has a highly constricted permanently flowing outlet points = 3	
Wetland has a permanently flowing, unconstricted, surface outlet points = 1	
D 1.2. <u>The soil 2 in below the surface (or duff layer</u> ) is true clay or true organic <i>(use NRCS definitions of soils)</i> YES = 3 NO = 0	0
D 1.3. <u>Characteristics of persistent vegetation</u> (Emergent, Scrub-shrub, and/or Forested Cowardin classes)	1
Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area points = 5	
Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area points = 3 Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $<\frac{1}{3}$ of area points = 1	
Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $\frac{1}{3}$ of area points = 1  Wetland has persistent, ungrazed vegetation $\frac{1}{10}$ of area points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	
This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.	1
Area seasonally ponded is > ½ total area of wetland points = 3	
Area seasonally ponded is ¼ - ½ total area of wetland points = 1	
Area seasonally ponded is < 1/4 total area of wetland points = 0	
Total for D 1 Add the points in the boxes above	7
· ·	
	C .
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the	ne first page
Rating of Site Potential If score is:12- 16 = H6- 11 = M 0- 5 = L Record the rating on the D 2.0. Does the landscape have the potential to support the water quality function of the site?	ne first page
	0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0	0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0	0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0	0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0	0 0 0 0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above	0 0 0 0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above	0 0 0 0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  Record the rating on the company of the site valuable to society?	0 0 0 0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L	0 0 0 0
D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1-D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0	0 0 0 0 0 0 ne 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 receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  Record the rating on the content of the society?  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, or lake that is on the 303(d) list?	0 0 0 0 0 0 ne 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 receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1-D 2.3? Source  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES)	0 0 0 0 0 0 ne 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 receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  Record the rating on the standard discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?  Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?  Yes = 2 No = 0	0 0 0 0 0 0 ne 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 receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  Record the rating on the standard discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?  Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?  Yes = 2 No = 0	0 0 0 0 0 0 ne first page

	-	
DEPRESSIONAL WETLANDS	Points (only 1 score	
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.	per box)	
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:	8	
Wetland has no surface water outlet points = 8	0	
Wetland has an intermittently flowing outlet points = 4		
Wetland has a highly constricted permanently flowing outlet points = 4		
Wetland has a permanently flowing unconstricted surface outlet points = 0		
(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")		
D 4.2. <u>Depth of storage during wet periods</u> : <i>Estimate the height of ponding above the bottom of the outlet. For</i>		
wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).		
Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding points = 8		
Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent pondingpoints = 6		
The wetland is a headwater wetland points = 4		
Seasonal ponding: 1 ft - < 2 ft points = 4		
Seasonal ponding: 6 in - < 1 ft points = 2		
Seasonal ponding: < 6 in or wetland has only saturated soils points = 0		
Total for D 4 Add the points in the boxes above	8	
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the	he first page	
D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		

D 5.0. Does the landscape have the potential to support the 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 a land use that generates runoff? Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 No = 0	
Total for D 5 Add the points in the boxes above	0

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

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The wetland is in a landscape that has flooding problems.  Choose the description that best matches conditions around the wetland being rated. Do not add points.  Choose the highest score if more than one condition is met.		
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND		
Flooding occurs in sub-basin that is immediately down-gradient of wetland points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1		
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.		
Explain why points = 0		
There are no problems with flooding downstream of the wetland points = 0		
D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?  Yes = 2 No = 0		
Total for D 6 Add the points in the boxes above	0	

<u>Rating of Value</u> If score is: <u>2-4 = H</u> <u>1 = M</u> <u>0 = L</u>

Record the rating on the first page

RIVERINE WEILANDS	/anh. 1 accus		
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)		
R 1.0. Does the site have the potential to improve water quality?			
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event:			
Depressions cover $>^1/_3$ area of wetland points = 6			
Depressions cover $> \frac{1}{10}$ area of wetland points = 3			
Depressions present but cover $< \frac{1}{10}$ area of wetland points = 1			
No depressions present points = 0			
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):			
Forest or shrub $> \frac{2}{3}$ the area of the wetland points = 10			
Forest or shrub $^{1}/_{3} - ^{2}/_{3}$ area of the wetland points = 5			
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland points = 5			
Ungrazed herbaceous plants $^{1}/_{3} - ^{2}/_{3}$ area of wetland points = 2			
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland points = 0			
Total for R 1 Add the points in the boxes above			
R 2.0. Does the landscape have the potential to support the water quality function of the site?			
R 2.1. Is the wetland within an incorporated city or within its UGA?  Yes = 2 No = 0			
R 2.2. Does the contributing basin include a UGA or incorporated area? Yes = 1 No = 0			
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?  Yes = 1 No = 0			
R 2.4. Is $> 10\%$ of the area within 150 ft of wetland in land uses that generate pollutants Yes = 1 No = 0			
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions			
R 2.1-R 2.4? Source Yes = 1 No = 0			
Total for R 2 Add the points in the boxes above			
Rating of Landscape Potential If score is: 3-6 = H 1 or 2 = M 0 = L Record the rating on	the first page		
R 3.0. Is the water quality improvement provided by the site valuable to society?			
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?			
Yes = 1 No = 0			
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens? Yes = 1 No = 0			
R 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer			

Rating of Value If score is:\_\_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

Total for R 3

YES if there is a TMDL for the drainage in which wetland is found.

Record the rating on the first page

 $Yes = 2 \quad No = 0$ 

Add the points in the boxes above

RIVERINE WETLANDS		Points	
Hydrologic Functions - Indicators that site functions to reduce f	flooding and stream erosion	(only 1 score per box)	
R 4.0. Does the site have the potential to reduce flooding and erosion?	?	· ·	
R 4.1. Characteristics of the overbank storage the wetland provides:			
Estimate the average width of the wetland perpendicular to the direction	on of the flow and the width of the		
stream or river channel (distance between banks). Calculate the ratio: (	average width of wetland)/(average		
width of stream between banks).			
If the ratio is more than 2	points = 10		
If the ratio is 1-2	points = 8		
If the ratio is ½-<1	points = 4		
If the ratio is ¼-< ½	points = 2		
If the ratio is < 1/4	points = 1		
R 4.2. Characteristics of plants that slow down water velocities during floods:			
shrub. Choose the points appropriate for the best description (polygon	s need to have > 90% cover at person		
height. These are NOT Cowardin classes).			
Forest or shrub for more than $^2/_3$ the area of the wetland	points = 6		
Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area	points = 4		
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area	points = 2		
Plants do not meet above criteria	points = 0		
Total for R 5	Add the points in the boxes above		
Rating of Site Potential If score is:12-16 = H6-11 = M0-5 = L	Record the rating on	the first page	
R 5.0. Does the landscape have the potential to support the hydrologic	functions of the site?		
R 5.1. Is the stream or river adjacent to the wetland downcut?	Yes = 0 No = 1		
R 5.2. Does the up-gradient watershed include a UGA or incorporated area?	Yes = 1 No = 0		
R 5.3. Is the up-gradient stream or river controlled by dams?	Yes = 0 No = 1		
Total for R 5	Add the points in the boxes above		
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L	Record the rating on	the first page	
R 6.0. Are the hydrologic functions provided by the site valuable to so	ciety?		
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.	? Choose the description that best fits		
The sub-basin immediately down-gradient of site has surface flooding	problems that result in damage to		
human or natural resources	points = 2		
Surface flooding problems are in a basin farther down-gradient	points = 1		
No flooding problems anywhere downstream	points = 1		
	· · · · · · · · · · · · · · · · · · ·		
R 6.2. Has the site been identified as important for flood storage or flood con plan?	veyance in a regional flood control Yes = 2 No = 0		
Total for R 6	Add the points in the boxes above		
Rating of Value If score is: 2-4 = H 1 = M 0 = L	Record the rating on	the first page	

LAKE FRINGE WETLANDS		Points
Water Quality Functions - Indicators that the site functions to improve water	er quality.	(only 1 score per box)
L 1.0. Does the site have the potential to improve water quality?		
L 1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes):		
Plants are more than 33 ft (10 m) wide	points = 6	
Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide	points = 3	
Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide	points = 1	
Plants are less than 6 ft wide	points = 0	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest		
points, and do not include any open water in your estimate of coverage. The herbaced	ous plants can be either	
the dominant form or as an understory in a shrub or forest community. These are not		
of cover is total cover in the wetland, but it can be in patches. Herbaceous does not inc		
Cover of herbaceous plants is > 90% of the vegetated area	points = 6	
Cover of herbaceous plants is $> \frac{2}{3}$ of the vegetated area	points = 4	
Cover of herbaceous plants is $> \frac{1}{3}$ of the vegetated area	points = 3	
Other plants that are not aquatic bed $> \frac{2}{3}$ wetland	points = 3	
Other plants that are not aquatic bed in $> \frac{1}{3}$ vegetated area	points = 1	
Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland	points = 0	
Total for L 1 Add the poin	ts in the boxes above	

<u>Rating of Site Potential</u> If score is: \_\_\_\_8-12 = H \_\_\_\_4-7 = M \_\_\_\_0-3 = L

Record the rating on the first page

L 2.0. Does the landscape have the potential to support the water quality function of the site?		
L 2.1. Is the lake used by power boats?	Yes = 1 No = 0	
L 2.2. Is > 10% of the area within 150 ft of wetland on the upland side in land uses	that generate pollutants? Yes = 1 No = 0	
L 2.3. Does the lake have problems with algal blooms or excessive plants such as m	nilfoil? Yes = 1 No = 0	
Total for L 2 Ad	d the points in the boxes above	

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

Record the rating on the first page

L 3.0. Is the water quality improvement provided by the site valuable to society?		
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources?	Yes = 1 No = 0	
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aqua 303(d) list)?	tic resource in the basin is on the Yes = 1 No = 0	
L 3.3. Has the site been identified in a watershed or local plan as important for m YES if there is a TMDL for the lake or basin in which wetland is found.	naintaining water quality? <i>Answer</i> Yes = 2 No = 0	
Total for L 3	Add the points in the boxes above	

<u>Rating of Value</u> If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

LAKE FRINGE WETLANDS  Hydrologic Functions - Indicators that the wetland unit functions to reduce sh	oreline erosion	Points (only 1 score per box)
L 4.0. Does the site have the potential to reduce shoreline erosion?		
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore ( <b>do not</b> Choose the highest scoring description that matches conditions in the wetland.	include Aquatic Bed):	
> ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 6	
> ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide	points = 4	
> 1/4 distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 4	
Plants are at least 6 ft (2 m) wide (do not include Aquatic Bed)	points = 2	
Plants are less than 6 ft (2 m) wide (do not include Aquatic Bed)	points = 0	
Pating of Site Potential If score is: 6 - M 0 5 - I	Pacard the rating on	the first page

Record the rating on the first page

L 5.0. Does the landscape have the potential to support hydrologic functions of the site?						
L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0					
L 5.2. Is the fetch on the lake side of the wetland at least 1 mile in distance?	Yes = 1 No = 0					
Total for L 5	Add the points in the boxes above					

Rating of Landscape Potential If score is: \_\_\_2 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

L 6.0. Are the hydrologic functions provided by the site valuable to society?				
L 6.1. Are there resources, both human and natural, along the shore that can be impacted by erosion?  If more than one resource is present, choose the one with the highest score.  There are human structures or old growth/mature forests within 25 ft of OHWM of the shore in the wetland				
	points = 2			
There are nature trails or other paths and recreational activities within 25 ft of OHWM	points = 1			
Other resources that could be impacted by erosion	points = 1			
There are no resources that can be impacted by erosion along the shores of the wetland	points = 0			

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

Record the rating on the first page

**NOTES and FIELD OBSERVATIONS:** 

SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality	Points (only 1 score per box)
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of average slope of wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
Slope is 1% or less points = 3	
Slope is > 1% - 2% points = 2	
Slope is > 2% - 5% points = 1	
Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (use NRCS definitions): Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.  Dense, uncut, herbaceous plants > 90% of the wetland area  Dense, uncut, herbaceous plants > ½ of area  points = 3	
Dense, woody, plants > ½ of area points = 2	
Dense, uncut, herbaceous plants > ¼ of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L Record the rating on t	he first page
S 2.0. Does the landscape have the potential to support the water quality function at the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources  Yes = 1 No = 0	
Total for S 2 Add the points in the boxes above	
Rating of Landscape Potential If score is: 1-2 = M 0 = L Record the rating on t	he first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (within 1 mi)?  Yes = 1 No = 0	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list.  Yes = 1 No = 0	
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which wetland is found)? Yes = 2 No = 0	
Total for S 3 Add the points in the boxes above	
Rating of Value If score is:2-4 = H1 = M0 = L Record the rating on t	he first page

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion	Points (only 1 score per box)
S 4.0. Does the site have the potential to reduce flooding and erosion?	
· · · · · · · · · · · · · · · · · · ·	ts = 1 ts = 0
Rating of Site Potential If score is:1 = M0 = L Record the rate	ting on the first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surfaction runoff?  Yes = 1 N	
Rating of Landscape Potential If score is:1 = M0 = L	ting on the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?	
Surface flooding problems are in a sub-basin farther down-gradient point  No flooding problems anywhere downstream point	ts = 2 ts = 1 ts = 0
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood coplan?  Yes = 2 N	
Total for S 6 Add the points in the boxes a	bove

<u>Rating of Value</u> If score is: \_\_\_2-4 = H \_\_\_1 = M \_\_\_0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	score per box)
H 1.0. Does the wetland have the potential to provide habitat for many species?	
H 1.1. Structure of the plant community:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% cover  Emergent plants > 40 in (> 100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs have >30% cover)  Forested (areas where trees have >30% cover)  2 checks: points = 1  1 check: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	0
H 1.3. Surface water  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR  10% of its area during the March to early June OR in August to the end of September? Answer YES  for Lake Fringe wetlands.  Yes = 3 points & go to H 1.4 No = go to H 1.3.2  H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries,  or along one side, over at least ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Yes = 3 No = 0	0
H 1.4. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> . Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species 3  Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0	0
Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. 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	Figure
All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	

H 1.6. Special habitat features						
Charlette habitat features that are accept in the westland. The number of about in the number of a circle.						
Check the habitat jeatures that are present in the wetland. The number of checks is the number of points.						
x Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface						
ponding or in stream.						
Cattails or bulrushes are present within the wetland.						
Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.						
Emergent or shrub vegetation in areas that are permanently inundated/ponded.						
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree						
slope) OR signs of recent beaver activity						
Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs,						
herbaceous, moss/ground cover)						
Total for H 1 Add the points in the boxes above 1						
ating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Record the rating on the first page						
H 2.0. Does the landscape have the potential to support habitat functions of the site?						
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:						
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50$						
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3						
20-33% of 1km Polygon points = 2						
10-19% of 1km Polygon points = 1						
<10% of 1km Polygon points = 0						
H. 2.2. Undisturbed behitet in 1 km Dolygon around wetland						
Undisturbed habitat > 50% of Polygon points = 3						
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2						
Undisturbed habitat 10 - 50% and > 3 patches points = 1						
Undisturbed habitat < 10% of Polygon points = 0						
H 2.3. Land use intensity in 1 km Polygon:						
> 50% of Polygon is high intensity land use points = (-2)						
Does not meet criterion above points = 0						
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by						
irrigation practices, dams, or water control structures. <i>Generally, this means outside boundaries of</i>						
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0						
Total for H 2 Add the points in the boxes above 6						
ating of Landscape Potential If score is: 4-9 = H 1-3 = M < 1 = L Record the rating on the first page						
H 3.0. Is the habitat provided by the site valuable to society?						
H 2.1. Doos the site provide habitat for species valued in laws, regulations, or policies? Change the highest score						
that applies to the wetland being rated						
Site meets ANY of the following criteria: points = 2						
-						
* It has 3 or more priority habitats within 100 m (see Appendix B)						
K It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)						
* It is mapped as a location for an individual WDFW species						
* It is a Wetland of High Conservation Value as determined by the Department of Natural Resources						
Note that the second of th						
Shoreline Master Plan, or in a watershed plan						
Site has 1 or 2 priority habitats within 100 m (see Appendix B)  Site does not most any of the criteria above						
Site does not meet any of the criteria above points = 0  Peting of Value   If score is: 2 = H						

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

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater	
input.	
N Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.	
Surface water is present for less than 120 days during the wet season.	
Yes – Go to SC 1.1 No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? Yes = Category II No = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the	
wetland can be classified as "alkali" species (see Table 4 for list of plants found in alkali systems).	
salt.	
OR does the wetland unit meet two of the following three sub-criteria?	
Salt encrustations around more than 75% of the edge of the wetland	
★ More than ¾ of the plant cover consists of species listed on Table 4	
★ A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands	
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cat. I
Yes = Category I No= Not an alkali wetland	
SC 3.0. Wetlands of High Conservation Value (WHCV)	
SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV SC 3.4. Has WDNR identified the wetland within the $S/T/R$ as a Wetland of High Conservation Value and it is listed	

SC 4.0 Bogs and Calcareous Fens			
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or			
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes			
you will still need to rate the wetland based on its functions.			
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or			
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field key to			
identify organic soils. Yes – Go to SC 4.3 No – Go to SC 4.2			
SC 4.2. Does an area within the wetland 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 <b>SC 4.3</b> No = <b>Is not a bog for rating</b>			
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of			
_			
the total plant cover consists of species in Table 5? Yes = <b>Category I bog</b> No – Go to <b>SC 4.4</b>			
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion			
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0			
and the plant species in Table 5 are present, the wetland is a bog.			
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western			
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species	Cat. I		
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cut. I		
Yes = <b>Category I bog</b> No – Go to <b>SC 4.5</b>			
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and			
mucks? Yes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6			
SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks,			
AND one of the two following conditions is met:			
Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems	Cat. I		
★ The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	3		
wetland Yes = Is a Category I calcareous fen No = Is not a calcareous fen			
Tes is a category i calcule coustern into - is not a calcule coustern			

SC 5.0. Forested Wetlands			
Does the wetland have an area of forest rooted within its boundary that meets at least one of			
the following three criteria? (Continue only if you have identified that a forested class is present			
in question H 1.1)			
Y The wetland is within the 100 year floodplain of a river or stream			
★ Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species			
Y There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are "mature" or			
"old-growth" according to the definitions for these priority habitats developed by WDFW			
(see definitions in question H3.1)			
Yes – Go to SC 5.1 No = Not a forested wetland with special characteristics			
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow			
growing native trees (see Table 7)? Yes = Category I No – Go to SC 5.2			
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover			
of woody species? Yes = Category I No – Go to SC 5.3			
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by	Cat. II		
cover) are fast growing species (see Table 7)? Yes = Category II No – Go to SC 5.4			
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	Cat. II		
Yes = Category II No = Not a forested wetland with special characteristics			
Category of wetland based on Special Characteristics			
Choose the highest rating if wetland falls into several categories			
If you answered No for all types, enter "Not Applicable" on Summary Form			

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

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

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

- **X** Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- \*\*Old-growth/Mature forests: Old-growth east of Cascade crest \_ Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. 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 and 80-160 years old east of the Cascade crest.
- **K Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **K Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **K** 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.
- **K** 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.
- **X** Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- \* Talus: Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- K 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 > 12 in (30 cm)in eastern 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.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **K** Eastside Steppe: Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **X Iuniper Savannah:** All juniper woodlands.

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

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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): WT-104	Date of site visit: 6/28/22					
Rated by Jess Taylor and Katie Pyne	_ Trained by Ecology?	Yes X No Date of training				
HGM Class used for rating Riverine	ltiple HGM classes?Y XN					
NOTE: Form is not complete without Source of base aerial photo/map _	• •	gures can be combined).				
OVERALL WETLAND CATEGORY 1	V (based on function	s or special characteristics )				

## 1. Category of wetland based on FUNCTIONS

	Category I — Total score = 22-27
	Category II - Total score = 19-21
	Category III — Total score = 16-18
Χ	Category IV – Total score = 9-15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
			Circle	the a	ppropi	iate ro	atings	;		
Site Potential	Н	М	L	Н	M	L	Н	M	L	
Landscape Potential	Н	M	L	Н	M	L	H	М	L	
Value	Н	М	L	Н	М	L	Н	М	L	TOTAL
Score Based on Ratings	4		4 5			6		15		

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H 8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY Circle the appropriate category	
Vernal Pools	II III	
Alkali	I	
Wetland of High Conservation Value	I	
Bog and Calcareous Fens	I	
Old Growth or Mature Forest – slow growing	I	
Aspen Forest	I	
Old Growth or Mature Forest – fast growing	II	
Floodplain forest	II	
None of the above		

## Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

#### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

#### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

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

For questions 1-4, 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 1-4 apply, and go to Question 5.

1.	Does the entire unit <b>meet both</b> of the following criteria? The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size At least 30% of the open water area is deeper than 10 ft (3 m)
	NO – go to 2 YES – The wetland class is Lake Fringe (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks; The water leaves the wetland <b>without being impounded</b> .
	NO - go to 3  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 foot deep).
3.	Does the entire wetland unit <b>meet all</b> 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 10 years.
	NO - go to 4 YES – The wetland class is <b>Riverine NOTE:</b> The Riverine wetland can contain depressions that are filled with water when the river is not flooding.
4.	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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	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 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND 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 wetland 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 (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

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.

DEDDESSIONAL WITT ANDS	Points
<u>DEPRESSIONAL WETLANDS</u>	(only 1
Water Quality Functions - Indicators that the site functions to improve water quality	score per
	box)
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 has no surface water outlet points = 5	
Wetland has an intermittently flowing outlet points = 3	
Wetland has a highly constricted permanently flowing outlet points = 3	
Wetland has a permanently flowing, unconstricted, surface outlet points = 1	
D 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic <i>(use NRCS definitions of soils)</i> YES = 3 NO = 0	
D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)	
Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area points = 5	
Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area points = 3	
Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area points = 1	
Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	
This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.	
Area seasonally ponded is > ½ total area of wetland points = 3	
Area seasonally ponded is ¼ - ½ total area of wetland points = 1	
Area seasonally ponded is < 1/4 total area of wetland points = 0	
Total for D 1 Add the points in the boxes above	
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on t	he first page
	, ,
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0	
D 2.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Ves = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Ves = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0	he first page
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1-D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above	he first page
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  D 3.0. Is the water quality improvement provided by the site valuable to society?	he first page
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1-D 2.3? Source  Yes = 1 No = 0  Yes = 1 No = 0  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  Record the rating on to	he first page
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is: 3 or 4 = H 1 or 2 = M 0 = L  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, or lake that is on the 303(d) list?  Yes = 1 No = 0	he first page
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1-D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?	he first page
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1-D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:  3 or 4 = H  1 or 2 = M  0 = L  Record the rating on to the stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0  D 3.0. Is the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list,	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1-D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  Parallel Record the rating on to the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?  Yes = 1 No = 0	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1-D 2.3? Source  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is: 3 or 4 = H 1 or 2 = M 0 = L  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, or lake that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES)	

<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.	per box)
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 has no surface water outlet  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing unconstricted surface outlet  (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")	
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 deepest part (if dry).  Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding points = 8 Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent pondingpoints = 1 The wetland is a headwater wetland points = 4 Seasonal ponding: 1 ft - < 2 ft points = 4 Seasonal ponding: 6 in - < 1 ft points = 5 Seasonal ponding: < 6 in or wetland has only saturated soils  Total for D 4 Add the points in the boxes above	6
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on	
Nating of Site Potential 11 Score 1512 10 - 110 11 - 1010 3 - 2	ine jii si page
D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	1
D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff? Yes = 1 No = 0	
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 No = 0	1
Total for D 5 Add the points in the boxes above	
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on	the first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The wetland is in a landscape that has flooding problems.  Choose the description that best matches conditions around the wetland being rated. Do not add points.  Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND  Flooding occurs in sub-basin that is immediately down-gradient of wetland  Surface flooding problems are in a sub-basin farther down-gradient  points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.	
Explain why points = 0	1
There are no problems with flooding downstream of the wetland points = 0	)
D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?  Yes = 2 No = 0	
Total for D 6 Add the points in the boxes above	
Rating of Value If score is:2-4 = H1 = M0 = L Record the rating on	the first page

**DEPRESSIONAL WETLANDS** 

Points

RIVERINE WETLANDS		Points
Water Quality Functions - Indicators that the site functions to improve water	quality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a	flooding event:	1
Depressions cover > 1/3 area of wetland	points = 6	'
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	
Depressions present but cover < 1/10 area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; not Cowardin	n classes):	2
Forest or shrub $> \frac{2}{3}$ the area of the wetland	points = 10	~
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	
Ungrazed, herbaceous plants > 2/3 area of wetland	points = 5	
Ungrazed herbaceous plants $^{1}/_{3} - ^{2}/_{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous < 1/3 area of wetland	points = 0	
Total for R 1 Add the points	in the boxes above	3

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

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function o	f the site?	
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that within the last 5 years?	t have been clearcut Yes = 1 No = 0	1
R 2.4. Is > 10% of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in querical R 2.1-R 2.4? Source	estions Yes = 1 No = 0	0
Total for R 2 Add the point	ts in the boxes above	1

Rating of Landscape Potential If score is: \_\_\_3-6 = H \_\_\_1 or 2 = M \_\_\_0 = L Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?		0
	Yes = 1 No = 0	
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water YES if there is a TMDL for the drainage in which wetland is found.	vater quality? Answer Yes = 2 No = 0	0
Total for R 3 Add the point	ts in the boxes above	0

<u>Rating of Value</u> If score is: \_\_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce flo	ooding and stream erosion	(only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?		·
R 4.1. Characteristics of the overbank storage the wetland provides:		4
Estimate the average width of the wetland perpendicular to the direction	of the flow and the width of the	4
stream or river channel (distance between banks). Calculate the ratio: (a	verage width of wetland)/(average	
width of stream between banks).		
If the ratio is more than 2	points = 10	
If the ratio is 1-2	points = 8	
If the ratio is ½-<1	points = 4	
If the ratio is $\frac{1}{4}$ -< $\frac{1}{2}$	points = 2	
If the ratio is < ¼	points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: T	reat large woody debris as forest or	2
shrub. Choose the points appropriate for the best description (polygons i	need to have > 90% cover at person	_
height. These are NOT Cowardin classes).		
Forest or shrub for more than $^2/_3$ the area of the wetland	points = 6	
Forest or shrub for $> \frac{1}{3}$ area OR emergent plants $> \frac{2}{3}$ area	points = 4	
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area	points = 2	
Plants do not meet above criteria	points = 0	
Total for R 5	Add the points in the boxes above	6
Rating of Site Potential If score is:12-16 = H6-11 = M0-5 = L	Record the rating on t	he first page
R 5.0. Does the landscape have the potential to support the hydrologic f	functions of the site?	
R 5.1. Is the stream or river adjacent to the wetland downcut?	Yes = 0 No = 1	
·		1
R 5.2. Does the up-gradient watershed include a UGA or incorporated area?	Yes = 1 No = 0	0
R 5.3. Is the up-gradient stream or river controlled by dams?	Yes = 0 No = 1	1
Total for R 5	Add the points in the boxes above	2
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L	Record the rating on t	he first page
R 6.0. Are the hydrologic functions provided by the site valuable to socie	ety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems?	Choose the description that best fits	
the site.	,	0
The sub-basin immediately down-gradient of site has surface flooding programmed to the sub-basin immediately down-gradient of site has surface flooding programmed to the sub-basin immediately down-gradient of site has surface flooding programmed to the sub-basin immediately down-gradient of site has surface flooding programmed to the sub-basin immediately down-gradient of site has surface flooding programmed to the sub-basin immediately down-gradient of site has surface flooding programmed to the sub-basin immediately down-gradient of site has surface flooding programmed to the sub-basin immediately down-gradient of site has surface flooding programmed to the sub-basin immediately down-gradient of site has surface flooding programmed to the sub-basin immediately down-gradient of site has surface flooding programmed to the sub-basin immediately down-gradient of site has surface flooding to the sub-basin immediately down-gradient of site has surface flooding to the sub-basin immediately down-gradient of site has surface flooding to the sub-basin immediately down-gradient of site has sub-basin immediately down-gradient	roblems that result in damage to	
human or natural resources	points = 2	
Surface flooding problems are in a basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
R 6.2. Has the site been identified as important for flood storage or flood conve	ovance in a regional flood control	
plan?	Yes = 2 No = 0	0
·		
Total for R 6	Add the points in the boxes above	0
Rating of Value If score is: 2-4 = H 1 = M 0 = L	Record the rating on t	he first paae

LAKE FRINGE WETLANDS		Points
Water Quality Functions - Indicators that the site functions to improve water qua	ality.	(only 1 score per box)
L 1.0. Does the site have the potential to improve water quality?		
L 1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes):		
Plants are more than 33 ft (10 m) wide	points = 6	
Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide	points = 3	
Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide	points = 1	
Plants are less than 6 ft wide	points = 0	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results	in the highest	
points, and do not include any open water in your estimate of coverage. The herbaceous pla		
the dominant form or as an understory in a shrub or forest community. These are not Cowar		
of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include a	quatic bed.	
Cover of herbaceous plants is > 90% of the vegetated area	points = 6	
Cover of herbaceous plants is $> \frac{2}{3}$ of the vegetated area	points = 4	
Cover of herbaceous plants is $> \frac{1}{3}$ of the vegetated area	points = 3	
Other plants that are not aquatic bed $> \frac{2}{3}$ wetland	points = 3	
Other plants that are not aquatic bed in $> \frac{1}{3}$ vegetated area	points = 1	
Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland	points = 0	
Total for L 1 Add the points in the	ne boxes above	

<u>Rating of Site Potential</u> If score is: \_\_\_\_8-12 = H \_\_\_\_4-7 = M \_\_\_\_0-3 = L

Record the rating on the first page

L 2.0. Does the landscape have the potential to support the water quality function of the site?		
L 2.1. Is the lake used by power boats?	Yes = 1 No = 0	
L 2.2. Is > 10% of the area within 150 ft of wetland on the upland side in land uses	that generate pollutants?  Yes = 1 No = 0	
L 2.3. Does the lake have problems with algal blooms or excessive plants such as m	ilfoil? Yes = 1 No = 0	
Total for L 2 Ad	d the points in the boxes above	

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

Record the rating on the first page

L 3.0. Is the water quality improvement provided by the site valuable to so	ciety?	
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources?	Yes = 1 No = 0	
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aquation 303(d) list)?	c resource in the basin is on the Yes = 1 No = 0	
L 3.3. Has the site been identified in a watershed or local plan as important for ma YES if there is a TMDL for the lake or basin in which wetland is found.	intaining water quality? <i>Answer</i> Yes = 2 No = 0	
Total for L 3 Ad	d the points in the boxes above	

<u>Rating of Value</u> If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

LAKE FRINGE WETLANDS  Hydrologic Functions - Indicators that the wetland unit functions to reduce shore	eline erosion	Points (only 1 score per box)
L 4.0. Does the site have the potential to reduce shoreline erosion?		
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore ( <b>do not</b> inc Choose the highest scoring description that matches conditions in the wetland.	clude Aquatic Bed):	
> ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 6	
> ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide	points = 4	
> ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 4	
Plants are at least 6 ft (2 m) wide (do not include Aquatic Bed)	points = 2	
Plants are less than 6 ft (2 m) wide (do not include Aquatic Bed)	points = 0	
Poting of Site Potential If soons is: C-M OF-I	locard the rating on	the first name

Rating of Site Potential If score is: \_\_\_\_6 = M \_\_\_\_0-5 = L

Record the rating on the first page

L 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0	
L 5.2. Is the fetch on the lake side of the wetland at least 1 mile in distance?	Yes = 1 No = 0	
Total for L 5	Add the points in the boxes above	

Rating of Landscape Potential If score is: 2 = H 1 = M 0 = L

Record the rating on the first page

L 6.0. Are the hydrologic functions provided by the site valuable to society?	
L 6.1. Are there resources, both human and natural, along the shore that can be impacted by erosion of the shore than one resource is present, choose the one with the highest score.  There are human structures or old growth/mature forests within 25 ft of OHWM of the shore wetland	
	points = 2
There are nature trails or other paths and recreational activities within 25 ft of OHWM	points = 1
Other resources that could be impacted by erosion	points = 1
There are no resources that can be impacted by erosion along the shores of the wetland	points = 0

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

Record the rating on the first page

**NOTES and FIELD OBSERVATIONS:** 

SLOPE WETLANDS	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of average slope of wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
Slope is 1% or less points = 3	
Slope is > 1% - 2% points = 2	
Slope is > 2% - 5% points = 1	
Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (use NRCS definitions): Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.  Dense, uncut, herbaceous plants > 90% of the wetland area  points = 6	
Dense, uncut, herbaceous plants > ½ of area points = 3	
Dense, woody, plants > ½ of area points = 2	
Dense, uncut, herbaceous plants > ¼ of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L Record the rating on t	he first page
S 2.0. Does the landscape have the potential to support the water quality function at the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources Yes = 1 No = 0	
Total for S 2 Add the points in the boxes above	
Rating of Landscape Potential If score is:1-2 = M0 = L Record the rating on to	he first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (within 1 mi)?  Yes = 1 No = 0	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list.  Yes = 1 No = 0	
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which wetland is found)? Yes = 2 No = 0	
Total for S 3 Add the points in the boxes above	
Rating of Value If score is: 2-4 = H 1 = M 0 = L Record the rating on t	he first page

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and	nd erosion	Points (only 1 score per box)
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose appropriate for the description that best fits conditions in the wetland. Stems of plants enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.  Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		
Rating of Site Potential If score is:1 = M0 = L	Record the rating on t	he first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the	ne site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that general runoff?	te excess surface Yes = 1 No = 0	
Rating of Landscape Potential If score is:1 = M0 = L	Record the rating on t	he first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has surface flooding problems that re human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream	points = 2 points = 1 points = 0	
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a replan?	egional flood control $Yes = 2  No = 0$	
Total for S 6 Add the point	s in the boxes above	

Rating of Value If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	score per box)
H 1.0. Does the wetland have the potential to provide habitat for many species?	-
H 1.1. Structure of the plant community:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% cover  Emergent plants > 40 in (> 100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs have >30% cover)  Forested (areas where trees have >30% cover)  2 checks: points = 1  1 check: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	0
H 1.3. Surface water  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR  10% of its area during the March to early June OR in August to the end of September? Answer YES  for Lake Fringe wetlands.  Yes = 3 points & go to H 1.4 No = go to H 1.3.2  H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries,  or along one side, over at least ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Yes = 3 No = 0	3
H 1.4. 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. You do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species 6  Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0	1
H 1.5. Interspersion of habitats  Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. 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	Figure2
All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	

H 1.6. Special habitat features	1
Check the habitat features that are present in the wetland. The number of checks is the number of points.	'
Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface	
ponding or in stream.	
Cattails or bulrushes are present within the wetland.	
Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.	
Emergent or shrub vegetation in areas that are permanently inundated/ponded.  Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree	
slope) OR signs of recent beaver activity	
× Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	8
Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Record the rating on the first page	1
Mating of Site Fotential In Score is13-10-117-14-1010-0-1 necord the ruting on the first page	
H 2.0. Does the landscape have the potential to support habitat functions of the site?	
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:	2
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses})/2 + 50 + (\% \text{ moderate and low intensity land uses})/2 + 50 + (\% \text{ moderate and low intensity land uses})/2 + (\%  moderate and low intensity land$	3
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $\frac{0}{0}$ + [(% moderate and low intensity land uses)/2] $\frac{50}{0}$ = $\frac{50}{0}$ %	3
1	
Undisturbed habitat 10 - 50% and in 1-3 patches  Points = 2	
Undisturbed habitat 10 - 50% and > 3 patches points = 1	
Undisturbed habitat < 10% of Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon:	0
> 50% of Polygon is high intensity land use points = (-2)	
Does not meet criterion above points = 0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by	0
irrigation practices, dams, or water control structures. <i>Generally, this means outside boundaries of</i>	
reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	6
Rating of Landscape Potential If score is: 4-9 = H -1-3 = M -< 1 = L Record the rating on the first page	
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose the highest score</i>	0
that applies to the wetland being rated	
Site meets ANY of the following criteria: points = 2	
* It has 3 or more priority habitats within 100 m (see Appendix B)	
8 It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)	
* It is mapped as a location for an individual WDFW species	
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
8 It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shareline Mester Plan, an in a contempla during	
Shoreline Master Plan, or in a watershed plan	
Site has 1 or 2 priority habitats within 100 m (see Appendix B)  Site does not most any of the criteria above	
Site does not meet any of the criteria above points = 0	
Rating of Value If score is: 2 = H 1 = M 0 = L Record the rating on the first page	

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

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater	
input.	
N Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.	
Surface water is present for less than 120 days during the wet season.	
Yes – Go to SC 1.1 No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? Yes = Category II No = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the	
wetland can be classified as "alkali" species (see Table 4 for list of plants found in alkali systems).	
salt.	
OR does the wetland unit meet two of the following three sub-criteria?	
Salt encrustations around more than 75% of the edge of the wetland	
★ More than ¾ of the plant cover consists of species listed on Table 4	
★ A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands	
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cat. I
Yes = Category I No= Not an alkali wetland	
SC 3.0. Wetlands of High Conservation Value (WHCV)	
SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV SC 3.4. Has WDNR identified the wetland within the $S/T/R$ as a Wetland of High Conservation Value and it is listed	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes	
you will still need to rate the wetland based on its functions.	
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or	
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field key to	
identify organic soils. Yes – Go to <b>SC 4.3</b> No – Go to <b>SC 4.2</b>	
SC 4.2. Does an area within the wetland 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 <b>SC 4.3</b> No = <b>Is not a bog for rating</b>	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of	
the total plant cover consists of species in Table 5? Yes = Category I bog No – Go to SC 4.4	
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	00.00
Yes = Category I bog No – Go to SC 4.5	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and	
mucks? Yes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6	
SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks,	
AND one of the two following conditions is met:	
Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems	Cat. I
$\aleph$ The pH of free water is $\ge 6.8$ AND electrical conductivity is $\ge 200$ uS/cm at multiple locations within the	
wetland Yes = Is a Category I calcareous fen No = Is not a calcareous fen	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present	
in question H 1.1)	
Y The wetland is within the 100 year floodplain of a river or stream	
★ Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species	
Y There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for these priority habitats developed by WDFW	
(see definitions in question H3.1)	
Yes – Go to SC 5.1 No = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? Yes = Category I No – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	
of woody species? Yes = Category I No – Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by	Cat. II
cover) are fast growing species (see Table 7)? Yes = Category II No – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	
Yes = Category II No = Not a forested wetland with special characteristics	
Category of wetland based on Special Characteristics	
Choose the highest rating if wetland falls into several categories	
If you answered No for all types, enter "Not Applicable" on Summary Form	

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

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

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

- **X** Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- \*\*Old-growth/Mature forests: Old-growth east of Cascade crest \_ Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. 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 and 80-160 years old east of the Cascade crest.
- **K Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **K Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **K** 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.
- **K** 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.
- **X** Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- \* Talus: Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- K 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 > 12 in (30 cm)in eastern 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.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **K** Eastside Steppe: Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **X Iuniper Savannah:** All juniper woodlands.

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

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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): WT-105	Date of site visit: 6/28/22
Rated by Jess Taylor and Katie Pyne	_Trained by Ecology? Yes <sup>X</sup> No Date of training
HGM Class used for rating Riverine	Wetland has multiple HGM classes? Y X N
NOTE: Form is not complete without Source of base aerial photo/map _	the figures requested (figures can be combined).
OVERALL WETLAND CATEGORY	V (based on functions or special characteristics )

## 1. Category of wetland based on FUNCTIONS

	Category I — Total score = 22-27
	_Category II - Total score = 19-21
	_Category III - Total score = 16-18
X	Category IV — Total score = 9-15

FUNCTION	Improving Water Quality		Hydrologic		Habitat					
			Circle	the a	ppropi	iate ro	atings	;		
Site Potential	Н	М	L	Н	M	L	Н	M	L	
Landscape Potential	Н	M	L	Н	M	L	H	М	L	
Value	Н	М	L	Н	М	L	Н	М	L	TOTAL
Score Based on Ratings		4			5			6		15

## Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY Circle the appropriate category		
Vernal Pools	II III		
Alkali	I		
Wetland of High Conservation Value	I		
Bog and Calcareous Fens	I		
Old Growth or Mature Forest – slow growing	I		
Aspen Forest	I		
Old Growth or Mature Forest – fast growing	II		
Floodplain forest	II		
None of the above			

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

## **Riverine Wetlands**

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

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

For questions 1-4, 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 1-4 apply, and go to Question 5.

1.	Does the entire unit <b>meet both</b> of the following criteria? The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size At least 30% of the open water area is deeper than 10 ft (3 m)
	NO – go to 2 <b>YES –</b> The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks; The water leaves the wetland <b>without being impounded</b> .
	NO - go to 3  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 foot deep).
3.	Does the entire wetland unit <b>meet all</b> 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 10 years.
	NO - go to 4 YES - The wetland class is <b>Riverine NOTE:</b> The Riverine wetland can contain depressions that are filled with water when the river is not flooding.
4.	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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	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 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND 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 wetland 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 (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

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.

<u>DEPRESSIONAL WETLANDS</u> Water Quality Functions - Indicators that the site functions to improve water quality	Points (only 1 score per
D 1.0. Does the site have the potential to improve water quality?	box)
D 1.1. Characteristics of surface water outflows from the wetland:	
Wetland has no surface water outlet points = 5	
Wetland has an intermittently flowing outlet points = 3	
Wetland has a highly constricted permanently flowing outlet points = 3	
Wetland has a permanently flowing, unconstricted, surface outlet points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)  YES = 3 NO = 0	
D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)	
Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area points = 5	
Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area points = 3	
Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area points = 1	
Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	
This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.	
Area seasonally ponded is > ½ total area of wetland points = 3	
Area seasonally ponded is ¼ - ½ total area of wetland points = 1	
Area seasonally ponded is < 1/4 total area of wetland points = 0	
Total for D 1 Add the points in the boxes above	
Rating of Site Potential If score is:12- 16 = H6- 11 = M 0- 5 = L Record the rating on the	ne 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 receive stormwater discharges? Yes = 1 No = 0	
D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
D 2.3. Are there septic systems within 250 ft of the wetland?	
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions	
D 2.1- D 2.3? Source Yes = 1 No = 0	
Total for D 2 Add the points in the boxes above	
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the	he first nage
	ie jii st page
D 3.0. Is the water quality improvement provided by the site valuable to society?	le jii st page
D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?	le jii st page
	ie jii st page
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?	ie jii st page
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list,	ie jii st page
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?  Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES)	ie jii st page

<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.	per box)
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 has no surface water outlet  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing unconstricted surface outlet  (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")	
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 deepest part (if dry).  Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding points = 8 Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent pondingpoints = 1 The wetland is a headwater wetland points = 4 Seasonal ponding: 1 ft - < 2 ft points = 4 Seasonal ponding: 6 in - < 1 ft points = 5 Seasonal ponding: < 6 in or wetland has only saturated soils  Total for D 4 Add the points in the boxes above	6
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on	
Nating of Site Potential 11 Score 1512 10 - 110 11 - 1010 3 - 2	ine jii si page
D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	1
D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff? Yes = 1 No = 0	
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 No = 0	1
Total for D 5 Add the points in the boxes above	
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on	the first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The wetland is in a landscape that has flooding problems.  Choose the description that best matches conditions around the wetland being rated. Do not add points.  Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND  Flooding occurs in sub-basin that is immediately down-gradient of wetland  Surface flooding problems are in a sub-basin farther down-gradient  points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.	
Explain why points = 0	1
There are no problems with flooding downstream of the wetland points = 0	)
D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?  Yes = 2 No = 0	
Total for D 6 Add the points in the boxes above	
Rating of Value If score is:2-4 = H1 = M0 = L Record the rating on	the first page

**DEPRESSIONAL WETLANDS** 

Points

RIVERINE WETLANDS		Points
Water Quality Functions - Indicators that the site functions to imp	rove water quality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sedin	nents during a flooding event:	1
Depressions cover > 1/3 area of wetland	points = 6	'
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):		2
Forest or shrub $> \frac{2}{3}$ the area of the wetland	points = 10	2
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
Total for R 1	dd the points in the boxes above	3

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

Record the rating on the first page

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that within the last 5 years?	t have been clearcut Yes = 1 No = 0	1
R 2.4. Is > 10% of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in querical R 2.1-R 2.4? Source	estions Yes = 1 No = 0	0
Total for R 2 Add the point	ts in the boxes above	1

Rating of Landscape Potential If score is: \_\_\_3-6 = H \_\_\_1 or 2 = M \_\_\_0 = L Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drami?	ains to one within 1	0
	Yes = 1 No = 0	
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	0
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water YES if there is a TMDL for the drainage in which wetland is found.	vater quality? Answer Yes = 2 No = 0	0
Total for R 3 Add the point	ts in the boxes above	0

<u>Rating of Value</u> If score is: \_\_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

RIVERINE WETLANDS	Points
Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion	(only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	
R 4.1. Characteristics of the overbank storage the wetland provides:	4
Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the	7
stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average	
width of stream between banks).	
If the ratio is more than 2 points = 10	
If the ratio is 1-2 points = 8	
If the ratio is ½-<1 points = 4	
If the ratio is ¼-< ½ points = 2	
If the ratio is < 1/4 points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: <i>Treat large woody debris as forest or</i>	2
shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person	
height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland points = 6	
Forest or shrub for more than $^2/_3$ the area of the wetland points = 6 Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area points = 4	
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{10}$ area points = 2	
	_
Total for R 5 Add the points in the boxes above	6
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on to	he first page
R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
R 5.1. Is the stream or river adjacent to the wetland downcut?  Yes = 0 No = 1	1
R 5.2. Does the up-gradient watershed include a UGA or incorporated area? Yes = 1 No = 0	0
R 5.3. Is the up-gradient stream or river controlled by dams? Yes = 0 No = 1	1
Total for R 5 Add the points in the boxes above	2
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on to	he first page
R 6.0. Are the hydrologic functions provided by the site valuable to society?	
R 6.1. Distance to the nearest areas downstream that have flooding problems? Choose the description that best fits	
the site.	0
The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to	
human or natural resources points = 2	
Surface flooding problems are in a basin farther down-gradient points = 1	
No flooding problems anywhere downstream points = 0	
R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control	<del>                                     </del>
plan?  Yes = 2 No = 0	
plaii:	0

Rating of Value If score is: \_\_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

Water Quality Functions - Indicators that the site functions to improve water quality.  L1.0. Does the site have the potential to improve water quality?  L1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes):  Plants are more than 33 ft (10 m) wide  Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide  Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide  Plants are less than 6 ft wide  Definition of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is > 90% of the vegetated area  Cover of herbaceous plants is > 1/3 of the vegetated area  Cover of herbaceous plants is > 1/3 of the vegetated area  Other plants that are not aquatic bed in > 1/3 wetland  Other plants that are not aquatic bed in > 1/3 wegetated area  Points = 1  Aquatic bed plants and open water cover > 2/3 of the wetland  Add the points in the boxes above	LAKE FRINGE WETLANDS		Points
L 1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes):  Plants are more than 33 ft (10 m) wide  Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide  Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide  Plants are less than 6 ft wide  Definition of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is > 90% of the vegetated area  Cover of herbaceous plants is > ½, a of the vegetated area  Points = 4  Cover of herbaceous plants is > ½, a of the vegetated area  Other plants that are not aquatic bed in > ½, a wetland  Other plants that are not aquatic bed in > ½, a wetland  Other plants that are not aquatic bed in > ½, a wetland  Other plants that are not aquatic bed in > ½, a wetland  Other plants and open water cover > ½, a of the wetland  Points = 0	Water Quality Functions - Indicators that the site functions to improve	ve water quality.	
Plants are more than 33 ft (10 m) wide points = 6 Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide points = 3 Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide points = 1 Plants are less than 6 ft wide points = 0  L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is > 90% of the vegetated area points = 6  Cover of herbaceous plants is $> \frac{2}{3}$ of the vegetated area points = 3 Other plants that are not aquatic bed $> \frac{2}{3}$ wetland points = 1 Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland points = 0	L 1.0. Does the site have the potential to improve water quality?		
Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide points = 3 Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide points = 1 Plants are less than 6 ft wide points = 0  L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is > 90% of the vegetated area points = 6  Cover of herbaceous plants is > $^2$ / <sub>3</sub> of the vegetated area points = 3  Other plants that are not aquatic bed > $^2$ / <sub>3</sub> wetland points = 3  Other plants that are not aquatic bed in > $^1$ / <sub>3</sub> vegetated area points = 1  Aquatic bed plants and open water cover > $^2$ / <sub>3</sub> of the wetland points = 0	L 1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes	):	
Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide points = 1 Plants are less than 6 ft wide points = 0  L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is $> 90\%$ of the vegetated area points = 4  Cover of herbaceous plants is $> \frac{2}{3}$ of the vegetated area points = 3  Other plants that are not aquatic bed $> \frac{2}{3}$ wetland points = 3  Other plants that are not aquatic bed in $> \frac{1}{3}$ vegetated area points = 1  Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland points = 0	Plants are more than 33 ft (10 m) wide	points = 6	
Plants are less than 6 ft wide points = 0  L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is > 90% of the vegetated area points = 6  Cover of herbaceous plants is > $^2$ / $_3$ of the vegetated area points = 3  Other plants that are not aquatic bed > $^2$ / $_3$ wetland points = 3  Other plants that are not aquatic bed in > $^1$ / $_3$ vegetated area points = 1  Aquatic bed plants and open water cover > $^2$ / $_3$ of the wetland points = 0	Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide	points = 3	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is $> 90\%$ of the vegetated area points = 6  Cover of herbaceous plants is $> ^2/_3$ of the vegetated area points = 3  Other plants that are not aquatic bed in $> ^1/_3$ wegetated area points = 1  Aquatic bed plants and open water cover $> ^2/_3$ of the wetland points = 0	Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide	points = 1	
points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is $> 90\%$ of the vegetated area points = 6  Cover of herbaceous plants is $> ^2/_3$ of the vegetated area points = 3  Other plants that are not aquatic bed $> ^2/_3$ wetland points = 3  Other plants that are not aquatic bed in $> ^1/_3$ vegetated area points = 1  Aquatic bed plants and open water cover $> ^2/_3$ of the wetland points = 0	Plants are less than 6 ft wide	points = 0	
the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is $> 90\%$ of the vegetated area points = 6  Cover of herbaceous plants is $> ^2/_3$ of the vegetated area points = 3  Other plants that are not aquatic bed $> ^2/_3$ wetland points = 3  Other plants that are not aquatic bed in $> ^1/_3$ vegetated area points = 1  Aquatic bed plants and open water cover $> ^2/_3$ of the wetland points = 0	L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest		
of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is $> 90\%$ of the vegetated area points = 6  Cover of herbaceous plants is $> ^2/_3$ of the vegetated area points = 4  Cover of herbaceous plants is $> ^1/_3$ of the vegetated area points = 3  Other plants that are not aquatic bed $> ^2/_3$ wetland points = 3  Other plants that are not aquatic bed in $> ^1/_3$ vegetated area points = 1  Aquatic bed plants and open water cover $> ^2/_3$ of the wetland points = 0	points, and do not include any open water in your estimate of coverage. The h	nerbaceous plants can be either	
Cover of herbaceous plants is $> 90\%$ of the vegetated area points = 6  Cover of herbaceous plants is $> ^2/_3$ of the vegetated area points = 4  Cover of herbaceous plants is $> ^1/_3$ of the vegetated area points = 3  Other plants that are not aquatic bed $> ^2/_3$ wetland points = 3  Other plants that are not aquatic bed in $> ^1/_3$ vegetated area points = 1  Aquatic bed plants and open water cover $> ^2/_3$ of the wetland points = 0	·		
Cover of herbaceous plants is $> ^2/_3$ of the vegetated area points = 4  Cover of herbaceous plants is $> ^1/_3$ of the vegetated area points = 3  Other plants that are not aquatic bed $> ^2/_3$ wetland points = 3  Other plants that are not aquatic bed in $> ^1/_3$ vegetated area points = 1  Aquatic bed plants and open water cover $> ^2/_3$ of the wetland points = 0		s not include aquatic bed.	
Cover of herbaceous plants is $> \frac{1}{3}$ of the vegetated area points = 3  Other plants that are not aquatic bed $> \frac{2}{3}$ wetland points = 3  Other plants that are not aquatic bed in $> \frac{1}{3}$ vegetated area points = 1  Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland points = 0		points = 6	
Other plants that are not aquatic bed > $^2/_3$ wetland points = 3  Other plants that are not aquatic bed in > $^1/_3$ vegetated area points = 1  Aquatic bed plants and open water cover > $^2/_3$ of the wetland points = 0	· · · · · · · · · · · · · · · · · · ·	points = 4	
Other plants that are not aquatic bed in $> \frac{1}{3}$ vegetated area points = 1  Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland points = 0	· · · · · · · · · · · · · · · · · · ·	points = 3	
Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland points = 0	· · · · · · · · · · · · · · · · · · ·	points = 3	
		points = 1	
Total for L 1 Add the points in the boxes above	Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland	points = 0	
	Total for L 1 Add the points in the boxes above		

Rating of Site Potential If score is: 8-12 = H 4-7 = M 0-3 = L

Record the rating on the first page

L 2.0. Does the landscape have the potential to support the water quality function of the site?	
L 2.1. Is the lake used by power boats?	Yes = 1 No = 0
L 2.2. Is > 10% of the area within 150 ft of wetland on the upland side in land uses that generate pollutants?	
	Yes = 1 No = 0
L 2.3. Does the lake have problems with algal blooms or excessive plants such as milfoil?	Yes = 1 No = 0
Total for L 2 Add the	points in the boxes above

Rating of Landscape Potential If score is: \_\_\_2 or 3 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

L 3.0. Is the water quality improvement provided by the site valuable to society?		
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources?	Yes = 1 No = 0	
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aquatic resource in the basin is on the 303(d) list)?  Yes = 1 No = 0		
L 3.3. Has the site been identified in a watershed or local plan as important for ma YES if there is a TMDL for the lake or basin in which wetland is found.	intaining water quality? <i>Answer</i> Yes = 2 No = 0	
Total for L 3 Ad	d the points in the boxes above	

<u>Rating of Value</u> If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

LAKE FRINGE WETLANDS  Hydrologic Functions - Indicators that the wetland unit functions to reduce shoreline erosic	Points (only 1 score per box)
L 4.0. Does the site have the potential to reduce shoreline erosion?	
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore ( <b>do not</b> include Aquatic Choose the highest scoring description that matches conditions in the wetland.  > ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide  > ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide  > ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide  Plants are at least 6 ft (2 m) wide (do not include Aquatic Bed)  Plants are less than 6 ft (2 m) wide (do not include Aquatic Bed)  points =	= 6 = 4 = 4 = 2

Rating of Site Potential If score is: \_\_\_\_6 = M \_\_\_\_0-5 = L

Record the rating on the first page

L 5.0. Does the landscape have the potential to support hydrologic functions of the site?						
L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0					
L 5.2. Is the fetch on the lake side of the wetland at least 1 mile in distance?	Yes = 1 No = 0					
Total for L 5	Add the points in the boxes above					

Rating of Landscape Potential If score is: \_\_\_2 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

L 6.0. Are the hydrologic functions provided by the site valuable to society?				
L 6.1. Are there resources, both human and natural, along the shore that can be impacted by erosion?  If more than one resource is present, choose the one with the highest score.  There are human structures or old growth/mature forests within 25 ft of OHWM of the shore in the wetland				
	points = 2			
There are nature trails or other paths and recreational activities within 25 ft of OHWM	points = 1			
Other resources that could be impacted by erosion	points = 1			
There are no resources that can be impacted by erosion along the shores of the wetland	points = 0			

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

Record the rating on the first page

**NOTES and FIELD OBSERVATIONS:** 

SLOPE WETLANDS	Points (only 1						
Water Quality Functions - Indicators that the site functions to improve water quality							
S 1.0. Does the site have the potential to improve water quality?							
S 1.1. Characteristics of average slope of wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)							
Slope is 1% or less points = 3							
Slope is > 1% - 2% points = 2							
Slope is > 2% - 5% points = 1							
Slope is greater than 5% points = 0							
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (use NRCS definitions): Yes = 3 No = 0							
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.  Dense, uncut, herbaceous plants > 90% of the wetland area							
Dense, uncut, herbaceous plants > ½ of area points = 3							
Dense, woody, plants > ½ of area points = 2							
Dense, uncut, herbaceous plants > ¼ of area points = 1							
Does not meet any of the criteria above for plants points = 0							
Total for S 1 Add the points in the boxes above							
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L Record the rating on t	he first page						
S 2.0. Does the landscape have the potential to support the water quality function at the site?							
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0							
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources  Yes = 1 No = 0							
Total for S 2 Add the points in the boxes above							
Rating of Landscape Potential If score is: 1-2 = M 0 = L Record the rating on t	he first page						
S 3.0. Is the water quality improvement provided by the site valuable to society?							
S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (within 1 mi)?  Yes = 1 No = 0							
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list.  Yes = 1 No = 0							
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which wetland is found)? Yes = 2 No = 0							
Total for S 3 Add the points in the boxes above							
Rating of Value If score is:2-4 = H1 = M0 = L   Record the rating on t	he first page						

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion							
S 4.0. Does the site have the potential to reduce flooding and erosion?							
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the possible appropriate for the description that best fits conditions in the wetland. Stems of plants should enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.  Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions							
Rating of Site Potential If score is:1 = M0 = L Recor	rd the rating on t	he first page					
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site	?						
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excerning runoff?	ss surface es = 1 No = 0						
Rating of Landscape Potential If score is:1 = M0 = L Recor	rd the rating on t	he first page					
S 6.0. Are the hydrologic functions provided by the site valuable to society?							
S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has surface flooding problems that result in human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream  S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional plan?	points = 2 points = 1 points = 0						
Total for S 6 Add the points in the	es = 2 No = 0 e boxes above						

NOTES and FIELD OBSERVATIONS:

Rating of Value If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	score per box)
H 1.0. Does the wetland have the potential to provide habitat for many species?	
H 1.1. Structure of the plant community:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% cover  Emergent plants > 40 in (> 100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs have >30% cover)  Forested (areas where trees have >30% cover)  2 checks: points = 2 2 checks: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	0
H 1.3. Surface water  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR  10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.  Yes = 3 points & go to H 1.4 No = go to H 1.3.2  H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Yes = 3 No = 0	3
H 1.4. 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. You do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species 4  Scoring: > 9 species: points = 2  4-9 species: points = 1  < 4 species: points = 0	1
H 1.5. Interspersion of habitats  Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. 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	Figure 2
All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	

H 1.6. Special habitat features	1					
Check the habitat features that are present in the wetland. The number of checks is the number of points.						
Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface						
ponding or in stream.						
Cattails or bulrushes are present within the wetland.						
Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.						
Emergent or shrub vegetation in areas that are permanently inundated/ponded.						
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree						
slope) OR signs of recent beaver activity						
x Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs,						
herbaceous, moss/ground cover)						
Total for H 1 Add the points in the boxes above	8					
Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Record the rating on the first page						
H 2.0. Does the landscape have the potential to support habitat functions of the site?						
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:	2					
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	3					
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3						
20-33% of 1km Polygon points = 2						
10-19% of 1km Polygon points = 1						
· ·						
<10% of 1km Polygon points = 0						
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	3					
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 %$						
Undisturbed habitat > 50% of Polygon points = 3						
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2						
Undisturbed habitat 10 - 50% and > 3 patches points = 1						
Undisturbed habitat < 10% of Polygon points = 0						
H 2.3. Land use intensity in 1 km Polygon:	0					
> 50% of Polygon is high intensity land use points = (-2)						
Does not meet criterion above points = 0						
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by						
irrigation practices, dams, or water control structures. Generally, this means outside boundaries of	0					
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0						
Total for H 2 Add the points in the boxes above	6					
Rating of Landscape Potential If score is: 4-9 = H 1-3 = M < 1 = L Record the rating on the first page	<u> </u>					
Maching of Landscape Potential II score is						
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 the highest score</i>						
	0					
that applies to the wetland being rated						
Site meets ANY of the following criteria: points = 2						
N It has 3 or more priority habitats within 100 m (see Appendix B)						
** It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)  ** The provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)  ** The provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)  ** The provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)  ** The provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)  ** The provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)  ** The provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)  ** The provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)  ** The provides habitat for Threatened or Endangered species (any plant or animal o						
* It is mapped as a location for an individual WDFW species						
* It is a Wetland of High Conservation Value as determined by the Department of Natural Resources						
It has been categorized as an important habitat site in a local or regional comprehensive plan, in a						
Shoreline Master Plan, or in a watershed plan						
Site has 1 or 2 priority habitats within 100 m (see Appendix B)  points = 1						
Site does not meet any of the criteria above points = 0						
Pating of Value If score is: 2 - H 1 - M 0 - I Record the rating on the first rage						

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

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland <b>less than 4000 ft<sup>2</sup></b> , and does it meet at least <b>two</b> of the following criteria?	
Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater	
input.	
N Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.	
Surface water is present for less than 120 days during the wet season.	
Yes – Go to SC 1.1 No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? Yes = Category II No = Category III	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the	
wetland can be classified as "alkali" species (see Table 4 for list of plants found in alkali systems).	
salt.	
OR does the wetland unit meet two of the following three sub-criteria?	
Salt encrustations around more than 75% of the edge of the wetland	
★ More than ¾ of the plant cover consists of species listed on Table 4	
★ A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands	
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cat. I
Yes = Category I No= Not an alkali wetland	
SC 3.0. Wetlands of High Conservation Value (WHCV)	
SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV SC 3.4. Has WDNR identified the wetland within the $S/T/R$ as a Wetland of High Conservation Value and it is listed	

SC 4.0 Bogs and Calcareous Fens			
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or			
calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b></i>			
you will still need to rate the wetland based on its functions.			
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or			
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field key to			
identify organic soils. Yes – Go to <b>SC 4.3</b> No – Go to <b>SC 4.2</b>			
SC 4.2. Does an area within the wetland 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 <b>SC 4.3</b> No = <b>Is not a bog for rating</b>			
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of			
the total plant cover consists of species in Table 5? Yes = <b>Category I bog</b> No – Go to <b>SC 4.4</b>			
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion			
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0			
and the plant species in Table 5 are present, the wetland is a bog.			
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western			
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species	Cat. I		
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?			
Yes = Category I bog No – Go to SC 4.5			
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and			
mucks? Yes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6			
SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks,			
AND one of the two following conditions is met:			
★ Marl deposits [calcium carbonate (CaCO <sub>3</sub> ) precipitate] occur on the soil surface or plant stems	Cat. I		
$\aleph$ The pH of free water is $\ge$ 6.8 AND electrical conductivity is $\ge$ 200 uS/cm at multiple locations within the			
wetland Yes = Is a Category I calcareous fen No = Is not a calcareous fen			

SC 5.0. Forested Wetlands				
Does the wetland have an area of forest rooted within its boundary that meets at least one of				
the following three criteria? (Continue only if you have identified that a forested class is present				
in question H 1.1)				
The wetland is within the 100 year floodplain of a river or stream				
★ Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species				
✗ There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are "mature" or				
"old-growth" according to the definitions for these priority habitats developed by WDFW				
(see definitions in question H3.1)				
Yes – Go to <b>SC 5.1</b> No = <b>Not a forested wetland with special characteristics</b>				
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I			
growing native trees (see Table 7)? Yes = Category I No – Go to SC 5.2				
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover				
of woody species? Yes = Category I No – Go to SC 5.3				
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by				
cover) are fast growing species (see Table 7)? Yes = Category II No – Go to SC 5.4				
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  Yes = Category II No = Not a forested wetland with special characteristics				
<u> </u>				
Category of wetland based on Special Characteristics				
Choose the highest rating if wetland falls into several categories If you answered No for all types, enter "Not Applicable" on Summary Form				
ii you answered No for all types, efficer Not Applicable of Summary Form				

## **Appendix B: WDFW Priority Habitats in Eastern Washington**

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

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

- **X** Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- \*\*Old-growth/Mature forests: Old-growth east of Cascade crest \_ Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. 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 and 80-160 years old east of the Cascade crest.
- **K Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **K Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **K** 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.
- **K** 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.
- **X** Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- \* Talus: Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- K 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 > 12 in (30 cm)in eastern 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.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **K** Eastside Steppe: Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **X Iuniper Savannah:** All juniper woodlands.

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

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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): WT-106	Date of site visit: $\frac{6/28/22}{2}$					
Rated by Jess Taylor and Katie Pyne Tra	nined by Ecology? Yes <sup>X</sup> No Date of training					
HGM Class used for rating Depressional	wetland has multiple HGM classes?Y XN					
NOTE: Form is not complete without the Source of base aerial photo/map	figures requested (figures can be combined).					
OVERALL WETLAND CATEGORY IV	(hased on functions or special characteristics )					

## 1. Category of wetland based on FUNCTIONS

	Category I — Total score = 22-27
	Category II - Total score = 19-21
	Category III - Total score = 16-18
X	Category IV – Total score = 9-15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
			Circle	the a	ppropi	riate ro	atings	;		
Site Potential	Н	M	L	H	М	L	Н	M		
Landscape Potential	Н	М	L	Н	М	L	H	М	L	
Value	Н	М	L	Н	М	L	Н	М	L	TOTAL
Score Based on Ratings		4			5			6		15

## Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H 8 = H,H,M7 = H,H,L 7 = H, M, M6 = H,M,L 6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY Circle the appropriate category	
Vernal Pools	II III	
Alkali	I	
Wetland of High Conservation Value	I	
Bog and Calcareous Fens	I	
Old Growth or Mature Forest – slow growing	I	
Aspen Forest	I	
Old Growth or Mature Forest – fast growing	II	
Floodplain forest	II	
None of the above		

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

## **Riverine Wetlands**

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

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

For questions 1-4, 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 1-4 apply, and go to Question 5.

1.	Does the entire unit <b>meet both</b> of the following criteria? The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size At least 30% of the open water area is deeper than 10 ft (3 m)
	NO – go to 2 <b>YES –</b> The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks; The water leaves the wetland <b>without being impounded</b> .
	NO - go to 3  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 foot deep).
3.	Does the entire wetland unit <b>meet all</b> 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 10 years.
	NO - go to 4 YES – The wetland class is <b>Riverine NOTE:</b> The Riverine wetland can contain depressions that are filled with water when the river is not flooding.
4.	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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	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 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND 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 wetland 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 (the riverine portion is within	Depressional
the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

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

DEPRESSIONAL WETLANDS	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
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 has no surface water outlet  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing, unconstricted, surface outlet  points = 3  Wetland has a permanently flowing, unconstricted, surface outlet  points = 1	5
D 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic <i>(use NRCS definitions of soils)</i> YES = 3 NO = 0	0
D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)  Wetland has persistent, ungrazed, vegetation for $> ^2/_3$ of area  Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area  Wetland has persistent, ungrazed vegetation from $^1/_{10}$ to $< ^1/_3$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area  points = 0	1
D 1.4. Characteristics of seasonal ponding or inundation:  This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 1  Area seasonally ponded is < ¼ total area of wetland	3
Total for D 1 Add the points in the boxes above	9
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the	
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland 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  D 2.3. Are there septic systems within 250 ft of the wetland? 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  D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source Yes = 1 No = 0	0 0
D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions	0
D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? SourceYes = 1 No = 0	0 0
D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above	0 0
D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1-D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  Record the rating on the	0 0
D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1-D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:  3 or 4 = H  1 or 2 = M  0 = L  Record the rating on the stream of the points in the society?  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, or lake that is on the 303(d) list?	0 0 0 he first page
D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1-D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list,	O O he first page O O
D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1-D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:  3 or 4 = H  1 or 2 = M  0 = L  Record the rating on the stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0  D 3.0. Is the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?  Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES)	0 0 0 he first page 0

DEPRESSIONAL WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion.	Points (only 1 score per box)	
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 has no surface water outlet  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing unconstricted surface outlet  (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")		
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 deepest part (if dry).  Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding points = 8 Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent pondingpoints = 1 The wetland is a headwater wetland Seasonal ponding: 1 ft - < 2 ft points = 4 Seasonal ponding: 6 in - < 1 ft points = 5 Seasonal ponding: < 6 in or wetland has only saturated soils	6	
Total for D 4 Add the points in the boxes above	12	
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on	the first page	

D 5.0. Does the landscape have the potential to support the 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 a land use that generates runoff?	Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land	I uses? Yes = 1 No = 0	0
Total for D 5 Add the points in	the boxes above	0

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

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The wetland is in a landscape that has flooding problems.  Choose the description that best matches conditions around the wetland being rated. Do not add points.  Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND	0
Flooding occurs in sub-basin that is immediately down-gradient of wetland points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1  The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.	
Explain why points = 0  There are no problems with flooding downstream of the wetland points = 0	
D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?  Yes = 2 No = 0	
Total for D 6 Add the points in the boxes above	0

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

RIVERINE WEILANDS		/anh. 1 annu
Water Quality Functions - Indicators that the site functions to improve water qu	uality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a fi	looding event:	
Depressions cover >1/3 area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin of	•	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
Total for R 1 Add the points in	the boxes above	
Rating of Site Potential         If score is:         12-16 = H         6-11 = M         0-5 = L         R	ecord the rating on	the first page
R 2.0. Does the landscape have the potential to support the water quality function of the	e site?	
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that ha within the last 5 years?	ve been clearcut Yes = 1 No = 0	
R 2.4. Is > 10% of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in question	ons	
R 2.1-R 2.4? Source	Yes = 1 No = 0	
Total for R 2 Add the points in	the boxes above	
Rating of Landscape Potential If score is: 3-6 = H 1 or 2 = M 0 = L	ecord the rating on	the first page
R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains mi?	to one within 1	
	Yes = 1 No = 0	
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water	r quality? Answer	
YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	
Total for R 3 Add the points in	the boxes above	

Rating of Value | If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

RIVERINE WETLANDS	Points
Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion	(only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	. ,
R 4.1. Characteristics of the overbank storage the wetland provides:	
Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the	
stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average	
width of stream between banks).	
If the ratio is more than 2 points = 10	
If the ratio is 1-2 points = 8	
If the ratio is ½-<1 points = 4	
If the ratio is ¼-< ½ points = 2	
If the ratio is < 1/4 points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: <i>Treat large woody debris as forest or</i>	
shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).	
Forest or shrub for more than $^2/_3$ the area of the wetland points = 6	
Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area points = 4	
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area points = 2	
Plants do not meet above criteria points = 0	
Total for R 5 Add the points in the boxes above	
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on	the first page
R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
R 5.1. Is the stream or river adjacent to the wetland downcut?  Yes = 0 No = 1	
R 5.2. Does the up-gradient watershed include a UGA or incorporated area? Yes = 1 No = 0	
R 5.3. Is the up-gradient stream or river controlled by dams? Yes = 0 No = 1	
Total for R 5 Add the points in the boxes above	
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on	the first page
R 6.0. Are the hydrologic functions provided by the site valuable to society?	
R 6.1. Distance to the nearest areas downstream that have flooding problems? Choose the description that best fits	
the site.	
The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to	
human or natural resources points = 2	
Surface flooding problems are in a basin farther down-gradient points = 1  No flooding problems anywhere downstream points = 0	
points – 0	1
R 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	
Total for R 6 Add the points in the boxes above	
Rating of Value If score is: 2-4 = H 1 = M 0 = L Record the rating on	the first page

<u>LAKE FRINGE WETLANDS</u> Water Quality Functions - Indicators that the site functions to improve water qualit	y.	Points (only 1 score per box)
L 1.0. Does the site have the potential to improve water quality?		
L 1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes):		
Plants are more than 33 ft (10 m) wide	points = 6	
Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide	points = 3	
Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide	points = 1	
Plants are less than 6 ft wide	points = 0	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in t points, and do not include any open water in your estimate of coverage. The herbaceous plants the dominant form or as an understory in a shrub or forest community. These are not Cowardin of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aqua Cover of herbaceous plants is > 90% of the vegetated area  Cover of herbaceous plants is > 2/3 of the vegetated area  Cover of herbaceous plants is > 1/3 of the vegetated area	can be either classes. Area atic bed. points = 6 points = 4 points = 3	
Other plants that are not aquatic bed > $^2/_3$ wetland Other plants that are not aquatic bed in > $^1/_3$ vegetated area Aquatic bed plants and open water cover > $^2/_3$ of the wetland	points = 3 points = 1 points = 0	
Total for L 1 Add the points in the b	oxes above	

<u>Rating of Site Potential</u> If score is: \_\_\_\_8-12 = H \_\_\_\_4-7 = M \_\_\_\_0-3 = L

Record the rating on the first page

L 2.0. Does the landscape have the potential to support the water quality function of the site?	
L 2.1. Is the lake used by power boats?	Yes = 1 No = 0
L 2.2. Is > 10% of the area within 150 ft of wetland on the upland side in land uses	that generate pollutants? Yes = 1 No = 0
L 2.3. Does the lake have problems with algal blooms or excessive plants such as m	nilfoil? Yes = 1 No = 0
Total for L 2 Ad	d the points in the boxes above

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

Record the rating on the first page

L 3.0. Is the water quality improvement provided by the site valuable to s	society?	
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources?	Yes = 1 No = 0	
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aqua 303(d) list)?	tic resource in the basin is on the Yes = 1 No = 0	
L 3.3. Has the site been identified in a watershed or local plan as important for m YES if there is a TMDL for the lake or basin in which wetland is found.	naintaining water quality? <i>Answer</i> Yes = 2 No = 0	
Total for L 3	Add the points in the boxes above	

<u>Rating of Value</u> If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

LAKE FRINGE WETLANDS  Hydrologic Functions - Indicators that the wetland unit functions to reduce sho	reline erosion	Points (only 1 score per box)
L 4.0. Does the site have the potential to reduce shoreline erosion?		
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore ( <b>do not</b> in Choose the highest scoring description that matches conditions in the wetland.	nclude Aquatic Bed):	
> ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 6	
> ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide	points = 4	
> ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 4	
Plants are at least 6 ft (2 m) wide (do not include Aquatic Bed)	points = 2	
Plants are less than 6 ft (2 m) wide (do not include Aquatic Bed)	points = 0	
Pating of Cita Patantial If access in C - M O. C - I	December 1	41 C+

Rating of Site Potential If score is: \_\_\_6 = M \_\_\_0-5 = L

Record the rating on the first page

L 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0	
L 5.2. Is the fetch on the lake side of the wetland at least 1 mile in distance?	Yes = 1 No = 0	
Total for L 5	Add the points in the boxes above	

Rating of Landscape Potential If score is: 2 = H 1 = M 0 = L

Record the rating on the first page

L 6.0. Are the hydrologic functions provided by the site valuable to society?	
L 6.1. Are there resources, both human and natural, along the shore that can be impacted by erosion of the shore than one resource is present, choose the one with the highest score.  There are human structures or old growth/mature forests within 25 ft of OHWM of the shore wetland	
	points = 2
There are nature trails or other paths and recreational activities within 25 ft of OHWM	points = 1
Other resources that could be impacted by erosion	points = 1
There are no resources that can be impacted by erosion along the shores of the wetland	points = 0

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

Record the rating on the first page

**NOTES and FIELD OBSERVATIONS:** 

SLOPE WETLANDS	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of average slope of wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
Slope is 1% or less points = 3	
Slope is > 1% - 2% points = 2	
Slope is > 2% - 5% points = 1	
Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (use NRCS definitions): Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.  Dense, uncut, herbaceous plants > 90% of the wetland area	
Dense, uncut, herbaceous plants > ½ of area points = 3	
Dense, woody, plants > ½ of area points = 2	
Dense, uncut, herbaceous plants > ¼ of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L Record the rating on t	he first page
S 2.0. Does the landscape have the potential to support the water quality function at the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources  Yes = 1 No = 0	
Total for S 2 Add the points in the boxes above	
Rating of Landscape Potential If score is: 1-2 = M 0 = L Record the rating on t	he first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (within 1 mi)?  Yes = 1 No = 0	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list.  Yes = 1 No = 0	
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which wetland is found)? Yes = 2 No = 0	
Total for S 3 Add the points in the boxes above	
Rating of Value If score is:2-4 = H1 = M0 = L   Record the rating on t	he first page

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and ero	osion	Points (only 1 score per box)
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the possible appropriate for the description that best fits conditions in the wetland. Stems of plants should enough (usually > \frac{1}{8} in), or dense enough, to remain erect during surface flows.  Dense, uncut, rigid plants cover > 90% of the area of the wetland  All other conditions		
Rating of Site Potential If score is:1 = M0 = L Recor	rd the rating on t	he first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site	?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excerning runoff?	ess surface es = 1 No = 0	
Rating of Landscape Potential If score is:1 = M0 = L Recor	rd the rating on t	he first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has surface flooding problems that result in human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream  S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional plan?	points = 2 points = 1 points = 0	
Total for S 6 Add the points in the	e boxes above	

NOTES and FIELD OBSERVATIONS:

Rating of Value If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

H 1.0. Does the wetland have the potential to provide habitat for many species?  H 1.1. Structure of the plant community:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= % a cor >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  X. Emergent plants > 1.24 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants > 1.24 in (0-30 cm) high are the highest layer with >30% cover  Emergent plants > 1.24 in (0-30 cm) high are the highest layer with >30% cover  Emergent plants > 1.24 in (0-30 cm) high are the highest layer with >30% cover  Emergent plants > 1.24 in (0-30 cm) high are the highest layer with >30% cover  Emergent plants > 1.24 in (0-30 cm) high are the highest layer with >30% cover  Scrub-shrub (lareas where shrubs have >30% cover)  3 checks: points = 2 2 checks: points = 2 1 checks: points = 0  H 1.2. Is one of the vegetation types Aquatic Bed?  Wes = 1 No = 0  H 1.3. Surface water  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.  Wes = 3 points & go to H 1.4 No = go to H 1.3. 2  H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least ¼ ac or 10% of its area? Answer yes only If H 1.3.1 is No.  Wes = 3 no = 0  H 1.4. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the some species can be combined to meet the size threshold. You do not have to name the species.  Do not include Eurosian miljoil, reed conarygrass, purple loosestrife, Russian olive, Phrogmites, Canadian thistle, yellow-flog iris, and saltcedar (Tamarisk)  Posicies for the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats)	These questions apply to wetlands of all HGM classes.	(only 1
H 1.0. Does the wetland have the potential to provide habitat for many species?  H 1.1. Structure of the plant community:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >> % ac or >> 10% of the wetland if wetland is <2.5 ac.  Aquatic bed  ** Emergent plants 0.12 in (0.30 cm) high are the highest layer and have >30% cover  Emergent plants >120.40 in (>30.100 cm) high are the highest layer with >30% cover  Emergent plants >212.40 in (>30.100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs have >30% cover)  ** Forested (areas where shrubs have >30% cover)  ** Forested (areas where shrubs have >30% cover)  ** Forested (areas where trees have >30% cover)  **	HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	score per box)
Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >> ¼ ac or >= 10% of the wetland if yetland is <2.5 ac.  Aquatic bed  * Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants >> 1-20 in (0-30 cm) high are the highest layer with >30% cover  Emergent plants >> 40 in (>> 100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs have >30% cover)  Forested (areas where trees have >30% cover)  4 or more checks: points = 3 3 checks: points = 1 1 check: points = 0 11 check: points = 0 12 checks: points = 0 13 checks: points = 0 14 check: points = 0 15 checks: points = 0 16 checks: points = 0 17 check: points = 0 18 checks: points = 0 19 checks: points = 0 10 checks: points = 0 11 checks: points = 0 11 checks: points = 0 12 checks: points = 0 13 checks: points = 0 14 checks: points = 0 15 checks: points = 0 16 checks: points = 0 17 checks: points = 0 18 checks: points = 0 19 checks: points = 0 10 checks: points = 0 11 checks: points = 0 11 checks: points = 0 11 checks: points = 0 12 checks: points = 0 14 checks: points = 0 15 checks: points = 0 16 checks: points = 0 17 checks: points = 0 18 checks: points = 0 18 checks: points =	H 1.0. Does the wetland have the potential to provide habitat for many species?	
H 1.2. Is one of the vegetation types Aquatic Bed?  H 1.3. Surface water  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least % ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.  Yes = 3 points & go to H 1.4 No = go to H 1.3. 2.  H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least % ac or 10% of its area? Answer yes only if H 1.3.1 is No. Yes = 3 No = 0  H 1.4. 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. You do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk) # of species 5  Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 1 < 4 species: points = 1 < 1. S. Interspersion of habitats Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac. Aquatic bed  XEmergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover Emergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% cover Emergent plants > 40 in (> 100 cm) high are the highest layer with >30% cover Scrub-shrub (areas where shrubs have >30% cover)  4 or more checks: points = 3 Forested (areas where trees have >30% cover)  3 checks: points = 2	0
H 1.3. Surface water  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least % ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.  H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least % ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Yes = 3 No = 0  H 1.4. 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. You do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species 5  Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 1 < 4 species: points = 1 < 1  H 1.5. Interspersion of habitats  Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points  All three diagrams in this row are  High = 3 points	·	
H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.  Yes = 3 points & go to H 1.4 No = go to H 1.3.2  H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Yes = 3 No = 0  H 1.4. 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. You do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species 5  Scoring: > 9 species: points = 2  4-9 species: points = 1  < 4 species: points = 0  H 1.5. Interspersion of habitats  Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	0
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. You do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species 5  Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 1 < 4 species: points = 0  H 1.5. Interspersion of habitats  Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac <b>OR</b> 10% of its area during the March to early June <b>OR</b> in August to the end of September? <b>Answer YES</b> for Lake Fringe wetlands.  Yes = 3 points & go to H 1.4 No = go to H 1.3.2  H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least ¼ ac or 10% of its area? <b>Answer yes only if H 1.3.1 is No.</b>	3
Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> . Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species 5  Scoring: > 9 species: points = 2 4-9 species: points = 1	1
	Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	

H 1.6. Special habitat features	1			
Check the habitat features that are present in the wetland. The number of checks is the number of points.				
Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface				
ponding or in stream.				
Cattails or bulrushes are present within the wetland.				
Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.				
Emergent or shrub vegetation in areas that are permanently inundated/ponded.				
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree				
slope) OR signs of recent beaver activity				
Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs,				
herbaceous, moss/ground cover)				
Total for H 1 Add the points in the boxes above	7			
Rating of Site Potential If score is:15-18 = H7-14 = M0-6 = L Record the rating on the first page				
	1			
H 2.0. Does the landscape have the potential to support habitat functions of the site?				
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:	3			
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50$				
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3				
20-33% of 1km Polygon points = 2				
10-19% of 1km Polygon points = 1				
<10% of 1km Polygon points = 0				
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	3			
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 %$	3			
Undisturbed habitat > 50% of Polygon points = 3				
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2				
Undisturbed habitat 10 - 50% and > 3 patches points = 1				
Undisturbed habitat < 10% of Polygon points = 0				
H 2.3. Land use intensity in 1 km Polygon:	0			
> 50% of Polygon is high intensity land use points = (- 2)	0			
Does not meet criterion above points = 0				
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by				
irrigation practices, dams, or water control structures. <i>Generally, this means outside boundaries of</i>	0			
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0				
Total for H 2 Add the points in the boxes above	6			
Rating of Landscape Potential If score is: 4-9 = H 1-3 = M < 1 = L Record the rating on the first page				
H 3.0. Is the habitat provided by the site valuable to society?				
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose the highest score</i>				
that applies to the wetland being rated	0			
Site meets ANY of the following criteria: points = 2				
<ul> <li>It has 3 or more priority habitats within 100 m (see Appendix B)</li> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> </ul>				
<ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)</li> <li>It is mapped as a location for an individual WDFW species</li> </ul>				
It is mapped as a location for an individual work species  It is a Wetland of High Conservation Value as determined by the Department of Natural Resources				
It has been categorized as an important habitat site in a local or regional comprehensive plan, in a				
Shoreline Master Plan, or in a watershed plan				
Site has 1 or 2 priority habitats within 100 m (see Appendix B)  points = 1				
Site does not meet any of the criteria above points = 0				
Rating of Value of score is: 2 = H 1 = M 0 = 1 Record the rating on the first page	1			

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

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.	
$\mathcal{S}$ Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.	
Surface water is present for less than 120 days during the wet season.	
Yes – Go to SC 1.1 No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)?  Yes = Category II No = Category III	Cat. II
	Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
The wetland has a conductivity > 3.0 mS/cm.	
The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the	
wetland can be classified as "alkali" species (see Table 4 for list of plants found in alkali systems).	
If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt.	
OR does the wetland unit meet two of the following three sub-criteria?	
ℜ Salt encrustations around more than 75% of the edge of the wetland	
More than ¾ of the plant cover consists of species listed on Table 4	
A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. Yes = Category I No= Not an alkali wetland	Cat. I
163 - Category 1 100- Not all alkali wetialiu	
SC 2.0. Wetlands of High Conservation Value (WHC)/\	
SC 3.0. Wetlands of High Conservation Value (WHCV)	
SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value?  Yes – Go to SC 3.2 No – Go to SC 3.3  SC 3.3 Is the westland listed on the WONB database as a Westland of High Conservation Value?	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cat. I
Yes = Category I No = Not a WHCV	
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV	
SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed	
on their website? Yes = Category I No =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or	
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field key to	
identify organic soils. Yes – Go to SC 4.3 No – Go to SC 4.2	
SC 4.2. Does an area within the wetland 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 <b>SC 4.3</b> No = <b>Is not a bog for rating</b>	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of	
_	
the total plant cover consists of species in Table 5? Yes = <b>Category I bog</b> No – Go to <b>SC 4.4</b>	
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	Cat. I
Yes = <b>Category I bog</b> No – Go to <b>SC 4.5</b>	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and	
mucks? Yes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6	
SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks,	
AND one of the two following conditions is met:	
Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems	Cat. I
★ The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the	3
wetland  Yes = Is a Category I calcareous fen No = Is not a calcareous fen	
Tes is a category i calcule coustern into - is not a calcule coustern	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present	
in question H 1.1)	
The wetland is within the 100 year floodplain of a river or stream	
★ Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species	
There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for these priority habitats developed by WDFW	
(see definitions in question H3.1)	
Yes – Go to <b>SC 5.1</b> No = <b>Not a forested wetland with special characteristics</b>	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? Yes = Category I No – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species? Yes = Category I No – Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by	Cat. II
cover) are fast growing species (see Table 7)?  Yes = Category II No – Go to SC 5.4	
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?  Yes = Category II No = Not a forested wetland with special characteristics	
Category of wetland based on Special Characteristics	
Choose the highest rating if wetland falls into several categories	
If you answered No for all types, enter "Not Applicable" on Summary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

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

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

- **X** Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- \*\*Old-growth/Mature forests: Old-growth east of Cascade crest \_ Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. 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 and 80-160 years old east of the Cascade crest.
- **K Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **K Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **K** 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.
- **K** 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.
- **X** Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- \* Talus: Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- K 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 > 12 in (30 cm)in eastern 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.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **K** Eastside Steppe: Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **X Iuniper Savannah:** All juniper woodlands.

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

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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): VP-107	Date of site visit: $\frac{6/27/22}{2}$
Rated by Jess Taylor and Katie Pyne	_ Trained by Ecology? Yes <sup>X</sup> No Date of training
HGM Class used for rating	Wetland has multiple HGM classes?Y XN
NOTE: Form is not complete without Source of base aerial photo/map _	the figures requested (figures can be combined).
OVERALL WETLAND CATEGORY	l (based on functions or special characteristics X )

## 1. Category of wetland based on FUNCTIONS

	Category I — Total score = 22-27
	Category II - Total score = 19-21
	Category III - Total score = 16-18
X	Category IV – Total score = 9-15

FUNCTION	Improving Water Quality		Hydrologic		Habitat					
			Circle	the a	ppropi	riate ro	ntings	;		
Site Potential	Н	M	L	Н	M	L	Н	М	L	
Landscape Potential	Н	М	L	Н	М	L	H	М	L	
Value	Н	М	L	Н	М	L	Н	М	L	TOTAL
Score Based on Ratings		4			4			5		13

# 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 Circle the appropriate category	
Vernal Pools X	III III	
Alkali	I	
Wetland of High Conservation Value	I	
Bog and Calcareous Fens	I	
Old Growth or Mature Forest – slow growing	I	
Aspen Forest	I	
Old Growth or Mature Forest – fast growing	II	
Floodplain forest	II	
None of the above		

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

#### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

#### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

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

For questions 1-4, 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 1-4 apply, and go to Question 5.

1.	Does the entire unit <b>meet both</b> of the following criteria? The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size At least 30% of the open water area is deeper than 10 ft (3 m)
	NO – go to 2 <b>YES –</b> The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks; The water leaves the wetland <b>without being impounded</b> .
	NO - go to 3  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 foot deep).
3.	Does the entire wetland unit <b>meet all</b> 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 10 years.
	NO - go to 4 YES – The wetland class is <b>Riverine NOTE:</b> The Riverine wetland can contain depressions that are filled with water when the river is not flooding.
4.	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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	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 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND 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 wetland 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 (the riverine portion is within	Danuasianal	
the boundary of depression)	Depressional	
Depressional + Lake Fringe	Depressional	
Riverine + Lake Fringe	Riverine	

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

DEPRESSIONAL WETLANDS	Points (only 1
Water Quality Functions - Indicators that the site functions to improve water quality	score per box)
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 has no surface water outlet points = 5	5
Wetland has an intermittently flowing outlet points = 3	
Wetland has a highly constricted permanently flowing outlet points = 3 Wetland has a permanently flowing, unconstricted, surface outlet points = 1	
D.1.2 The soil 2 in helow the surface (or duff laver) is true clay or true organic (use NRCS definitions of soils)	0
D 1.3. <u>Characteristics of persistent vegetation</u> (Emergent, Scrub-shrub, and/or Forested Cowardin classes)	0
Wetland has persistent, ungrazed, vegetation for $> ^2/_3$ of area points = 5 Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area points = 3	O .
Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area points = 3  Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $\frac{1}{3}$ of area points = 1	
Wetland has persistent, ungrazed vegetation from $\gamma_{10}$ to $\langle \gamma_3 \rangle$ of area points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	4
This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.	1
Area seasonally ponded is > ½ total area of wetland points = 3	
Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland points = 1	
Area seasonally ponded is < 1/4 total area of wetland points = 0	
Total for D 1 Add the points in the boxes above	6
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the	e first page
D.2.0. Does the landscape have the netential to support the water quality function of the site?	
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	0
	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	0
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on th	e 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, or lake 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 water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]? Yes = 1 No = 0	0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)? Yes = 2 No = 0	0
	0
Rating of Value If score is:2-4 = H1 = M0 = L Record the rating on th	

DEPRESSIONAL WETLANDS	Points	
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion.	(only 1 score per box)	
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:	8	
Wetland has no surface water outlet points = 8		
Wetland has an intermittently flowing outlet points = 4		
Wetland has a highly constricted permanently flowing outlet points = 4		
Wetland has a permanently flowing unconstricted surface outlet points = 0 (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")		
D 4.2. <u>Depth of storage during wet periods</u> : <i>Estimate the height of ponding above the bottom of the outlet. For</i>	0	
wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).		
Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding points = 8		
Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent pondingpoints = 6  The wetland is a headwater wetland points = 4		
The wetland is a headwater wetland points = 4 Seasonal ponding: 1 ft - < 2 ft points = 4		
Seasonal ponding: 6 in - < 1 ft points = 2		
Seasonal ponding: < 6 in or wetland has only saturated soils  points = 0		
Total for D 4  Add the points in the boxes above	8	
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on to	-	
nating of Site Fotential in Score is12 10 = ii0 11 = iii0 3 = 2	ie jii st page	
D 5.0. Does the landscape have the potential to support the 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 a land use that generates runoff? Yes = 1 No = 0	0	
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = $1 \text{ No} = 0$	0	
Total for D 5 Add the points in the boxes above	0	
·		
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on t	ne jirst page	
D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The wetland is in a landscape that has flooding problems.	0	
Choose the description that best matches conditions around the wetland being rated. Do not add points.	0	
Choose the highest score if more than one condition is met.		
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has		
damaged human or natural resources (e.g., houses or salmon redds), AND		
Flooding occurs in sub-basin that is immediately down-gradient of wetland points = 2		
Surface flooding problems are in a sub-basin farther down-gradient points = 1		
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.		
Explain why points = 0		
There are no problems with flooding downstream of the wetland points = 0		
D 6.2. Has the site has 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	0	

<u>Rating of Value</u> If score is: <u>2-4 = H</u> <u>1 = M</u> <u>0 = L</u>

RIVERINE WEILANDS		/anh. 1 annu
Water Quality Functions - Indicators that the site functions to improve water qu	uality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a fi	looding event:	
Depressions cover >1/3 area of wetland	points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland	points = 3	
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin of	•	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland	points = 0	
Total for R 1 Add the points in	the boxes above	
Rating of Site Potential         If score is:         12-16 = H         6-11 = M         0-5 = L         R	ecord the rating on	the first page
R 2.0. Does the landscape have the potential to support the water quality function of the	e site?	
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that ha within the last 5 years?	ve been clearcut Yes = 1 No = 0	
R 2.4. Is > 10% of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in question	ons	
R 2.1-R 2.4? Source	Yes = 1 No = 0	
Total for R 2 Add the points in	the boxes above	
Rating of Landscape Potential If score is: 3-6 = H 1 or 2 = M 0 = L	ecord the rating on	the first page
R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains mi?	to one within 1	
	Yes = 1 No = 0	
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water	r quality? Answer	
YES if there is a TMDL for the drainage in which wetland is found.	Yes = 2 No = 0	
Total for R 3 Add the points in	the boxes above	

Rating of Value If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	flooding and stream erosion	(only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	?	· ·
R 4.1. Characteristics of the overbank storage the wetland provides:		
Estimate the average width of the wetland perpendicular to the direction	on of the flow and the width of the	
stream or river channel (distance between banks). Calculate the ratio: (	average width of wetland)/(average	
width of stream between banks).		
If the ratio is more than 2	points = 10	
If the ratio is 1-2	points = 8	
If the ratio is ½-<1	points = 4	
If the ratio is ¼-< ½	points = 2	
If the ratio is < ¼	points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods:		
shrub. Choose the points appropriate for the best description (polygon	s need to have > 90% cover at person	
height. These are NOT Cowardin classes).		
Forest or shrub for more than $^2/_3$ the area of the wetland	points = 6	
Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area	points = 4	
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area	points = 2	
Plants do not meet above criteria	points = 0	
Total for R 5	Add the points in the boxes above	
Rating of Site Potential If score is:12-16 = H6-11 = M0-5 = L	Record the rating on	the first page
R 5.0. Does the landscape have the potential to support the hydrologic	functions of the site?	
R 5.1. Is the stream or river adjacent to the wetland downcut?	Yes = 0 No = 1	
R 5.2. Does the up-gradient watershed include a UGA or incorporated area?	Yes = 1 No = 0	
R 5.3. Is the up-gradient stream or river controlled by dams?	Yes = 0 No = 1	
Total for R 5	Add the points in the boxes above	
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L	Record the rating on	the first page
R 6.0. Are the hydrologic functions provided by the site valuable to so	ciety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.	? Choose the description that best fits	
The sub-basin immediately down-gradient of site has surface flooding	problems that result in damage to	
human or natural resources	points = 2	
Surface flooding problems are in a basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 1	
	· · · · · · · · · · · · · · · · · · ·	
R 6.2. Has the site been identified as important for flood storage or flood con plan?	veyance in a regional flood control Yes = 2 No = 0	
Total for R 6	Add the points in the boxes above	
Rating of Value If score is: 2-4 = H 1 = M 0 = L	Record the rating on	the first page

<u>LAKE FRINGE WETLANDS</u>		Points
Water Quality Functions - Indicators that the site functions to improve wa	ter quality.	(only 1 score per box)
L 1.0. Does the site have the potential to improve water quality?		
L 1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes):		
Plants are more than 33 ft (10 m) wide	points = 6	
Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide	points = 3	
Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide	points = 1	
Plants are less than 6 ft wide	points = 0	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that	t results in the highest	
points, and do not include any open water in your estimate of coverage. The herbac	•	
the dominant form or as an understory in a shrub or forest community. These are no		
of cover is total cover in the wetland, but it can be in patches. Herbaceous does not i	nclude aquatic bed.	
Cover of herbaceous plants is > 90% of the vegetated area	points = 6	
Cover of herbaceous plants is $> \frac{2}{3}$ of the vegetated area	points = 4	
Cover of herbaceous plants is $> \frac{1}{3}$ of the vegetated area	points = 3	
Other plants that are not aquatic bed $> \frac{2}{3}$ wetland	points = 3	
Other plants that are not aquatic bed in $> \frac{1}{3}$ vegetated area	points = 1	
Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland	points = 0	
Total for L 1 Add the po	ints in the boxes above	

Rating of Site Potential If score is: 8-12 = H 4-7 = M 0-3 = L

Record the rating on the first page

L 2.0. Does the landscape have the potential to support the water quality function of the site?		
L 2.1. Is the lake used by power boats? Yes = 1 No = 0		
L 2.2. Is > 10% of the area within 150 ft of wetland on the upland side in land uses that gene	rate pollutants? Yes = 1 No = 0	
L 2.3. Does the lake have problems with algal blooms or excessive plants such as milfoil?	Yes = 1 No = 0	
Total for L 2 Add the poin	ts in the boxes above	

Rating of Landscape Potential If score is: \_\_\_2 or 3 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

L 3.0. Is the water quality improvement provided by the site valuable to society?	
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources?	Yes = 1 No = 0
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aquat 303(d) list)?	ic resource in the basin is on the Yes = 1 No = 0
L 3.3. Has the site been identified in a watershed or local plan as important for m YES if there is a TMDL for the lake or basin in which wetland is found.	aintaining water quality? <i>Answer</i> Yes = 2 No = 0
Total for L 3 A	dd the points in the boxes above

<u>Rating of Value</u> If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

LAKE FRINGE WETLANDS  Hydrologic Functions - Indicators that the wetland unit functions to reduce sh	oreline erosion	Points (only 1 score per box)
L 4.0. Does the site have the potential to reduce shoreline erosion?		
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore ( <b>do not</b> Choose the highest scoring description that matches conditions in the wetland.	include Aquatic Bed):	
> ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 6	
> ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide	points = 4	
> ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 4	
Plants are at least 6 ft (2 m) wide (do not include Aquatic Bed)	points = 2	
Plants are less than 6 ft (2 m) wide (do not include Aquatic Bed)	points = 0	
Pating of Site Detential If score is: 6 - M 0 5 - I	Pacard the rating on	the first nage

Record the rating on the first page

L 5.0. Does the landscape have the potential to support hydrologic fun	ctions of the site?	
L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0	
L 5.2. Is the fetch on the lake side of the wetland at least 1 mile in distance?	Yes = 1 No = 0	
Total for L 5	Add the points in the boxes above	

Rating of Landscape Potential If score is: \_\_\_2 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

L 6.0. Are the hydrologic functions provided by the site valuable to society?	
L 6.1. Are there resources, both human and natural, along the shore that can be impacted by erosion of the shore than one resource is present, choose the one with the highest score.  There are human structures or old growth/mature forests within 25 ft of OHWM of the shore wetland	
	points = 2
There are nature trails or other paths and recreational activities within 25 ft of OHWM	points = 1
Other resources that could be impacted by erosion	points = 1
There are no resources that can be impacted by erosion along the shores of the wetland	points = 0

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

Record the rating on the first page

**NOTES and FIELD OBSERVATIONS:** 

SLOPE WETLANDS	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of average slope of wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
Slope is 1% or less points = 3	
Slope is > 1% - 2% points = 2	
Slope is > 2% - 5%  points = 1	
Slope is greater than 5% points = 0 S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (use NRCS definitions): Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	
Dense, uncut, herbaceous plants > ½ of area points = 3  Dense, woody, plants > ½ of area points = 2	
Dense, woody, plants > ½ of area points = 2  Dense, uncut, herbaceous plants > ¼ of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1  Add the points in the boxes above	
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L Record the rating on a	he first page
<del></del>	, , ,
S 2.0. Does the landscape have the potential to support the water quality function at the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	
Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	
Other sources Yes = 1 No = 0	
Total for S 2 Add the points in the boxes above	
Rating of Landscape Potential If score is:1-2 = M0 = L Record the rating on a	he first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (within 1 mi)?  Yes = 1 No = 0	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  Yes = 1 No = 0	
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which wetland is found)? Yes = 2 No = 0	
Total for S 3 Add the points in the boxes above	
Rating of Value If score is:2-4 = H1 = M0 = L	he first page

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and ero	osion	Points (only 1 score per box)
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the possible appropriate for the description that best fits conditions in the wetland. Stems of plants should enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.  Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		
Rating of Site Potential If score is:1 = M0 = L Recor	rd the rating on t	he first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site	?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excerning runoff?	ss surface es = 1 No = 0	
Rating of Landscape Potential If score is:1 = M0 = L Recor	rd the rating on t	he first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has surface flooding problems that result in human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream  S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional plan?	points = 2 points = 1 points = 0	
Total for S 6 Add the points in the	es = 2 No = 0 e boxes above	

NOTES and FIELD OBSERVATIONS:

Rating of Value If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	score per box)
1.0. Does the wetland have the potential to provide habitat for many species?	
H 1.1. Structure of the plant community:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% cover  Emergent plants > 40 in (> 100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs have >30% cover)  Forested (areas where trees have >30% cover)  2 checks: points = 2 2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	0
H 1.3. Surface water  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR  10% of its area during the March to early June OR in August to the end of September? Answer YES  for Lake Fringe wetlands.  Yes = 3 points & go to H 1.4 No = go to H 1.3.2  H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries,  or along one side, over at least ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Yes = 3 No = 0	0
1.4. 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. You do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species   Scoring: > 9 species: points = 2  4-9 species: points = 1  < 4 species: points = 0	0
Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. 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	Figure
All three diagrams in this row are  High = 3 points  Riparian braided channels with 2 classes	

H 1.6. Special habitat features	1
Check the habitat features that are present in the wetland. The number of checks is the number of points.	<b>'</b>
$\underline{\times}$ Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface	
ponding or in stream.	
Cattails or bulrushes are present within the wetland.	
Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.	
Emergent or shrub vegetation in areas that are permanently inundated/ponded.	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree	
slope) OR signs of recent beaver activity	
Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	1
Rating of Site Potential If score is:15-18 = H7-14 = M0-6 = L Record the rating on the first page	
H 2.0. Does the landscape have the potential to support habitat functions of the site?	
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:	3
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] = 50 + (\%  moderate and low int$	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	
Calculate: % undisturbed habitat $0 + (\% \text{ moderate and low intensity land uses)/2} = 50 + (\%  mod$	3
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches points = 1	
Undisturbed habitat < 10% of Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon:	0
> 50% of Polygon is high intensity land use points = (-2)	
Does not meet criterion above points = 0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by	
irrigation practices, dams, or water control structures. <i>Generally, this means outside boundaries of</i>	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above	6
Rating of Landscape Potential If score is: 4-9 = H 1-3 = M <1 = L Record the rating on the first page	U
Mating of Landscape Fotential in score is. 4-3-11	
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 the highest score</i>	0
that applies to the wetland being rated	
Site meets ANY of the following criteria: points = 2	
It has 3 or more priority habitats within 100 m (see Appendix B)	
It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)	
N It is mapped as a location for an individual WDFW species	
$oldsymbol{\mathcal{K}}$ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
leph 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 within 100 m (see Appendix B) points = 1	
Site does not meet any of the criteria above points = 0	
Rating of Value If score is:2 = H1 = M0 = L Record the rating on the first page	

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

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	Yes
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	. 55
Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater	
input.	
${\cal N}$ Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
ℵ The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
Surface water is present for less than 120 days during the wet season.	
Yes – Go to SC 1.1 No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? Yes = Category II No = Category III	Cat. III
	Cut. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
★ The wetland has a conductivity > 3.0 mS/cm.	
☼ The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the	
wetland can be classified as "alkali" species (see Table 4 for list of plants found in alkali systems).	
If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of	
salt.	
OR does the wetland unit meet two of the following three sub-criteria?	
Salt encrustations around more than 75% of the edge of the wetland	
<del>-</del>	
More than % of the plant cover consists of species listed on Table 4	
X A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	0
Yes = Category I No= Not an alkali wetland	
SC 3.0. Wetlands of High Conservation Value (WHCV)	
SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cot
Yes = Category I No = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV	
SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed	
on their website? Yes = Category I No =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b></i>	
you will still need to rate the wetland based on its functions.	
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or	
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field key to	
identify organic soils. Yes – Go to <b>SC 4.3</b> No – Go to <b>SC 4.2</b>	
SC 4.2. Does an area within the wetland 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 <b>SC 4.3</b> No = <b>Is not a bog for rating</b>	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of	
the total plant cover consists of species in Table 5? Yes = <b>Category I bog</b> No – Go to <b>SC 4.4</b>	
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
Yes = Category I bog No – Go to SC 4.5	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and	
mucks? Yes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6	
SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks,	
AND one of the two following conditions is met:	
★ Marl deposits [calcium carbonate (CaCO <sub>3</sub> ) precipitate] occur on the soil surface or plant stems	Cat. I
$\aleph$ The pH of free water is $\ge$ 6.8 AND electrical conductivity is $\ge$ 200 uS/cm at multiple locations within the	
wetland Yes = Is a Category I calcareous fen No = Is not a calcareous fen	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets at least one of	
the following three criteria? (Continue only if you have identified that a forested class is present	
in question H 1.1)	
The wetland is within the 100 year floodplain of a river or stream	
★ Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species	
* There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for these priority habitats developed by WDFW	
(see definitions in question H3.1)	
Yes – Go to SC 5.1 No = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? Yes = Category I No – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species? Yes = Category I No – Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by	Cat. II
cover) are fast growing species (see Table 7)? Yes = Category II No – Go to SC 5.4 SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	
Yes = Category II No = Not a forested wetland with special characteristics	
Category of wetland based on Special Characteristics Choose the highest rating if wetland falls into several categories	II
If you answered No for all types, enter "Not Applicable" on Summary Form	

# **Appendix B: WDFW Priority Habitats in Eastern Washington**

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

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

- **X** Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- \*\*Old-growth/Mature forests: Old-growth east of Cascade crest \_ Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. 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 and 80-160 years old east of the Cascade crest.
- **K Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **K Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **K** 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.
- **K** 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.
- **X** Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- \* Talus: Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- K 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 > 12 in (30 cm)in eastern 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.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **K** Eastside Steppe: Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **X Iuniper Savannah:** All juniper woodlands.

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

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# **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): VP-108	Date of site visit: $\frac{6/28}{22}$
Rated by Jess Taylor and Katie Pyne	rained by Ecology? Yes <sup>X</sup> No Date of training
HGM Class used for rating	Wetland has multiple HGM classes?Y XN
NOTE: Form is not complete without the Source of base aerial photo/map	ne figures requested (figures can be combined).
OVERALL WETLAND CATEGORY	(based on functions or special characteristics X )

#### 1. Category of wetland based on FUNCTIONS

	Category I — Total score = 22-27
	Category II - Total score = 19-21
	Category III - Total score = 16-18
X	Category IV – Total score = 9-15

FUNCTION	Improving Hydr Water Quality		ydrolo	gic	Habitat					
			Circle	the a	ppropi	riate ro	atings	;		
Site Potential	Н	M	L	Н	M	L	Н	М	L	
Landscape Potential	Н	М	L	Н	М	L	H	М	L	
Value	Н	М	L	Н	М	L	Н	М	L	TOTAL
Score Based on Ratings		4			4			5		13

#### Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H 8 = H,H,M7 = H,H,L 7 = H, M, M6 = H,M,L 6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

# 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY Circle the appropriate category	
Vernal Pools <sub>X</sub>	III III	
Alkali	I	
Wetland of High Conservation Value	I	
Bog and Calcareous Fens	I	
Old Growth or Mature Forest – slow growing	I	
Aspen Forest	I	
Old Growth or Mature Forest – fast growing	II	
Floodplain forest	II	
None of the above		

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

#### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

#### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

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

For questions 1-4, 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 1-4 apply, and go to Question 5.

1.	Does the entire unit <b>meet both</b> of the following criteria? The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size At least 30% of the open water area is deeper than 10 ft (3 m)
	NO – go to 2 <b>YES –</b> The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks; The water leaves the wetland <b>without being impounded</b> .
	NO - go to 3 YES – The wetland class is <b>Slope NOTE:</b> 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 foot deep).
3.	Does the entire wetland unit <b>meet all</b> 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 10 years.
	NO - go to 4 YES - The wetland class is <b>Riverine NOTE:</b> The Riverine wetland can contain depressions that are filled with water when the river is not flooding.
4.	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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	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 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND 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 wetland 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 (the riverine portion is within	Depressional	
the boundary of depression)		
Depressional + Lake Fringe	Depressional	
Riverine + Lake Fringe	Riverine	

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.

<u>DEPRESSIONAL WETLANDS</u> Water Quality Functions - Indicators that the site functions to improve water quality	Points (only 1 score per box)
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 has no surface water outlet  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing, unconstricted, surface outlet  points = 3  Wetland has a permanently flowing, unconstricted, surface outlet  points = 1	5
D 1.2. <u>The soil 2 in below the surface (or duff layer</u> ) is true clay or true organic <i>(use NRCS definitions of soils)</i> YES = 3 NO = 0	0
D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes)  Wetland has persistent, ungrazed, vegetation for $> ^2/_3$ of area  Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area  Wetland has persistent, ungrazed vegetation from $^1/_{10}$ to $< ^1/_3$ of area  Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area  points = 0	0
D 1.4. Characteristics of seasonal ponding or inundation:  This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 1  points = 0	1
Total for D 1 Add the points in the boxes above	6
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the D 2.0. Does the landscape have the potential to support the water quality function of the site?	ne first page
D 2.1. Does the wetland 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  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	0
Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the	ne 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, or lake 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 water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?  Yes = 1 No = 0	0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES	
if there is a TMDL for the drainage or basin in which the wetland is found)? Yes = $2 \text{ No} = 0$	0
if there is a TMDL for the drainage or basin in which the wetland is found)? Yes = 2 No = 0  Total for D 3 Add the points in the boxes above	0

DEPRESSIONAL WETLANDS		Points
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.		(only 1 score per box)
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:		8
Wetland has no surface water outlet p	ooints = 8	O
Wetland has an intermittently flowing outlet p	ooints = 4	
Wetland has a highly constricted permanently flowing outlet p	ooints = 4	
1 , 5	ooints = 0	
(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")		
D 4.2. <u>Depth of storage during wet periods</u> : <i>Estimate the height of ponding above the bottom of the outlet. Fe</i>	or	0
wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).		· ·
	points = 8	
Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding		
•	points = 4	
·	points = 4	
1 0	points = 2	
7	ooints = 0	
Total for D 4 Add the points in the box	es above	8
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the re	ating on th	ne first page
D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges? Yes = 1	1 No = 0	0
	,	1

D 5.0. Does the landscape have the potential to support the 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 a land use that generates runoff? Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 No = 0	
Total for D 5 Add the points in the boxes above	0

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

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The wetland is in a landscape that has flooding problems.  Choose the description that best matches conditions around the wetland being rated. Do not add points.  Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND	0
Flooding occurs in sub-basin that is immediately down-gradient of wetland points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.	
Explain why points = 0	
There are no problems with flooding downstream of the wetland points = 0	
D 6.2. Has the site has 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	0

<u>Rating of Value</u> If score is: <u>2-4 = H</u> <u>1 = M</u> <u>0 = L</u>

RIVERINE WETLANDS		Points
Water Quality Functions - Indicators that the site functions to improve wat	ter quality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?	. ,	ρει σολή
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments duri	ng a flooding event:	
Depressions cover $> \frac{1}{3}$ area of wetland	points = 6	
Depressions cover > $^{1}/_{10}$ area of wetland	points = 3	
Depressions present but cover $< \frac{1}{10}$ area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowa	ırdin classes):	
Forest or shrub $> \frac{2}{3}$ the area of the wetland	points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland	points = 5	
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland	points = 2	
Forest, shrub, and ungrazed herbaceous < 1/3 area of wetland	points = 0	
Total for R 1 Add the poi	nts in the boxes above	
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L	Record the rating on	the first page
R 2.0. Does the landscape have the potential to support the water quality function	of the site?	
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests the	nat have been clearcut	
within the last 5 years?	Yes = 1 No = 0	
R 2.4. Is > 10% of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in o	uestions	
R 2.1-R 2.4? Source	Yes = 1 No = 0	
Total for R 2 Add the poi	nts in the boxes above	
Rating of Landscape Potential If score is: 3-6 = H 1 or 2 = M 0 = L	Record the rating on	the first page
R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that of mi?	Irains to one within 1	
	Yes = 1 No = 0	
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining	water quality? Answer	

<u>Rating of Value</u> If score is: <u>2-4 = H</u> <u>1 = M</u> <u>0 = L</u>

Total for R 3

Record the rating on the first page

Add the points in the boxes above

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	flooding and stream erosion	(only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	?	· ·
R 4.1. Characteristics of the overbank storage the wetland provides:		
Estimate the average width of the wetland perpendicular to the direction	on of the flow and the width of the	
stream or river channel (distance between banks). Calculate the ratio: (	average width of wetland)/(average	
width of stream between banks).		
If the ratio is more than 2	points = 10	
If the ratio is 1-2	points = 8	
If the ratio is ½-<1	points = 4	
If the ratio is ¼-< ½	points = 2	
If the ratio is < ¼	points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods:		
shrub. Choose the points appropriate for the best description (polygon	s need to have > 90% cover at person	
height. These are NOT Cowardin classes).		
Forest or shrub for more than $^2/_3$ the area of the wetland	points = 6	
Forest or shrub for $>^1/_3$ area OR emergent plants $>^2/_3$ area	points = 4	
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{3}$ area	points = 2	
Plants do not meet above criteria	points = 0	
Total for R 5	Add the points in the boxes above	
Rating of Site Potential If score is:12-16 = H6-11 = M0-5 = L	Record the rating on	the first page
R 5.0. Does the landscape have the potential to support the hydrologic	functions of the site?	
R 5.1. Is the stream or river adjacent to the wetland downcut?	Yes = 0 No = 1	
R 5.2. Does the up-gradient watershed include a UGA or incorporated area?	Yes = 1 No = 0	
R 5.3. Is the up-gradient stream or river controlled by dams?	Yes = 0 No = 1	
Total for R 5	Add the points in the boxes above	
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L	Record the rating on	the first page
R 6.0. Are the hydrologic functions provided by the site valuable to so	ciety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.	? Choose the description that best fits	
The sub-basin immediately down-gradient of site has surface flooding	problems that result in damage to	
human or natural resources	points = 2	
Surface flooding problems are in a basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 1	
	· · · · · · · · · · · · · · · · · · ·	
R 6.2. Has the site been identified as important for flood storage or flood con plan?	veyance in a regional flood control Yes = 2 No = 0	
Total for R 6	Add the points in the boxes above	
Rating of Value If score is: 2-4 = H 1 = M 0 = L	Record the rating on	the first page

LAKE FRINGE WETLANDS		Points
Water Quality Functions - Indicators that the site functions to improve water qua	ality.	(only 1 score per box)
L 1.0. Does the site have the potential to improve water quality?		
L 1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes):		
Plants are more than 33 ft (10 m) wide	points = 6	
Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide	points = 3	
Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide	points = 1	
Plants are less than 6 ft wide	points = 0	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results	in the highest	
points, and do not include any open water in your estimate of coverage. The herbaceous pla		
the dominant form or as an understory in a shrub or forest community. These are not Cowar		
of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include a	iquatic bed.	
Cover of herbaceous plants is > 90% of the vegetated area	points = 6	
Cover of herbaceous plants is $> \frac{2}{3}$ of the vegetated area	points = 4	
Cover of herbaceous plants is $> \frac{1}{3}$ of the vegetated area	points = 3	
Other plants that are not aquatic bed $> \frac{2}{3}$ wetland	points = 3	
Other plants that are not aquatic bed in $> \frac{1}{3}$ vegetated area	points = 1	
Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland	points = 0	
Total for L 1 Add the points in the	ne boxes above	

<u>Rating of Site Potential</u> If score is: \_\_\_\_8-12 = H \_\_\_\_4-7 = M \_\_\_\_0-3 = L

Record the rating on the first page

L 2.0. Does the landscape have the potential to support the water quality function of the site?		
L 2.1. Is the lake used by power boats?	Yes = 1 No = 0	
L 2.2. Is > 10% of the area within 150 ft of wetland on the upland side in land uses that generate pollutants?  Yes = 1 No = 0		
L 2.3. Does the lake have problems with algal blooms or excessive plants such as m	Ifoil? Yes = 1 No = 0	
Total for L 2 Add	the points in the boxes above	

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

Record the rating on the first page

L 3.0. Is the water quality improvement provided by the site valuable to	society?
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources?	Yes = 1 No = 0
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aq 303(d) list)?	uatic resource in the basin is on the Yes = 1 No = 0
L 3.3. Has the site been identified in a watershed or local plan as important for YES if there is a TMDL for the lake or basin in which wetland is found.	maintaining water quality? <i>Answer</i> Yes = 2 No = 0
Total for L 3	Add the points in the boxes above

<u>Rating of Value</u> If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

LAKE FRINGE WETLANDS  Hydrologic Functions - Indicators that the wetland unit functions to reduce shoreline	erosion (c	oints only 1 core per ox)
L 4.0. Does the site have the potential to reduce shoreline erosion?		
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore ( <b>do not</b> include A Choose the highest scoring description that matches conditions in the wetland.	Aquatic Bed):	
> ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 6	
> ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide	points = 4	
> ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 4	
Plants are at least 6 ft (2 m) wide (do not include Aquatic Bed)	points = 2	
Plants are less than 6 ft (2 m) wide (do not include Aquatic Bed)	points = 0	
		<b>6</b>

Rating of Site Potential If score is: \_\_\_6 = M \_\_\_0-5 = L

Record the rating on the first page

L 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0	
L 5.2. Is the fetch on the lake side of the wetland at least 1 mile in distance?	Yes = 1 No = 0	
Total for L 5	Add the points in the boxes above	

Rating of Landscape Potential If score is: 2 = H 1 = M 0 = L

Record the rating on the first page

L 6.0. Are the hydrologic functions provided by the site valuable to society?		
L 6.1. Are there resources, both human and natural, along the shore that can be impacted by erosion of the shore than one resource is present, choose the one with the highest score.  There are human structures or old growth/mature forests within 25 ft of OHWM of the shore wetland		
	points = 2	
There are nature trails or other paths and recreational activities within 25 ft of OHWM	points = 1	
Other resources that could be impacted by erosion	points = 1	
There are no resources that can be impacted by erosion along the shores of the wetland	points = 0	

Rating of Value | If score is: \_\_\_2 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

**NOTES and FIELD OBSERVATIONS:** 

SLOPE WETLANDS	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of average slope of wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
Slope is 1% or less points = 3	
Slope is > 1% - 2% points = 2	
Slope is > 2% - 5% points = 1	
Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (use NRCS definitions): Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.  Dense, uncut, herbaceous plants > 90% of the wetland area  points = 6	
Dense, uncut, herbaceous plants > ½ of area points = 3	
Dense, woody, plants > ½ of area points = 2	
Dense, uncut, herbaceous plants > ¼ of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	
Rating of Site Potential If score is:12 = H6-11 = M0-5 = L Record the rating on t	he first page
S 2.0. Does the landscape have the potential to support the water quality function at the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources Yes = 1 No = 0	
Total for S 2 Add the points in the boxes above	
Rating of Landscape Potential If score is:1-2 = M0 = L Record the rating on to	he first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (within 1 mi)?  Yes = 1 No = 0	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list.  Yes = 1 No = 0	
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which wetland is found)? Yes = 2 No = 0	
Total for S 3 Add the points in the boxes above	
Rating of Value If score is: 2-4 = H 1 = M 0 = L Record the rating on t	he first page

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and ero	osion	Points (only 1 score per box)
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the possible appropriate for the description that best fits conditions in the wetland. Stems of plants should enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.  Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions		
Rating of Site Potential If score is:1 = M0 = L Recor	rd the rating on t	he first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site	?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excerning runoff?	ess surface es = 1 No = 0	
Rating of Landscape Potential If score is:1 = M0 = L Recor	rd the rating on t	he first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has surface flooding problems that result in human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream  S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional plan?	points = 2 points = 1 points = 0	
Total for S 6 Add the points in the	e boxes above	

NOTES and FIELD OBSERVATIONS:

Rating of Value If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	score per box)
H 1.0. Does the wetland have the potential to provide habitat for many species?	· ·
H 1.1. Structure of the plant community:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% cover  Emergent plants > 40 in (> 100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs have >30% cover)  Forested (areas where trees have >30% cover)  2 checks: points = 2 2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	0
H 1.3. Surface water  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR  10% of its area during the March to early June OR in August to the end of September? Answer YES  for Lake Fringe wetlands.  Yes = 3 points & go to H 1.4 No = go to H 1.3.2  H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries,  or along one side, over at least ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Yes = 3 No = 0	0
H 1.4. 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. You do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species 4  Scoring: > 9 species: points = 2  4-9 species: points = 1  < 4 species: points = 0	0
H 1.5. Interspersion of habitats  Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure0
Riparian braided channels with 2 classes	

H 1.6. Special habitat features	
Charlette habitat features that are accept in the westland. The number of charles in the number of a circle.	
Check the habitat jeatures that are present in the wetland. The number of checks is the number of points.	
_xLoose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface	
ponding or in stream.	
Cattails or bulrushes are present within the wetland.	
Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.	
Emergent or shrub vegetation in areas that are permanently inundated/ponded.	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree	
slope) OR signs of recent beaver activity	
Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above 1	
ating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Record the rating on the first page	
H 2.0. Does the landscape have the potential to support habitat functions of the site?	
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:	
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50$	
> <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H. 2.2. Undisturbed behitet in 1 km Dolygon around wetland	
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches points = 1	
Undisturbed habitat < 10% of Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon:	
> 50% of Polygon is high intensity land use points = (-2)	
Does not meet criterion above points = 0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by	
irrigation practices, dams, or water control structures. <i>Generally, this means outside boundaries of</i>	
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
Total for H 2 Add the points in the boxes above 6	
ating of Landscape Potential If score is: 4-9 = H 1-3 = M < 1 = L Record the rating on the first page	
H 3.0. Is the habitat provided by the site valuable to society?	
H 2.1. Doos the site provide habitat for species valued in laws, regulations, or policies? Change the highest score	
that applies to the wetland being rated	
Site meets ANY of the following criteria: points = 2	
-	
* It has 3 or more priority habitats within 100 m (see Appendix B)	
K It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)	
* It is mapped as a location for an individual WDFW species	
* It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
Note that the second of th	
Shoreline Master Plan, or in a watershed plan	
Site has 1 or 2 priority habitats within 100 m (see Appendix B)  Site does not most any of the criteria above	
Site does not meet any of the criteria above points = 0  Peting of Value   If score is: 2 = H	

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

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	Yes
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	
Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater	
input.	
$\mathcal{N}$ Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as basalt or clay.	
Surface water is present for less than 120 days during the wet season.	
Yes – Go to SC 1.1 No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)?  Yes = Category II No = Category III	Cat. II Cat. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
☼ The wetland has a conductivity > 3.0 mS/cm.	
The wetland has a conductivity > 3.0 ms/cm. The wetland has a conductivity between 2.0 and 3.0 ms, and more than 50% of the plant cover in the	
wetland can be classified as "alkali" species (see Table 4 for list of plants found in alkali systems).	
salt.	
OR does the wetland unit meet two of the following three sub-criteria?	
Salt encrustations around more than 75% of the edge of the wetland	
Solution is a round more than 75% of the edge of the wetland    More than ¾ of the plant cover consists of species listed on Table 4	
★ A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands	
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	Cat. I
Yes = Category I No= Not an alkali wetland	
163 - Category 1 110-110t all alkali wedalla	
SC 2.0. Westlands of High Consequention Value (WHICV)	
SC 3.0. Wetlands of High Conservation Value (WHCV)	
SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to <b>SC 3.2</b> No – Go to <b>SC 3.3</b> SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV	
SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed	
on their website? Yes = Category I No =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b>	
you will still need to rate the wetland based on its functions.	
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or	
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field key to	
identify organic soils. Yes – Go to <b>SC 4.3</b> No – Go to <b>SC 4.2</b>	
SC 4.2. Does an area within the wetland 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 <b>SC 4.3</b> No = <b>Is not a bog for rating</b>	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of	
the total plant cover consists of species in Table 5? Yes = Category I bog No – Go to SC 4.4	
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with 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 5 provide more than 30% of the cover under the canopy?	Cat. I
Yes = Category I bog No – Go to SC 4.5	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and	
mucks? Yes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6	
SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks,	
AND one of the two following conditions is met:	
★ Marl deposits [calcium carbonate (CaCO <sub>3</sub> ) precipitate] occur on the soil surface or plant stems	Cat. I
$\aleph$ The pH of free water is $\ge$ 6.8 AND electrical conductivity is $\ge$ 200 uS/cm at multiple locations within the	
wetland Yes = Is a Category I calcareous fen No = Is not a calcareous fen	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets <b>at least one</b> of the following three criteria? ( <i>Continue only if you have identified that a forested class is present in question H 1.1</i> )	
The wetland is within the 100 year floodplain of a river or stream	
Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species	
* There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for these priority habitats developed by WDFW	
(see definitions in question H3.1)	
Yes – Go to SC 5.1 No = Not a forested wetland with special characteristics	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? Yes = Category I No – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover of woody species?  Yes = Category I No – Go to SC 5.3	Cat. I
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (see Table 7)?  Yes = Category II No – Go to SC 5.4	Cat. II
SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	Cat. II
Yes = Category II No = Not a forested wetland with special characteristics	Cat. II
Category of wetland based on Special Characteristics	П
Choose the highest rating if wetland falls into several categories	["
If you answered No for all types, enter "Not Applicable" on Summary Form	

### **Appendix B: WDFW Priority Habitats in Eastern Washington**

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

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

- **X** Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- \*\*Old-growth/Mature forests: Old-growth east of Cascade crest \_ Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. 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 and 80-160 years old east of the Cascade crest.
- **K Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **K Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **K** 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.
- **K** 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.
- **X** Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- \* Talus: Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- K 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 > 12 in (30 cm)in eastern 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.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **K** Eastside Steppe: Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **X Iuniper Savannah:** All juniper woodlands.

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

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## **RATING SUMMARY – Eastern Washington**

Name of wetland (or ID #): VP-110	Date of site visit: 6/28/22
Rated by Jess Taylor and Katie Pyne	Trained by Ecology? Yes <sup>X</sup> No Date of training
HGM Class used for rating	Wetland has multiple HGM classes?Y XN
•	ut the figures requested (figures can be combined).
OVERALL WETLAND CATEGORY	II (based on functions or special characteristics X)

### 1. Category of wetland based on FUNCTIONS

	Category I — Total score = 22-27
	Category II - Total score = 19-21
	_Category III - Total score = 16-18
X	Category IV — Total score = 9-15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
			Circle	the a	ppropi	riate ro	atings	;		
Site Potential	Н	M	L	Н	M	L	Н	М	L	
Landscape Potential	Н	М	L	Н	М	L	H	М	L	
Value	Н	М	L	Н	М	L	Н	М	L	TOTAL
Score Based on Ratings		4			4			5		13

### Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H 8 = H,H,M7 = H,H,L 7 = H, M, M6 = H,M,L 6 = M,M,M5 = H,L,L 5 = M,M,L4 = M, L, L3 = L, L, L

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

CHARACTERISTIC	CATEGORY Circle the appropriate category		
Vernal Pools X	II III		
Alkali	I		
Wetland of High Conservation Value	I		
Bog and Calcareous Fens	I		
Old Growth or Mature Forest – slow growing	I		
Aspen Forest	I		
Old Growth or Mature Forest – fast growing	II		
Floodplain forest	II		
None of the above			

# Maps and figures required to answer questions correctly for Eastern Washington <a href="Depressional Wetlands">Depressional Wetlands</a>

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	
(can be added to figure above)		
Boundary of area within 150 ft of the wetland (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

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

For questions 1-4, 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 1-4 apply, and go to Question 5.

1.	Does the entire unit <b>meet both</b> of the following criteria? The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size At least 30% of the open water area is deeper than 10 ft (3 m)
	NO – go to 2 <b>YES –</b> The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
2.	Does the entire wetland unit <b>meet all</b> of the following criteria? The wetland is on a slope ( <i>slope can be very gradual</i> ), The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks; The water leaves the wetland <b>without being impounded</b> .
	NO - go to 3  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 foot deep).
3.	Does the entire wetland unit <b>meet all</b> 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 10 years.
	NO - go to 4 YES – The wetland class is <b>Riverine NOTE:</b> The Riverine wetland can contain depressions that are filled with water when the river is not flooding.
4.	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. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
	NO – go to 5 YES – The wetland class is <b>Depressional</b>
5.	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 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND 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 wetland 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 (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

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

DEPRESSIONAL WETLANDS	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
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 has no surface water outlet  Wetland has an intermittently flowing outlet  Wetland has a highly constricted permanently flowing outlet  Wetland has a permanently flowing, unconstricted, surface outlet  points = 3  Wetland has a permanently flowing, unconstricted, surface outlet  points = 1	5
D 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic <i>(use NRCS definitions of soils)</i> YES = 3 NO = 0	0
D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes) Wetland has persistent, ungrazed, vegetation for $> ^2/_3$ of area Wetland has persistent, ungrazed, vegetation from $^1/_3$ to $^2/_3$ of area Wetland has persistent, ungrazed vegetation from $^1/_{10}$ to $< ^1/_3$ of area Wetland has persistent, ungrazed vegetation $< ^1/_{10}$ of area points = 0	0
D 1.4. Characteristics of seasonal ponding or inundation:  This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is ¼ - ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 1  Area seasonally ponded is < ¼ total area of wetland	1
Total for D 1 Add the points in the boxes above	6
Rating of Site Potential         If score is:12- 16 = H        6- 11 = M        0- 5 = L         Record the rating on the property of the record the rating on the property of the record the r	he 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 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	0
D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions	
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? SourceYes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  Record the rating on the	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1- D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:3 or 4 = H1 or 2 = M0 = L  D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?	0 he first page
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions  D 2.1-D 2.3? Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential  If score is:  3 or 4 = H  1 or 2 = M  0 = L  Record the rating on the stream of listed in questions  Person of the stream of the st	0 0 he first page 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	0 0 he first page 0 0

<u>DEPRESSIONAL WETLANDS</u>	Points (only 1 score
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and erosion.	per box)
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:	8
Wetland has no surface water outlet points = 8	
Wetland has an intermittently flowing outlet points = 4	
Wetland has a highly constricted permanently flowing outlet points = 4	
Wetland has a permanently flowing unconstricted surface outlet points = 0 (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")	
D 4.2. <u>Depth of storage during wet periods</u> : Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).	0
Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding points = 8	
Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent pondingpoints = 6	
The wetland is a headwater wetland points = 4	
Seasonal ponding: 1 ft - < 2 ft points = 4	
Seasonal ponding: 6 in - < 1 ft points = 2	
Seasonal ponding: < 6 in or wetland has only saturated soils points = 0  Total for D 4 Add the points in the boxes above	
'	8
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on ti	he first page
D 5.0. Does the landscape have the potential to support the 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 a land use that generates runoff? Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?  Yes = 1 No = 0	0
Total for D 5 Add the points in the boxes above	0
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on to	he first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The wetland is in a landscape that has flooding problems.  Choose the description that best matches conditions around the wetland being rated. Do not add points.  Choose the highest score if more than one condition is met.	0
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND	
Flooding occurs in sub-basin that is immediately down-gradient of wetland points = 2  Surface flooding problems are in a sub-basin farther down-gradient points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.	
Explain why points = 0	
There are no problems with flooding downstream of the wetland points = 0	
D 6.2. Has the site has 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	0
Rating of Value If score is:2-4 = H1 = M0 = L   Record the rating on t	he first page

RIVERINE WETLANDS	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?	, , , , ,
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event:	
Depressions cover $> \frac{1}{3}$ area of wetland points = 6	
Depressions cover $> \frac{1}{10}$ area of wetland points = 3	
Depressions present but cover $< \frac{1}{10}$ area of wetland points = 1	
No depressions present points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; <b>not</b> Cowardin classes):	
Forest or shrub $> \frac{2}{3}$ the area of the wetland points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland points = 5	
Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland points = 5	
Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland points = 2	
Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland points = 0	
Total for R 1 Add the points in the boxes above	
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating of Site Potential If score is: 12-16 = H 12-16 = H 13-16 = H 14-16 = H 14	on the first page
R 2.0. Does the landscape have the potential to support the water quality function of the site?	
R 2.1. Is the wetland within an incorporated city or within its UGA? Yes = $2 \text{ No} = 0$	
R 2.2. Does the contributing basin include a UGA or incorporated area? Yes = 1 No = 0	
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut	
within the last 5 years? Yes = 1 No = 0	
R 2.4. ls > 10% of the area within 150 ft of wetland in land uses that generate pollutants $Yes = 1$ No = 0	
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions	
R 2.1-R 2.4? Source Yes = 1 No = 0	
Total for R 2 Add the points in the boxes above	
Rating of Landscape Potential If score is: 3-6 = H 1 or 2 = M 0 = L Record the rating of	on the first page
R 3.0. Is the water quality improvement provided by the site valuable to society?	
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	
Yes = 1 No = 0	
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens? Yes = 1 No = 0	
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the drainage in which wetland is found. Yes = 2 No = 0	

Rating of Value If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

Total for R 3

Record the rating on the first page

Add the points in the boxes above

RIVERINE WETLANDS		Points
Hydrologic Functions - Indicators that site functions to reduce f	looding and stream erosion	(only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	)	, ,
R 4.1. Characteristics of the overbank storage the wetland provides:		
Estimate the average width of the wetland perpendicular to the direction	on of the flow and the width of the	
stream or river channel (distance between banks). Calculate the ratio: (	average width of wetland)/(average	
width of stream between banks).		
If the ratio is more than 2	points = 10	
If the ratio is 1-2	points = 8	
If the ratio is ½-<1	points = 4	
If the ratio is ¼-< ½	points = 2	
If the ratio is < 1/4	points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods:		
shrub. Choose the points appropriate for the best description (polygons	s need to have > 90% cover at person	
height. These are NOT Cowardin classes).  Forest or shrub for more than $^2/_3$ the area of the wetland	noints - 6	
Forest or shrub for $10^{11}$ area OR emergent plants $> 2^{1}$ , area	points = 6 points = 4	
Forest or shrub for $> \frac{1}{10}$ area OR emergent plants $> \frac{1}{10}$ area	points = 2	
Plants do not meet above criteria	points = 0	
Total for R 5	Add the points in the boxes above	
Rating of Site Potential If score is:12-16 = H6-11 = M0-5 = L	Record the rating on	tne Jirst page
R 5.0. Does the landscape have the potential to support the hydrologic	functions of the site?	
R 5.1. Is the stream or river adjacent to the wetland downcut?	Yes = 0 No = 1	
R 5.2. Does the up-gradient watershed include a UGA or incorporated area?	Yes = 1 No = 0	
R 5.3. Is the up-gradient stream or river controlled by dams?	Yes = 0 No = 1	
Total for R 5	Add the points in the boxes above	
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L	Record the rating on	the first page
R 6.0. Are the hydrologic functions provided by the site valuable to so	ciety?	
R 6.1. Distance to the nearest areas downstream that have flooding problems the site.	? Choose the description that best fits	
The sub-basin immediately down-gradient of site has surface flooding	problems that result in damage to	
human or natural resources	points = 2	
Surface flooding problems are in a basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
R 6.2. Has the site been identified as important for flood storage or flood complan?	veyance in a regional flood control Yes = 2 No = 0	
Total for R 6	Add the points in the boxes above	
Rating of Value If score is: 2-4 = H 1 = M 0 = I	Record the rating on	the first nage

Water Quality Functions - Indicators that the site functions to improve water quality.  L1.0. Does the site have the potential to improve water quality?  L1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes):  Plants are more than 33 ft (10 m) wide  Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide  Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide  Plants are less than 6 ft wide  Definition of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is > 90% of the vegetated area  Cover of herbaceous plants is > 1/3 of the vegetated area  Cover of herbaceous plants is > 1/3 of the vegetated area  Other plants that are not aquatic bed in > 1/3 wetland  Other plants that are not aquatic bed in > 1/3 wegetated area  Points = 1  Aquatic bed plants and open water cover > 2/3 of the wetland  Add the points in the boxes above	LAKE FRINGE WETLANDS		Points
L 1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes):  Plants are more than 33 ft (10 m) wide  Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide  Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide  Plants are less than 6 ft wide  Definition of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is > 90% of the vegetated area  Cover of herbaceous plants is > ½, a of the vegetated area  Points = 4  Cover of herbaceous plants is > ½, a of the vegetated area  Other plants that are not aquatic bed in > ½, a wetland  Other plants that are not aquatic bed in > ½, a wetland  Other plants that are not aquatic bed in > ½, a wetland  Other plants that are not aquatic bed in > ½, a wetland  Other plants and open water cover > ½, a of the wetland  Points = 0	Water Quality Functions - Indicators that the site functions to improve	ve water quality.	
Plants are more than 33 ft (10 m) wide points = 6 Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide points = 3 Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide points = 1 Plants are less than 6 ft wide points = 0  L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is > 90% of the vegetated area points = 6  Cover of herbaceous plants is $> \frac{2}{3}$ of the vegetated area points = 3 Other plants that are not aquatic bed $> \frac{2}{3}$ wetland points = 1 Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland points = 0	L 1.0. Does the site have the potential to improve water quality?		
Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide points = 3 Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide points = 1 Plants are less than 6 ft wide points = 0  L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is > 90% of the vegetated area points = 6  Cover of herbaceous plants is > $^2$ / <sub>3</sub> of the vegetated area points = 3  Other plants that are not aquatic bed > $^2$ / <sub>3</sub> wetland points = 3  Other plants that are not aquatic bed in > $^1$ / <sub>3</sub> vegetated area points = 1  Aquatic bed plants and open water cover > $^2$ / <sub>3</sub> of the wetland points = 0	L 1.1. Average width of plants along the lakeshore (use polygons of Cowardin classes	):	
Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide points = 1 Plants are less than 6 ft wide points = 0  L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is $> 90\%$ of the vegetated area points = 4  Cover of herbaceous plants is $> \frac{2}{3}$ of the vegetated area points = 3  Other plants that are not aquatic bed $> \frac{2}{3}$ wetland points = 3  Other plants that are not aquatic bed in $> \frac{1}{3}$ vegetated area points = 1  Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland points = 0	Plants are more than 33 ft (10 m) wide	points = 6	
Plants are less than 6 ft wide points = 0  L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is > 90% of the vegetated area points = 6  Cover of herbaceous plants is > $^2$ / $_3$ of the vegetated area points = 3  Other plants that are not aquatic bed > $^2$ / $_3$ wetland points = 3  Other plants that are not aquatic bed in > $^1$ / $_3$ vegetated area points = 1  Aquatic bed plants and open water cover > $^2$ / $_3$ of the wetland points = 0	Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide	points = 3	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is $> 90\%$ of the vegetated area points = 6  Cover of herbaceous plants is $> ^2/_3$ of the vegetated area points = 3  Other plants that are not aquatic bed in $> ^1/_3$ wegetated area points = 1  Aquatic bed plants and open water cover $> ^2/_3$ of the wetland points = 0	Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide	points = 1	
points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is $> 90\%$ of the vegetated area points = 6  Cover of herbaceous plants is $> ^2/_3$ of the vegetated area points = 3  Other plants that are not aquatic bed $> ^2/_3$ wetland points = 3  Other plants that are not aquatic bed in $> ^1/_3$ vegetated area points = 1  Aquatic bed plants and open water cover $> ^2/_3$ of the wetland points = 0	Plants are less than 6 ft wide	points = 0	
the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is $> 90\%$ of the vegetated area points = 6  Cover of herbaceous plants is $> ^2/_3$ of the vegetated area points = 3  Other plants that are not aquatic bed $> ^2/_3$ wetland points = 3  Other plants that are not aquatic bed in $> ^1/_3$ vegetated area points = 1  Aquatic bed plants and open water cover $> ^2/_3$ of the wetland points = 0	L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description	on that results in the highest	
of cover is total cover in the wetland, but it can be in patches. Herbaceous does not include aquatic bed.  Cover of herbaceous plants is $> 90\%$ of the vegetated area points = 6  Cover of herbaceous plants is $> ^2/_3$ of the vegetated area points = 4  Cover of herbaceous plants is $> ^1/_3$ of the vegetated area points = 3  Other plants that are not aquatic bed $> ^2/_3$ wetland points = 3  Other plants that are not aquatic bed in $> ^1/_3$ vegetated area points = 1  Aquatic bed plants and open water cover $> ^2/_3$ of the wetland points = 0	points, and do not include any open water in your estimate of coverage. The h	nerbaceous plants can be either	
Cover of herbaceous plants is $> 90\%$ of the vegetated area points = 6  Cover of herbaceous plants is $> ^2/_3$ of the vegetated area points = 4  Cover of herbaceous plants is $> ^1/_3$ of the vegetated area points = 3  Other plants that are not aquatic bed $> ^2/_3$ wetland points = 3  Other plants that are not aquatic bed in $> ^1/_3$ vegetated area points = 1  Aquatic bed plants and open water cover $> ^2/_3$ of the wetland points = 0	·		
Cover of herbaceous plants is $> ^2/_3$ of the vegetated area points = 4  Cover of herbaceous plants is $> ^1/_3$ of the vegetated area points = 3  Other plants that are not aquatic bed $> ^2/_3$ wetland points = 3  Other plants that are not aquatic bed in $> ^1/_3$ vegetated area points = 1  Aquatic bed plants and open water cover $> ^2/_3$ of the wetland points = 0		s not include aquatic bed.	
Cover of herbaceous plants is $> \frac{1}{3}$ of the vegetated area points = 3  Other plants that are not aquatic bed $> \frac{2}{3}$ wetland points = 3  Other plants that are not aquatic bed in $> \frac{1}{3}$ vegetated area points = 1  Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland points = 0		points = 6	
Other plants that are not aquatic bed > $^2/_3$ wetland points = 3  Other plants that are not aquatic bed in > $^1/_3$ vegetated area points = 1  Aquatic bed plants and open water cover > $^2/_3$ of the wetland points = 0	· · · · · · · · · · · · · · · · · · ·	points = 4	
Other plants that are not aquatic bed in $> \frac{1}{3}$ vegetated area points = 1  Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland points = 0	· · · · · · · · · · · · · · · · · · ·	points = 3	
Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland points = 0	· · · · · · · · · · · · · · · · · · ·	points = 3	
		points = 1	
Total for L 1 Add the points in the boxes above	Aquatic bed plants and open water cover $> \frac{2}{3}$ of the wetland	points = 0	
	Total for L 1 Add	the points in the boxes above	

Rating of Site Potential If score is: 8-12 = H 4-7 = M 0-3 = L

Record the rating on the first page

L 2.0. Does the landscape have the potential to support the water quality function of the site?		
L 2.1. Is the lake used by power boats?	Yes = 1 No = 0	
L 2.2. Is > 10% of the area within 150 ft of wetland on the upland side in land uses	that generate pollutants?  Yes = 1 No = 0	
L 2.3. Does the lake have problems with algal blooms or excessive plants such as m	nilfoil? Yes = 1 No = 0	
Total for L 2 Ad	d the points in the boxes above	

Rating of Landscape Potential If score is: \_\_\_2 or 3 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

3.0. Is the water quality improvement provided by the site valuable to society?	
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources?	Yes = 1 No = 0
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aquatic 303(d) list)?	resource in the basin is on the Yes = 1 No = 0
L 3.3. Has the site been identified in a watershed or local plan as important for mai YES if there is a TMDL for the lake or basin in which wetland is found.	ntaining water quality? <i>Answer</i> Yes = 2 No = 0
Total for L 3 Add	the points in the boxes above

<u>Rating of Value</u> If score is: \_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

LAKE FRINGE WETLANDS  Hydrologic Functions - Indicators that the wetland unit functions to reduce sho	oreline erosion	Points (only 1 score per box)
L 4.0. Does the site have the potential to reduce shoreline erosion?		
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore ( <b>do not</b> in Choose the highest scoring description that matches conditions in the wetland.	nclude Aquatic Bed):	
> ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 6	
> ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide	points = 4	
> ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 4	
Plants are at least 6 ft (2 m) wide (do not include Aquatic Bed)	points = 2	
Plants are less than 6 ft (2 m) wide (do not include Aquatic Bed)	points = 0	
Pating of Site Potential If score is: 6 - M 0.5 - I	Pecard the rating or	the first page

L 5.0. Does the landscape have the potential to support hydrologic fun	ctions of the site?	
L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0	
L 5.2. Is the fetch on the lake side of the wetland at least 1 mile in distance?	Yes = 1 No = 0	
Total for L 5	Add the points in the boxes above	

Rating of Landscape Potential If score is: \_\_\_2 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

L 6.0. Are the hydrologic functions provided by the site valuable to society?	
L 6.1. Are there resources, both human and natural, along the shore that can be impacted by erosion of the shore than one resource is present, choose the one with the highest score.  There are human structures or old growth/mature forests within 25 ft of OHWM of the shore wetland	
	points = 2
There are nature trails or other paths and recreational activities within 25 ft of OHWM	points = 1
Other resources that could be impacted by erosion	points = 1
There are no resources that can be impacted by erosion along the shores of the wetland	points = 0

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

Record the rating on the first page

**NOTES and FIELD OBSERVATIONS:** 

SLOPE WETLANDS	Points
Water Quality Functions - Indicators that the site functions to improve water quality	(only 1 score per box)
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of average slope of wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
Slope is 1% or less points = 3	
Slope is > 1% - 2% points = 2	
Slope is > 2% - 5% points = 1	
Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (use NRCS definitions): Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.  Dense, uncut, herbaceous plants > 90% of the wetland area  points = 6	
Dense, uncut, herbaceous plants > ½ of area points = 3	
Dense, woody, plants > ½ of area points = 2	
Dense, uncut, herbaceous plants > ¼ of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	
Rating of Site Potential If score is: 12 = H 6-11 = M 0-5 = L Record the rating on to	he first page
S 2.0. Does the landscape have the potential to support the water quality function at the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources Yes = 1 No = 0	
Total for S 2 Add the points in the boxes above	
Rating of Landscape Potential If score is:1-2 = M0 = L Record the rating on to	he first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (within 1 mi)?  Yes = 1 No = 0	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list.  Yes = 1 No = 0	
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which wetland is found)? Yes = 2 No = 0	
Total for S 3 Add the points in the boxes above	
Rating of Value If score is: 2-4 = H 1 = M 0 = L Record the rating on t	he first page

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce floo	ding and erosion	Points (only 1 score per box)
S 4.0. Does the site have the potential to reduce flooding and erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: appropriate for the description that best fits conditions in the wetland. Stems of enough (usually > 1/8 in), or dense enough, to remain erect during surface flows. Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland All other conditions	f plants should be thick	
Rating of Site Potential If score is:1 = M0 = L	Record the rating on th	ne first page
S 5.0. Does the landscape have the potential to support the hydrologic functio	ns of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that runoff?	generate excess surface Yes = 1 No = 0	
Rating of Landscape Potential If score is:1 = M0 = L	Record the rating on th	ne first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has surface flooding problem human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream	points = 2 points = 1 points = 0	
S 6.2. Has the site been identified as important for flood storage and flood conveyance plan?	e in a regional flood control  Yes = 2 No = 0	
Total for \$ 6	ne noints in the hoxes above	

<u>Rating of Value</u> If score is: \_\_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes.	(only 1
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	score per box)
H 1.0. Does the wetland have the potential to provide habitat for many species?	· ·
H 1.1. Structure of the plant community:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  X Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% cover  Emergent plants > 40 in (> 100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs have >30% cover)  Forested (areas where trees have >30% cover)  2 checks: points = 1 1 check: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	0
H 1.3. Surface water  H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR  10% of its area during the March to early June OR in August to the end of September? Answer YES  for Lake Fringe wetlands.  Yes = 3 points & go to H 1.4 No = go to H 1.3.2  H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No.  Yes = 3 No = 0	0
H 1.4. 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. You do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species 3  Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0	0
H 1.5. Interspersion of habitats  Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	Figure0
Riparian braided channels with 2 classes	

H 1.6. Special habitat features	1
Check the habitat features that are present in the wetland. The number of checks is the number of points.	1
$\underline{x}$ Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface	
ponding or in stream.	
Cattails or bulrushes are present within the wetland.	
Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.	
Emergent or shrub vegetation in areas that are permanently inundated/ponded.	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree	
slope) OR signs of recent beaver activity	
Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs,	
herbaceous, moss/ground cover)	
Total for H 1 Add the points in the boxes above	1
Rating of Site Potential If score is:15-18 = H7-14 = M0-6 = L Record the rating on the first page	
	1
H 2.0. Does the landscape have the potential to support habitat functions of the site?	
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is:	3
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 \%$	3
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	
20-33% of 1km Polygon points = 2	
10-19% of 1km Polygon points = 1	
<10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland.	0
Calculate: % undisturbed habitat $0 + [(\% \text{ moderate and low intensity land uses})/2] 50 = 50 %$	3
Undisturbed habitat > 50% of Polygon points = 3	
Undisturbed habitat 10 - 50% and in 1-3 patches points = 2	
Undisturbed habitat 10 - 50% and > 3 patches  points = 1	
Undisturbed habitat < 10% of Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon:	_
> 50% of Polygon is high intensity land use points = (- 2)	0
Does not meet criterion above points = 0	
·	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. <i>Generally, this means outside boundaries of</i>	0
reclamation areas, irrigation districts, or reservoirs  Yes = 3 No = 0	
	6
Total for H 2 Add the points in the boxes above	О
Rating of Landscape Potential If score is: 4-9 = H -1-3 = M -< 1 = L Record the rating on the first page	
	ı
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score	0
that applies to the wetland being rated	١٥
Site meets ANY of the following criteria: points = 2	
It has 3 or more priority habitats within 100 m (see Appendix B)	
It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists)	
$oldsymbol{\mathcal{K}}$ It is mapped as a location for an individual WDFW species	
It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
$oldsymbol{\mathcal{K}}$ 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 within 100 m (see Appendix B) points = 1	
Site does not meet any of the criteria above points = 0	
Pating of Value If score is: 2 - H 1 - M 0 - I Record the rating on the first nage	

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

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Vernal pools	Yes
Is the wetland less than 4000 ft <sup>2</sup> , and does it meet at least two of the following criteria?	. 55
Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater	
input.	
${\cal N}$ Wetland plants are typically present only in the spring; the summer vegetation is typically upland	
annuals. If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.	
ℵ The soil in the wetland is shallow [< 1 ft (30 cm)deep] and is underlain by an impermeable layer such as	
basalt or clay.	
Surface water is present for less than 120 days during the wet season.	
Yes – Go to SC 1.1 No = Not a vernal pool	
SC 1.1. Is the vernal pool relatively undisturbed in February and March?	
Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics	
SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other	Cat. II
wetlands, rivers, lakes etc.)? Yes = Category II No = Category III	Cat. III
	Cut. III
SC 2.0. Alkali wetlands	
Does the wetland meet <b>one</b> of the following criteria?	
★ The wetland has a conductivity > 3.0 mS/cm.	
☼ The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the	
wetland can be classified as "alkali" species (see Table 4 for list of plants found in alkali systems).	
If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of	
salt.	
OR does the wetland unit meet two of the following three sub-criteria?	
Salt encrustations around more than 75% of the edge of the wetland	
<del>-</del>	
More than % of the plant cover consists of species listed on Table 4	
X A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands	Cat. I
may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands.	0
Yes = Category I No= Not an alkali wetland	
SC 3.0. Wetlands of High Conservation Value (WHCV)	
SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 3.2 No – Go to SC 3.3	
SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	Cot
Yes = Category I No = Not a WHCV	Cat. I
SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV	
SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed	
on their website? Yes = Category I No =Not a WHCV	

SC 4.0 Bogs and Calcareous Fens	
Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or	
calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. <b>If you answer yes</b></i>	
you will still need to rate the wetland based on its functions.	
SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or	
mucks, that compose 16 in or more of the first 32 in of the soil profile? See Appendix C for a field key to	
identify organic soils. Yes – Go to <b>SC 4.3</b> No – Go to <b>SC 4.2</b>	
SC 4.2. Does an area within the wetland 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 <b>SC 4.3</b> No = <b>Is not a bog for rating</b>	
SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of	
the total plant cover consists of species in Table 5? Yes = <b>Category I bog</b> No – Go to <b>SC 4.4</b>	
<b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion	
by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0	
and the plant species in Table 5 are present, the wetland is a bog.	
SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western	
hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species	Cat. I
(or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy?	
Yes = Category I bog No – Go to SC 4.5	
SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and	
mucks? Yes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6	
SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks,	
AND one of the two following conditions is met:	
★ Marl deposits [calcium carbonate (CaCO <sub>3</sub> ) precipitate] occur on the soil surface or plant stems	Cat. I
$\aleph$ The pH of free water is $\ge$ 6.8 AND electrical conductivity is $\ge$ 200 uS/cm at multiple locations within the	
wetland Yes = Is a Category I calcareous fen No = Is not a calcareous fen	

SC 5.0. Forested Wetlands	
Does the wetland have an area of forest rooted within its boundary that meets <b>at least one</b> of	
the following three criteria? (Continue only if you have identified that a forested class is present	
in question H 1.1)	
The wetland is within the 100 year floodplain of a river or stream	
★ Aspen (Populus tremuloides) represents at least 20% of the total cover of woody species	
* There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are "mature" or	
"old-growth" according to the definitions for these priority habitats developed by WDFW	
(see definitions in question H3.1)	
Yes – Go to <b>SC 5.1</b> No = <b>Not a forested wetland with special characteristics</b>	
SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow	Cat. I
growing native trees (see Table 7)? Yes = Category I No – Go to SC 5.2	
SC 5.2. Does the wetland have areas where aspen ( <i>Populus tremuloides</i> ) represents at least 20% of the total cover	Cat. I
of woody species? Yes = Category I No – Go to SC 5.3	
SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species (see Table 7)?  Yes = Category II No – Go to SC 5.4	Cat. II
cover) are fast growing species (see Table 7)? Yes = Category II No – Go to SC 5.4 SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream?	
Yes = Category II No = Not a forested wetland with special characteristics	Cat. II
<u> </u>	
Category of wetland based on Special Characteristics Choose the highest rating if wetland falls into several categories	II
If you answered No for all types, enter "Not Applicable" on Summary Form	ı

### **Appendix B: WDFW Priority Habitats in Eastern Washington**

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

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

- **X** Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- \*\*Old-growth/Mature forests: Old-growth east of Cascade crest \_ Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. 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 and 80-160 years old east of the Cascade crest.
- **K Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- **K Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **K** 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.
- **K** 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.
- **X** Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- \* Talus: Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- K 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 > 12 in (30 cm)in eastern 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.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **K** Eastside Steppe: Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **X Iuniper Savannah:** All juniper woodlands.

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

## Wetlands and Other Waters of the United States Delineation Report for the Carriger Solar Project

### Prepared for:

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## ist of Abbreviations and Acronyms

AMSL above mean sea level

E & E Ecology and Environment, Inc., member of WSP

GPS Global Positioning System
GIS global information system
HPA Hydraulic Project Approval

HUC hydrologic unit code met station meteorological station

NHD National Hydrography Dataset

NRCS Natural Resources Conservation Service

NWI National Wetland Inventory

NWP Nationwide Permit
PEM palustrine emergent

PEM1C palustrine emergent wetland, persistent vegetation, seasonally flooded

PEM1F Emergent, Persistent Vegetation, Semipermanently Flooded

PEM2F Palustrine, Emergent, Nonpersistent Vegetation, Semipermanently Flooded

Project Carriger Solar Project

SP soil pit

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

USGS U.S. Geological Survey
UVP upland verification pit

WDFW Washington Department of Fish and Wildlife

WDOE Washington Department of Ecology

WETS wetlands

1

# Introduction

Ecology and Environment, Inc., member of WSP (hereafter referred to as E & E) performed a delineation of wetlands and other waters of the United States for the Cypress Creek Renewables, LLC and Carriger Solar, LLC Carriger Solar Project (Project; see Appendix A, Figure 1). The Project Area consists of four sites totaling 1,097.2 acres (parcel numbers 04150100000500, 04151200000200, 04151100000500, 04151100000100, 04150100000300, 04150100000100, 04160600000400, 05152500000900, 05152500000500, 05152514120300, 05152514120400, 05152514120200, 05152514120100, 05152600000500, 05153500000900, 05153500000200, 05153500001200, 05153500001300, 05152600000600, and 05153500001500, and 0515250009900) (see Appendix A; Figure 2). Sites are located along Knight Road, Mesecher Road W, Fish Hatchery Road, Pine Forest Road, Tucker Hill Road, and Butts Road. The Project Area is in Township 5 North, Range 16 East; Township 5 North, Range 15 East; Township 4 North, Range 15 East; and Township 4 North, Range 14 East near the city of Goldendale, Klickitat County, Washington. The Project Area is in the Middle Columbia, Columbia River Basin below the confluence of the Snake River Basin to Bonneville Dam (170701060303 Hydrologic Unit Code [HUC]). The purpose of the Project is to expand Cypress Creek Renewables 's solar renewable energy footprint within Klickitat County.

The Project Area is composed primarily of agricultural and residential land uses, with some forestland on the eastern portions of the Project Area. The surrounding area exists as rural residential and agricultural land uses. Six wetlands were identified within the Project Area and account for approximately 1.57 acres. Five streams cross the Project Area and account for an additional 20,120.26 linear feet of waterway within the Project Area (see Appendix A, Figures 3 through 7). The Project is located within the U.S. Army Corps of Engineers (USACE) Seattle District boundary. The Project is located within two ecoregions and was delineated using both Arid West and Western Mountains Valleys and Coast Regional Supplements (USACE 2008, 2010).

The wetlands and other waters identified within the Project Area are under the jurisdiction of the Washington Department of Ecology (WDOE) and USACE. No placement of fill may occur without their written permission. If impacts on on-site wetlands or other waters is proposed, these activities may be authorized under the USACE 2017 Nationwide Permit Program (NWP) 51 – Land-Based Renewable Energy Generation Facilities.

2

## **Methods**

Prior to field delineation, E & E reviewed publicly available datasets to determine the locations of potential wetlands, streams, or other waters. Digital base maps were prepared with georeferenced aerial imagery that included: Study Area boundaries, National Resources Conservation Service (NRCS) Soils, U.S. Fish and Wildlife Services (USFWS) National Wetland Inventory (NWI), and National Hydrology Dataset (NHD). Based on the results of the desktop review, field reconnaissance-level surveys were conducted to develop general siting constraints.

The methods used for determining and delineating wetlands and other waters adhere to those found in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West and Western Mountains Valleys and Coast Regional Supplements (USACE 2008, 2010), and WDOE administrative rules for wetland delineation report requirements and jurisdictional determinations (Washington Administrative Code 173-22-035). Wetlands and open water boundaries were determined by the disappearance of one or more of their diagnostic characteristics. Ordinary high water marks defined the outermost regulatory boundaries of other waters. Streams were classified according to the classification scheme of Cowardin et al. (1979). Wetland communities were classified according to the classification scheme of hydrogeomorphic (HGM) approach, although they are also assigned a Cowardin classification (Brinson 1993).

A Global Positioning System (GPS) unit with submeter accuracy was used, in addition to aerial photography and topographic figures, for the survey. Geographic information system (GIS) software was used to determine wetland dimensions and produce a map of the Project Area showing wetlands and other waters.

### 2.1 Survey

Two E & E biologists, Rachel Locke and Bridget Wojtala, conducted an on-site investigation to determine the extent and quality of wetlands and other waters located within the boundaries of the Project Area. On-site surveys were conducted from April 29 through May 1, 2020, and were completed on May 5, 2020. See Appendix D for staff qualifications.

Surveys consisted of systematically traversing the subject property and viewing adjacent properties from roadways and public access areas. E & E collected data



points within waters and adjacent upland areas to demonstrate differences between these two community types and to support delineation of the waters. Sample plots were established within each potential wetland within the Project Area, including all potential waters identified by the NWI and NHD. Complete data for each plot were collected and recorded in USACE's Routine Wetland Determination Data Forms pertaining to the applicable USACE Regional Supplement.

### 2.2 Determination

### Vegetation

To determine the presence of hydrophytic vegetation, the dominant species in each major vegetative stratum (e.g., tree, shrub/sapling, herbaceous, and woody vine) were identified and recorded. Each plant was then assigned a wetland indicator status according to Lichvar et. al. (2016). Indicators are summarized in Table 2-1.

**Table 2-1 Wetland Indicator Status** 

Indicator Status	Designation	Definition	
Obligate (OBL)	Hydrophyte	Almost always occurs in a wetland.	
Facultative Wetland	Hydrophyte	Usually occurs in a wetland, but may occur	
(FACW)		in a non-wetland.	
Facultative (FAC)	Hydrophyte	Occurs in wetlands and non-wetlands.	
Facultative Upland	Non-hydrophyte	Usually occurs in non-wetland, but may	
(FACU)		occur in a wetland.	
Upland (UPL)	Non-hydrophyte	Almost never occurs in a wetland.	

Source: Lichvar et al. 2016

A no indicator (NI) designation represents a species where not enough information is available to assign an indicator status. A not listed (NL) designation represents a species where identification was not determined sufficiently enough to assign an indicator status. Once the indicator status is assigned to each dominant species, E & E performed the percent dominance test according to the protocol outlined within the applicable Regional Supplement to determine if the plot meets the criterion for hydrophytic vegetation (USACE 2012).

#### Soils

Soils were examined using a tile spade shovel, or "sharpshooter," to a depth of 30 centimeters (12 inches). Wherever disturbance of the soils was evident, due to past excavation or fill activity, the soil characterization was performed in adjacent, undisturbed areas within the potential wetland. Soils were characterized at a depth immediately below the A-horizon or at 30 centimeters (12 inches), whichever was shallower. Soil colors were identified using the Munsell Soil Color Chart (Munsell Color 2010), and other characteristics such as the presence of mottles and soil texture were recorded. Hydric characteristics such as organic soil layers, gleiing, and oxidized rhizospheres were noted where they occurred. The soils were evaluated both within and outside the wetland boundaries.



### **Hydrology**

The Wetlands Delineation Manual provides guidelines for determining the presence of wetland hydrology (Environmental Laboratory 1987). In general, the criteria for wetland hydrology are met if the area is inundated or saturated at the soil surface during the growing season for a time sufficient to develop hydric soils and support hydrophytic vegetation. In some instances, it is necessary to use other field characteristics to identify wetland hydrology. These characteristics may include water staining, sediment deposits, drainage patterns, or drift lines. Hydrologic characteristics, as well as the depth of surface water or depth of soil saturation, were recorded for each wetland area.

#### **Delineation**

If the soils, hydrology, and vegetation at a survey point indicated that it was within a wetland, the boundary of the wetland was determined, and it was flagged with wetland delineation tape. The approximate boundary was recorded on site maps, and the flagged boundary was surveyed using a GPS unit. GIS software was used to determine wetland dimensions and produce a map of the Project Area showing wetlands and other waters of the United States (see Appendix A, Figures 3 through 7).

### 2.3 Washington State Wetland Rating

Each wetland was categorized in accordance with WDOE's updated Wetland Rating System for Western Washington (Rating System) (Hruby 2014). WDOE has established four primary categories of wetland quality that are based on the physical characteristics of water quality, hydrology, and habitat functions within the wetland and buffers. Using this system, wetlands are given a score based on the functions provided by the wetland and are classified as Category I through IV. Based on the Rating System, wetlands were assigned corresponding buffers per Klickitat County Critical Areas Ordinance (Klickitat County 2013) (see Table 2-2).

Table 2-2 Washington State Wetland Rating System

Score	Category	Description	Buffer (feet)	Buffer¹ (feet)
23 or greater	I	I Represents a unique or rare wetland type, are more sensitive to disturbance, are relatively undisturbed, or provide a high level of functions.		150
20-22	II	Represents difficult to replace wetlands, provide high levels of some functions, and though less rare than Category I wetlands, require a relatively high level of protection.		100
16-19	III	Represents wetlands with a moderate level of functions and can often be adequately replaced.	75	50
Fewer than 16	IV	Represents wetlands with the lowest quality of functions and are often heavily disturbed.	75	37.5

Note:

<sup>1</sup> Buffer width if it is demonstrated that wetland functions and values will not be reduced.



#### 2.4 Literature Review

### **USGS Topographic Map**

According to the United States Geological Survey (USGS) 7.5-minute Centerville Quadrangle maps (2013, 2014) (see Appendix A, Figure 8), the elevation of the Project Area ranges from approximately 1,500 feet above mean sea level (AMSL) in the southern portion to approximately 2,000 feet AMSL in the northern portion. The local topography generally slopes down to the south/southwest.

The nearest surface waterbodies are Bloodgood Creek located approximately 1 mile to the east, Blockhouse Creek located approximately 1.17 miles to the west, Mill Creek located approximately 1.36 miles to the west, and Little Klickitat River located 2.15 miles to the south of the Project Area.

Based on the local topography and proximity of surface waterbodies, local groundwater flow is presumed to be to the south/southwest. However, local subsurface geologic and man-made features can affect groundwater flow; therefore, this groundwater flow interpretation is only an estimate based on surface observations. Review of water well records filed with the USGS Washington Water Science Center indicate that depth to groundwater in the Project Area may be approximately 150 feet below ground surface.

### **National Wetland Inventory and National Hydrography Dataset**

The NWI (USFWS 2015) and NHD (USGS 2015) both indicate the presence of wetlands and non-wetland waters in the Project Area (see Appendix A, Figures 9 and 10). Six streams are depicted in the NWI and NHD maps within Sites 1, 2, and 4. One wetland feature is depicted in the Project Area within Site 1. One wetland feature is depicted outside of the Project Area, in the Survey Area within Site 2.

Within Site 1, one perennial stream is depicted on the eastern portion of the Project Area extending into Site 2, this stream is mapped as Stream 1. One freshwater emergent wetland is depicted abutting this stream, this wetland feature is mapped as Wetland A. Two additional intermittent streams are depicted in Site 1 on the western portion of the Project Area, one stream is mapped as Stream 2. The western most NHD line was deemed to not be a stream feature.

Two perennial streams are depicted in Site 2, the western stream a continuation of Stream 1 from Site 1. The eastern stream is mapped as Stream 3. One freshwater pond is depicted abutting Stream 3 outside of the Project Area, within the Survey Area.

One intermittent stream is depicted bisecting Site 3. This stream is depicted continuing north to bisect Site 4.



A perennial stream is depicted in the westernmost portion of Site 4. This stream branches in the southern portion of the Site, continuing west in the Site as intermittent, and north as perennial. One intermittent stream continuing north from Site 3 crosses the Project Area and reenters to the west. A perennial stream continues north from Site 2 and crosses the western portion of Site 3, branching at this northernmost portion in the Site to continue north as intermittent and west as perennial.

### **USGS Soil Survey**

Review of the Web Soil Survey indicates that the Project Area is underlain by 14 soil map units (NRCS 2019; see Appendix A, Figure 11). One soil type, Munset stony silty loam, is listed as hydric; and one soil type, Setnum silt loam, is listed as having a minor hydric component. All soil types within the Project Area are listed in Table 2-3.

Table 2-3 Soil Types Mapped in Survey Area

Symbol	Soil Type	Status	Percent Hydric	Acres in Survey Area	Percent in Survey Area
11A	Xerands, low precipitation, 25% to 45% slopes	Not Hydric	0	6.8	0.5
12D	Lyville boulder loam, 2% to 20% slopes	Not Hydric	0	73.9	5.6
23	Gunn loam, 2% to 8% slopes	Not Hydric	0	125	9.5
23A	Gunn stony loam, 8% to 30% slopes	Not Hydric	0	21.2	1.6
23B	Gunn loam, 8% to 30% slopes	Not Hydric	0	5	0.4
25A	Leidl extremely cobbly ashy loam, 2% to 30% slopes	Not Hydric	0	90.5	6.9
30B	Rocky-Lorena complex, 2% to 15% slopes, extremely stony	Not Hydric	0	43.4	3.3
69	Goldendale silt loam, basalt substratum, 2% to 5% slopes	Not Hydric	0	282.7	21.5
69A	Goldendale silt loam, balsalt substratum, 5% to 10% slopes	Not Hydric	0	21.5	1.6
93	Goldendale silt loam, 2% to 5% slopes	Not Hydric	0	201.1	15.3
93A	Goldendale silt loam, 5% to 10% slopes	Not Hydric	0	210.2	16
93B	Goldendale silt loam, 10% to 15% slopes	Not Hydric	0	71.9	5
97	Munset stony silt loam, 0% to 5% slopes	Not Hydric	90	146	11.1
97A	Setnum silt loam, 0% to 3% slopes	Not Hydric	5	15.8	1.2

### **Sensitive Wildlife and Plants**

The Washington Department of Fish and Wildlife's (WDFW's) Priority Habitats and Species database online mapper was utilized to determine if priority habitat and/or state threatened or endangered species occur on or near the Project Area (WDFW 2009). According to the WDFW Priority Habitats and Species web mapper, the northern spotted owl (*Strix occidentalis*), sharp-tailed snake (*Contia tenuis*), and western gray squirrel (*Sciurus griseus*) habitat or species may occur within the Project Area. According to the WDFW Priority Habitats and Species



web mapper, oak forest and oak/pine mixed forest Priority Habitat may occur within the northeastern portion of Site 2.

Preferred habitat for the northern spotted owl includes ponderosa pine, Douglasfir, and old growth, mature forests. Northern spotted owls may occur within the Project Area.

Preferred habitat for the sharp-tailed snake includes rocky forest openings dominated by Garry oak and riparian deciduous woodland characterized by woody debris and ponderosa pine, oak, or shrub-steppe. Suitable habitat for the sharp-tailed snake does not exist within the Project Area.

Preferred habitat for the western gray squirrel includes transitional forests of white oak, pondersa pine, and Douglas-fir. Western gray squirrels may occur within the Project Area.

Federal Emergency Management Agency Flood Insurance Rate Map The Federal Emergency Management Agency produces Flood Insurance Rate Maps, which show the locations of predictable floodplain during precipitation flood events. There are no 100-Year Flood Zones located within the Project Area (see Appendix A, Figure 12).

### 2.5 Precipitation Analysis

The precipitation data analyses provided in this section were utilized to inform the assessment of hydrologic conditions in the Project Area during the times of data collection. This section documents precipitation amounts prior to and during the months in which wetland field surveys were conducted in April and May 2020.

E & E analyzed precipitation data from two National Weather Service meteorological stations (met stations): the Goldendale, Washington and the Goldendale 4.2 NNW, Washington meteorological stations. Both stations are located within 5 miles of the center of the Project Area. Wetlands (WETS) Tables were obtained from the Goldendale, Washington, station because it maintains long-term data. E & E used recently observed precipitation data from the Goldendale 4.2 NNW, Washington, meteorological station, due to missing 2020 precipitation data from Goldendale, Washington, station. Table 2-4 displays the daily precipitation during the survey and two weeks prior.

WETS tables are provided by the NRCS National Water and Climate Center for met stations with long-term data (more than 30 years) to define thresholds for normal monthly precipitation. As with most WETS Tables, the thresholds of normality are based on data collected from 1971 through 2000. These thresholds are set such that the lowermost 30 percent of values is abnormally low, and the uppermost 30 percent of values is abnormally high, which results in only a 40 percent chance that a given month's precipitation will be determined as normal.



Table 2-4 Daily Precipitation Data from Goldendale 4.2 NNW,
Washington for Two Weeks Prior To and Including
the April 29 through May 5. 2020. Survey

Precipitation				
Date	(inches)			
4/14/2020	0			
4/15/2020	0			
4/16/2020	Trace amount (<0.01 inch)			
4/17/2020	0			
4/18/2020	0			
4/19/2020	0.01			
4/20/2020	0			
4/21/2020	0			
4/22/2020	0			
4/23/2020	0.04			
4/24/2020	0			
4/25/2020	Missing data			
4/26/2020	0.01			
4/27/2020	0.02			
4/28/2020	0			
4/29/2020	0			
4/30/2020	0			
5/1/2020	0			
5/2/2020	0			
5/3/2020	0.06			
5/4/2020	0			
5/5/2020	0			

Note: Bold font indicates the days that field work was completed.

E & E compared precipitation data for the months prior to and including the survey dates with WETS Table precipitation thresholds to determine whether these months exhibited Abnormally Low, Normal, or Abnormally High levels of precipitation (see Table 2-5). Precipitation in January was abnormally high but was followed with four months of abnormally low rainfall leading up to the April/May survey.

Table 2-5 Precipitation Normality for the Three Months Leading Up to and Including the Survey Dates

Month	Observed <sup>1</sup> for Month (inches)	30-year Average (1971- 2019) for Month <sup>2</sup> (inches)	30% Chance Less Than (inches)	30% Chance More Than (inches)	Precipitation Normality
January 2020	3.38	2.74	1.86	3.27	Abnormally High
February 2020	0.19	1.82	1.03	2.21	Abnormally Low
March 2020	0.65	1.71	1.18	2.04	Abnormally Low
April 2020	0.24	1.06	0.56	1.29	Abnormally Low
May 2020 (5/1-5/6)	0.15	0.99	0.61	1.20	Abnormally Low

Note: Field surveys occurred April 29 through May 1 and May 5, 2020.

<sup>&</sup>lt;sup>1</sup> Observed values derived from Goldendale 4.2 NNW, Washington, met station.

<sup>&</sup>lt;sup>2</sup> 30-year normals came from Goldendale, Washington, met station.



Utilizing the method outlined in Section 650.1903 of the NRCS Engineering Field Handbook (NRCS 1997), antecedent precipitation leading up to the April survey was less than normal. According to data from Goldendale 4.2 NNW, Washington, met station, cumulative precipitation has been below 100 percent (1971 to 2019 average) the water year, which began October 1, 2019 and ends September 30, 2020. Despite the above-normal precipitation that occurred in January, cumulative precipitation was well below normal during both the April and May survey dates (see Table 2-6).

Table 2-6 Cumulative Monthly Precipitation for the Water Year

Month	Observed <sup>1</sup> Cumulative Precipitation for Water Year (inches)	Percent of Average <sup>2</sup> Water Year Accumulation
January 2020	6.46	64.8%
February 2020	6.65	56.4%
March 2020	7.30	54.1%
April 2020	7.54	51.8%
May 2020	7.69	49.5%

Notes:

<sup>1</sup> Observed values derived from Goldendale 4.2 NNW, Washington, met station.

<sup>2 30-</sup>year normals came from Goldendale, Washington, met station.

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### **Results and Discussion**

### 3.1 Findings

E & E delineated six wetlands and five streams within the Project Area. Wetland delineation maps (see Appendix A, Figures 3 through 7) depict the Project Area, the Survey Area, the wetland boundaries, and the locations of all streams noted during the survey. Wetlands have been delineated using both Arid West and Western Mountains Valleys and Coast Regional Supplements and categorized using the Wetland Rating System for Western Washington; data sheets and scoring forms are included in Appendix B. On-site photographs are provided in Appendix C.

### 3.2 Non-wetlands

The Project Area is located within grassy shrub-steppe communities that have been heavily disturbed by agricultural crops and livestock grazing. The dominant upland plant communities include: Non-native Grassy Meadows, Grassy Steppe, Ponderosa Pine-Oak Forest, and Agricultural fields. On-site upland areas total 1,093.52 acres.

Non-native Grassy Meadows occur along low-lying areas adjacent to streams. They are predominantly used for livestock grazing and predominantly include: bulbous bluegrass (*Poa bulbosa*), cheatgrass (*Bromus tectorum*), silky lupine (*Lupinus sericeus*), nineleaf biscuitroot (*Lomatium triternatum*), barestem biscuitroot (*Lomatium nudicaule*), and camas (*Camassia quamash*).

Grassy Steppe communities are generally located at higher elevations along hillslopes and steep stream terraces or within highly drained soils in low areas. They are drier than the non-native grassy meadow communities and generally consist of: thymeleaf buckwheat (*Eriogonum thymoides*), blue mountain buckwheat (*Eriogonum strictum*), *Poa bulbosa, Bromus tectorum*, and catsear (*Hypochaeris radicata*). Agricultural fields are either recently tilled or contain wheat crops. These areas were located on top of hills with irrigation running down slopes into lower vegetation communities. Active Agriculture fields are located on Sites 1, 3, and 4.

Upland verification points (UVP) and additional soil pits (SP) were placed in areas along NHD lines and in areas that appeared to be a potential wetland (see Table 3-1; see Appendix C for photos).





Table 3-1 Upland Verification Points (UVP) and Soil Pits (SP)

Point ID	Remote Sensing Indicators	Comment
SP-3	Dark area on aerial imagery on south end of Stream 1.	No wetland in this location. Low area adjacent to Stream 1.
SP-10	Dark area on aerial imagery on south end of Stream 2.	Low area on Site 1, that seemed to potentially capture water. Area is dry and did not contain wetland indicators.
SP-11	Dark area on aerial imagery in location of NHD line.	Low area on Site 1, that seemed to potentially capture water. Area is dry and did not contain wetland indicators.
SP-14	Dark area on aerial imagery along Stream 3.	Area is a wet meadow along Stream 3, but does not meet any wetland indicators.
SP-15	Dark area on aerial imagery along Stream 3.	Area is a wet meadow along Stream 3, but does not meet any wetland indicators.
SP-16	Dark area on aerial imagery along Stream 3.	Area is a wet meadow along Stream 3, but does not meet hydrology or hydric soil indicators.
UVP 1	NHD line through Site 4.	This is in an agricultural field. No stream along NHD line, does not have defined bed and bank. No datasheet taken here.
UVP 2	NHD line through Site 3.	This is in an agricultural field. No stream along NHD line, does not have defined bed and bank. No datasheet recorded here.
UVP 3	Dark area on aerial imagery on Site 4.	This is a small unplowed upland area in the middle of an agricultural field. No datasheet recorded here.
UVP 4	NHD line through Site 4.	No stream along NHD line, does not have defined bed and bank. No datasheet recorded here.
UVP 5	NHD line through Site 4.	This is in an agricultural field. No stream along NHD line, does not have defined bed and bank. No datasheet recorded here.
UVP 6	NHD line through Site 4.	This is in an agricultural field. No stream along NHD line, does not have defined bed and bank. No datasheet recorded here.

Key:

NHD = National Hydrography Dataset

SP = soil pit

UVP = upland verification pit

#### Soil Pit 3

SP-3 is located in a wet meadow along Stream 1. The area appears to contain similar features to Wetland A. Vegetation dominants include: *Camassia quamash*, common spikerush (*Eleocharis palustris*), and medusahead (*Taenia-therum capt-medusa*). The area meets both hydric vegetation and hydrology for wetlands. However, hydric soil indicators were not met within the wet meadow. E & E anticipates a regular water table would increase water within the streams and the overall hydrology of the site, but lack of soil indicators cannot be fully explained by drier than normal water year. Hydric soil indicators are a result of long-term inundation that are not going to remove hydric soil indicators from one dry water year. This area was deemed to be upland.

#### Soil Pit 10

SP-10 is located within a depression at the end of Stream 2. Aerial imagery gave this area the appearance of saturation, however, no wetland indicators were met. Dominant vegetation includes: *Eriogonum thymoides*, *Poa bulbosa*, and *Hypochaeris radicata*.



#### Soil Pit 11

SP-11 is located within a depression near Stream 2. Aerial imagery gave this area the appearance of saturation, however, no wetland indicators were met. Dominant vegetation includes: *Eriogonum strictum* and *Hypochaeris radicata*.

#### Soil Pit 15

SP-15 is located along Stream 3 within a low stream terrace. Soils were dry and do not contain any hydric soil features despite their location within the floodplain of the stream. Vegetation dominants include ponderosa pine (*Pinus ponderosa*) and elk sedge (*arex geyeri*).

#### Soil Pit 16

SP-16 is located along Stream 3 within a wet meadow. Water was present within the stream at the time of the survey, but soils did not contain any hydric soil features. Vegetation dominants include *Eleocharis palustris* and *Poa bulbosa*.

#### 3.3 Wetlands

Six wetlands were delineated within the Project Area and totaled approximately 1.57 acres. All wetland features on-site were observed along NHD lines in low areas abutting streams. The on-site wetlands consist of palustrine emergent (PEM) vegetative communities. Wetlands have been evaluated using the most current Washington State Rating System for Eastern Washington. Wetland results are presented in Table 3-2. Using GIS, wetland size has been determined for areas within the Project Area. Wetlands are illustrated in Appendix A; Figures 3 through 7. Data sheets and scoring forms are included in Appendix B. On-site photographs are provided in Appendix C

**Table 3-2 Project Area Wetlands** 

					Size within Project	
Wetland ID	Cowardian Classification	HGM Classification	Score	Jurisdictional Authority	Area (acres)	Additional Information
Wetland A	PEM1C	Riverine	Cat III	Section 404 Waters of the U.S. and Section 401 waters of the State	0.26	Abutting Stream 1 on Site 1; mapped by NWI as a PEM 1C.
Wetland B	PEM1F	Depressional	Cat III	Section 404 Waters of the U.S. and Section 401 waters of the State	0.46	Depression abutting Stream 1 on Site 1; not mapped by NWI.
Wetland C	PEM2F	Depressional	Cat III	Section 404 Waters of the U.S. and Section 401 waters of the State	0.18	Depression abutting Stream 1 and Wet- land D; not mapped on NWI.
Wetland D	PEM1C	Slope	Cat III	Section 404 Waters of the U.S. and Section 401 waters of the State	0.69	Abutting Stream 1 and Wetland C; not mapped on NWI.



**Table 3-2 Project Area Wetlands** 

Wetland ID	Cowardian Classification	HGM Classification	Score	Jurisdictional Authority	Size within Project Area (acres)	Additional Information
Wetland E	PEM1C	Riverine	Cat III	Section 404 Waters of the U.S. and Section 401 waters of the State	0.37	Abutting Stream 2 on Site 1; not mapped by NWI.
Wetland F	PEM1C	Riverine	Cat III	Section 404 Waters of the U.S. and Section 401 waters of the State	0.03	Abutting Stream 3 on Site 2; not mapped by NWI.
Total Wetla	ands				1.57	

Key:

HGM = hydrogeomorphic

PEM1C = Palustrine, Emergent, Persistent Vegetation, Seasonally Flooded PEM1F = Palustrine, Emergent, Persistent Vegetation, Semipermanently Flooded PEM2F = Palustrine, Emergent, Nonpersistent Vegetation, Semi-permanently Flooded

NWI = National Wetland Inventory

#### 3.3.1 Wetland Habitat

All wetlands exhibit the effects of historical and ongoing agricultural management. Historical Shrub-steppe communities and native grasslands have been removed or altered due to heavy livestock grazing. Vegetation within the wetlands is similar to the non-native grassy meadows, but includes wet species such as: *Eleocharis palustris*, meadow foxtail (*Alopecurus pratensis*), *Camassia quamash*, needleleaf pincushionplant (*Navarretia intertexta*), and field sedge (*Carex praegracilis*).

All wetlands were observed to be PEM as defined by the Cowardin classification system (Cowardin et al. 1979) and descriptions of wetland communities presented in Edinger et al. (2002). Based on field observations and the classification system presented in Cowardin et al. (1979)., the general wetland communities identified on-site were similar and identified as PEM. However, wetland communities differed due to persistent/nonpersistent vegetation and how long each wetland is inundated with water. A detailed description of vegetation associated with each community type, as observed during field surveys, is provided below. The descriptions are listed under the Cowardin classification used for that wetland type during surveys.

#### Palustrine Emergent Wetland (PEM)

Wetlands classified under the Cowardin system as PEM wetlands are dominated by herbaceous vegetation with little or no woody plant material present. These are further described using the classification system presented in Edinger containing persistent or nonpersistent wetland vegetation and modified according to each wetland's water regime.

#### Wetland A (SP-1 and SP-2)

A hummocky wetland abutting the south end of Stream 1 on Site 1. This wetland was identified by NWI as a palustrine emergent wetland, persistent vegetation,



seasonally flooded (PEM1C). It is located in a wet meadow along Stream 1 with *Carex pragracilis* and *Eleocharis palustris* as dominants. Site 1 is heavily influenced by cattle grazing.

#### Wetland B (SP-4 and SP-5)

Wetland B is a small depression that connects to Stream 1 on Site 1. The wetland may be man-made because the upland surrounding the wetland is approximately 10 feet taller than the wetland, creating a "bowl." There is an outlet under the road on the eastern end of the wetland; however, the field team was unable to identify a drain tile or culvert because it was under water.

This wetland was not identified by NWI. Dominant plant species include *Eleocharis palustris* and *Navarettia intertexta*. Biotic crust covers 15 percent of the wetland surface while the remaining 45 percent is bare ground. Compacted soil was found at 8 inches. E & E has classified this wetland as a Palustrine, Emergent, Persistent Vegetation, Semipermanently Flooded (PEM1F).

#### Wetland C (SP-6 and SP-7)

Wetland C is a depression that abuts Stream 1. Water collects from agricultural fields uphill and ponds in this depression. The water is collected and diverted north along Stream 1 into Wetland D. Additionally, if enough water is collected, water can overtop the bank and flow south along Stream 1.

This wetland was not identified by NWI. Dominant plant species includes *Navarettia intertexta*. Biotic crust accounts for 15 percent of the ground cover. E & E classified this wetland as a Palustrine, Emergent, Nonpersistent Vegetation, Semipermanently Flooded (PEM2F).

#### Wetland D (SP-8 and SP-9)

Wetland D is a gently sloped meadow that abuts Stream 1. Water overflows from Wetland C into Stream 1 and flows north. Wetland D directly abuts Wetland C, but the vegetation community drastically changes to meadow wetland species and includes *Alopecurus pratensis* and reed canary grass (*Phalaris arundinacea*) as wetland dominant species. The wetland gently slopes north (10 percent) along the stream.

This wetland was not identified by the NWI. The upland plot contained hydrophytic vegetation, and the wetland boundary could only be confirmed with the lack of hydric soils. This wetland was identified by NWI as a PEM1C.

#### Wetland E (SP-12 and SP-13)

Wetland E is a wet meadow abutting Stream 2. Water flows south along Stream 1 and seasonally floods the adjacent meadow. Both wetland and upland pits are located along the stream banks. The dominant hydrophytic vegetation subtly shift from *Camassia quamash* and Yorkshire fog (*Holcus lanatus*) to *Poa bulbosa* and blue bunchgrass (*Festuca idahoensis*). The wetland boundary was very subtle and



could only be confirmed with the lack of hydric soils. This wetland was identified by the NWI as a PEM1C.

#### Wetland F (SP-17 and SP-18)

Wetland F is a depressed wet meadow identified along the south end of Stream 3, on Site 2. Hydrophytic vegetation includes *Eleocharis palustris* and *Holus lanatus*. The vegetation community was moderately grazed by livestock on-site. This wetland was not identified by the NWI. This wetland was identified by NWI as a PEM1C.

#### 3.4 Other Waters

E & E identified five streams on-site: three intermittent and two ephemeral streams. Biologists used aerial photography and NHD lines to identify where streams may be located throughout the Project Area. Streams were verified by on-site delineation and identification of ordinary high water marks (see Table 3-3 Project Area Streams). Onsite streams flow south, draining into Blockhouse Creek and Little Klickitat Creek.

Stream 1 is intermittent and highly meandering through Sites 1 and 2. The northern section of Stream 1, within Site 2, is mainly dominated by shrub-steppe vegetation community. As the stream moves south and into Site 1, the vegetation community gradually changes to a non-native grassy meadow. No water was within the stream channel at the time of the survey.

Stream 2 is an intermittent stream on Site 1. The northern section of the stream was wet at the time of observation most likely due to groundwater. The vegetation community consists of non-native grasses and *Camassia quamash*. The stream was dry south of Wetland E and the vegetation community shifted to a shrubsteppe. The upland areas surrounding Stream 2 were drier and contained a more developed shrub-steppe community compared to the eastern half of Site 1. The shrub-steppe community contained *Eriogonum thymoides* and *Eriogonum strictum*.

Stream 3 is an ephemeral stream on Site 1. The stream seems to convey surface water flow into a shallow stream, but quickly drains downward into the groundwater. The surrounding shrub-steppe community includes *Eriogonum thymoides* and *Eriogonum strictum*.

Stream 4 is an intermittent stream on Site 2. The headwaters begin in the northern half of Site 2 with *Pinus ponderosa*, *Quercus garryana*, and *Camassia quamash* vegetation community. The northern section is steep, approximately 20 percent slope, and contains some groundwater protrusions that create shallow pools of water. As the stream moves south, it becomes drier and the vegetation changes into a dry shrub-steppe, with no water within the stream. The stream terminates at Wetland F.



#### 3 Results and Discussion

Table 3-3 Project Area Streams

Stream ID	Туре	HGM Classification	Average Bankfull Width (feet)	Average Depth at Time of Survey	Jurisdictional Authority	Length in Project Area (linear feet)	Area Within Project Area (acres)
Stream 1	Intermittent	R4SB4	1	1	Section 404 Waters of the U.S. and Section 401 waters of the State	9,653.90	
Stream 2	Intermittent	R4SB4	1	1.5	Section 404 Waters of the U.S. and Section 401 waters of the State	5,029.53	
Stream 3	Intermittent	R5EM	2	1.5	Section 404 Waters of the U.S. and Section 401 waters of the State	4,803.44	
Stream 4	Intermittent	R4SB4	2	1.5	Section 404 Waters of the U.S. and Section 401 waters of the State	481.2	
Stream 5	Ephemeral	R5EM	1	0.5	Section 404 Waters of the U.S. and Section 401 waters of the State	152.19	
<b>Total Stream</b>						20,120.26	0.58

Note: Photos of each stream are provided in Appendix C.

Key: HGM = hydrogeomorphic

Stream 5 is an ephemeral stream, on Site 4. The surrounding vegetation community consists of a Ponderosa Pine forest. Surface water flows into this stream and runs south off-site. No water was observed within the stream at the time of the survey.

## 3.5 Deviation from Local Wetland Inventory or National Wetland Inventory

E & E documented conditions in all NWI-mapped waters. See Table 3-1 for detailed information within these areas. In general, the NWI, NHD, and soil survey maps indicated the presence of fewer wetlands and waters than were observed in the field. Most wetlands delineated had not been not previously inventoried by the NWI.

The NWI identified two wetlands within the Project Area. Wetland A is identified on the NWI. Wetland A is located on Site 1 abutting the south end of Stream 1 and totals approximately 0.26 acres. The second NWI wetland was identified on Site 2 as a palustrine, unconsolidated bottom, semi-permanent flooded-tidal, excavated wetland (PUBFx). The location of the NWI was on a 25 percent slope approximately 15 feet above Stream 4. The vegetation dominants included: *Pinus ponderosa*, Oregon white oak (*Quercus garryana*), and *Carex geyeri*. No wetland was identified within this NWI.

The NHD identified a stream in the southeastern most area of Site 1. A bed and bank was not observed at this location. No stream was identified at the NHD line. See Appendix E for determination memo and DOE concurrence.



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## Conclusion

Six wetlands were identified within the Project Area and account for approximately 1.57 acres. Five streams cross the Project Area and account for an additional 20,120.26 linear feet of waterway within the Project Area. In total, 1,093.52 acres of upland habitat exist within the Project Area. The wetlands and other waters identified within the Project Area are under the jurisdiction of WDOE and USACE.

This report has been prepared in accordance with the current Navigable Waters Protection Rule as of June 19, 2020. If this rule is superseded at the time of verification, the findings in this report remain relevant for the purpose of seeking a Preliminary Jurisdictional Determination.

Placement of fill within wetlands and other waters may require permit authorization from the USACE per Section 404 of the Clean Water Act (33 United States Code §1251 et seq.). If impacts to on-site wetlands or other waters of the United States is proposed, these activities may be authorized under the USACE 2017 NWP program. As a condition of the NWP program, concurrence with Section 7 of the Endangered Species Act and Section 106 of the National Historic Preservation Act is required. If wetlands and other waters of the United States are avoided, USACE authorization is not required.

Activities altering wetlands or other waters of the United States may require permit authorization from the WDOE per Section 401 of the Clean Water Act (Revised Code of Washington 90.48).

The WDFW requires issuance of a Hydraulic Project Approval (HPA) prior to any activities that may directly or indirectly affect streams or associated wetlands. The WDFW should be contacted prior to completing on-site work to determine if an HPA is required.

#### 4.1 Disclaimer

This report documents the investigation, best professional judgment, and conclusions of the investigators. It is correct and complete to the best of the authors' knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters of the United States and used at your own risk unless it has been reviewed and approved in writing by the WDOE or USACE.

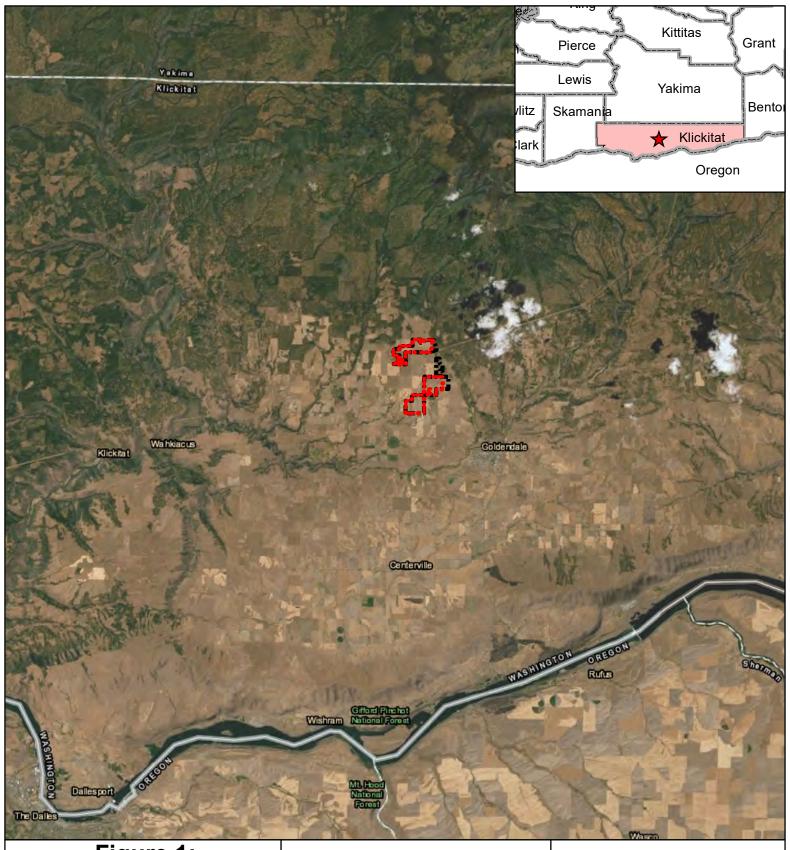
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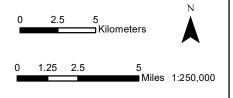
# Figure 1: Project Location Carriger Solar Project

Cypress Creek Renewables, LLC Carriger Solar, LLC



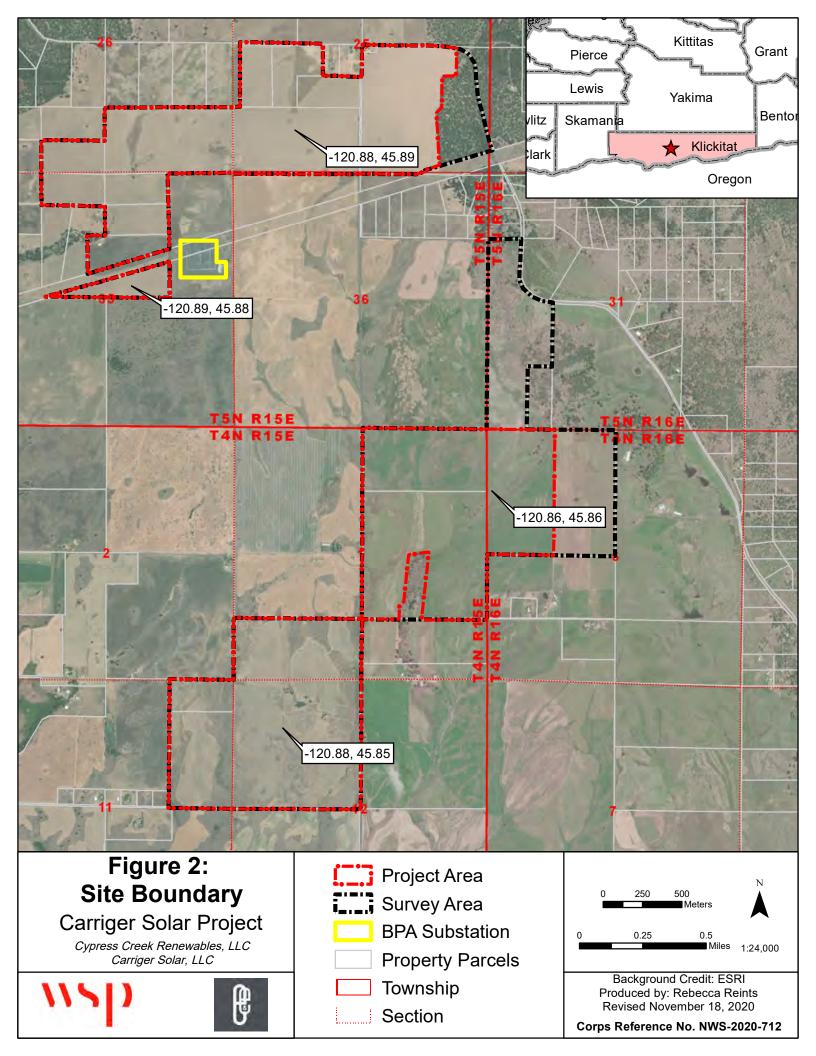


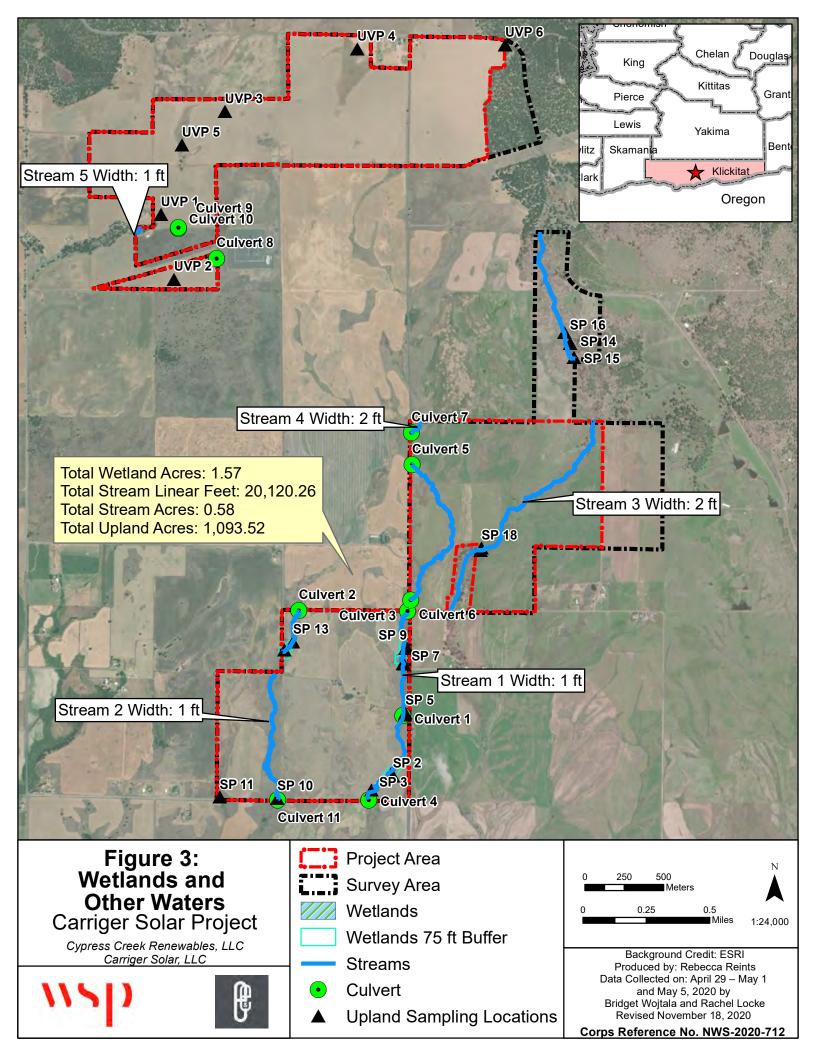


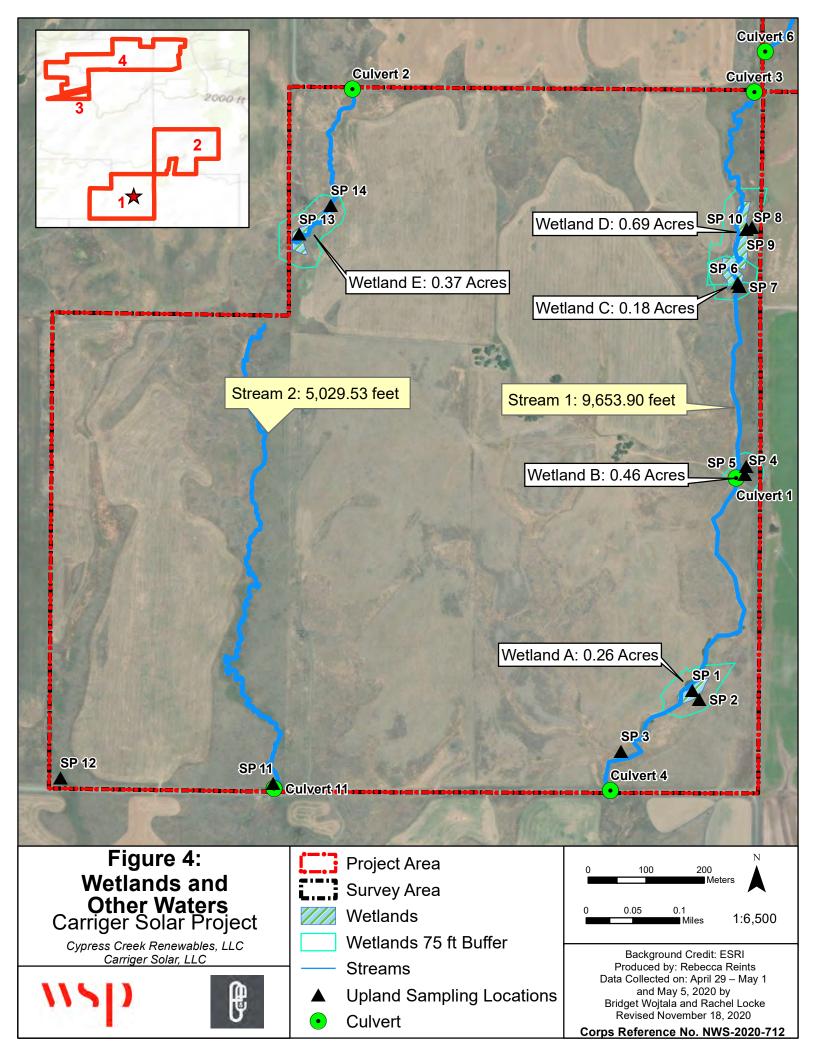


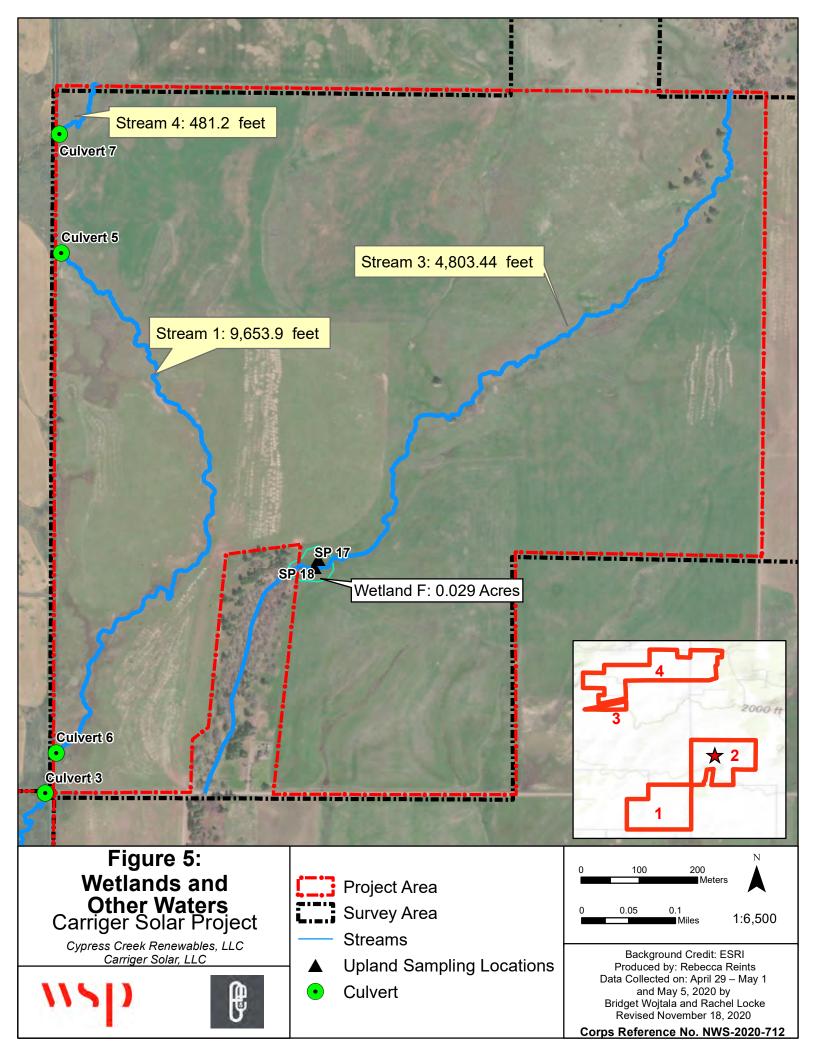
Background Credit: ESRI Produced by: Rebecca Reints Revised November 18, 2020

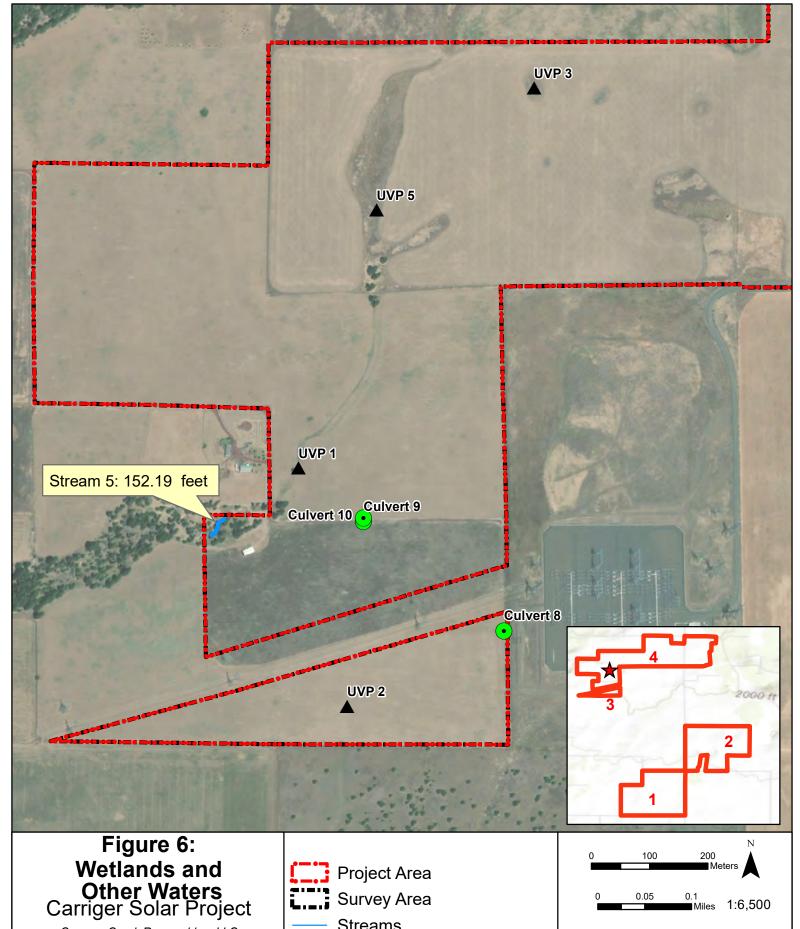
Corps Reference No. NWS-2020-712











Cypress Creek Renewables, LLC Carriger Solar, LLC





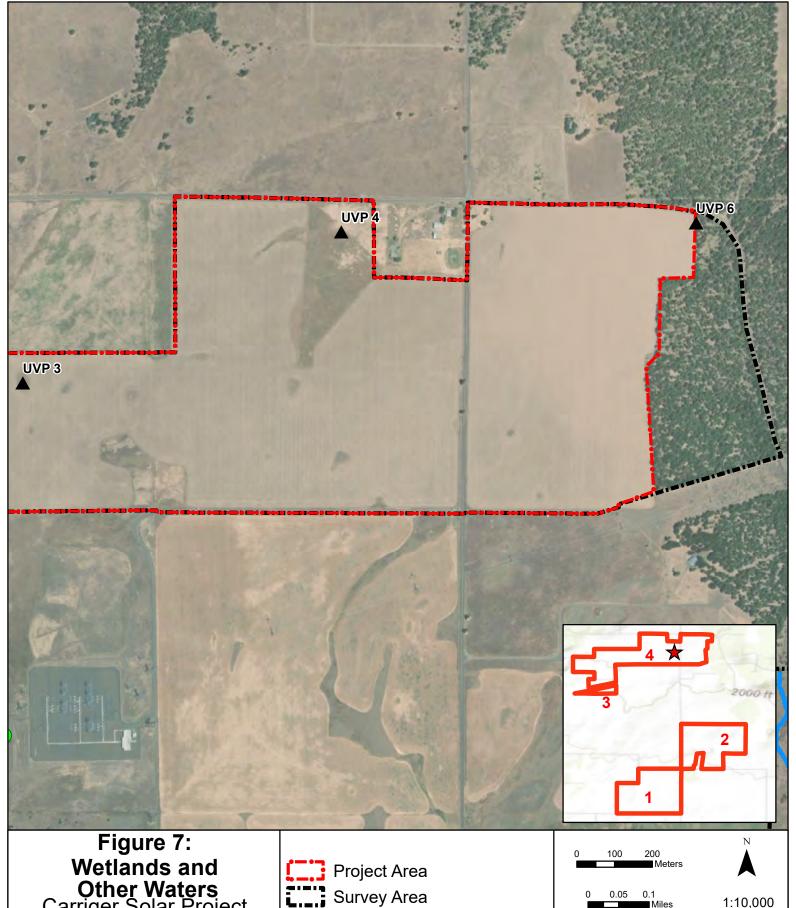
**Streams** 

**Upland Sampling Locations** 

Culvert

Background Credit: ESRI Produced by: Rebecca Reints Data Collected on: April 29 - May 1 and May 5, 2020 by Bridget Wojtala and Rachel Locke Revised November 18, 2020

Corps Reference No. NWS-2020-712



Other Waters
Carriger Solar Project

Cypress Creek Renewables, LLC Carriger Solar, LLC





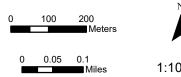


Survey Area

**Streams** 

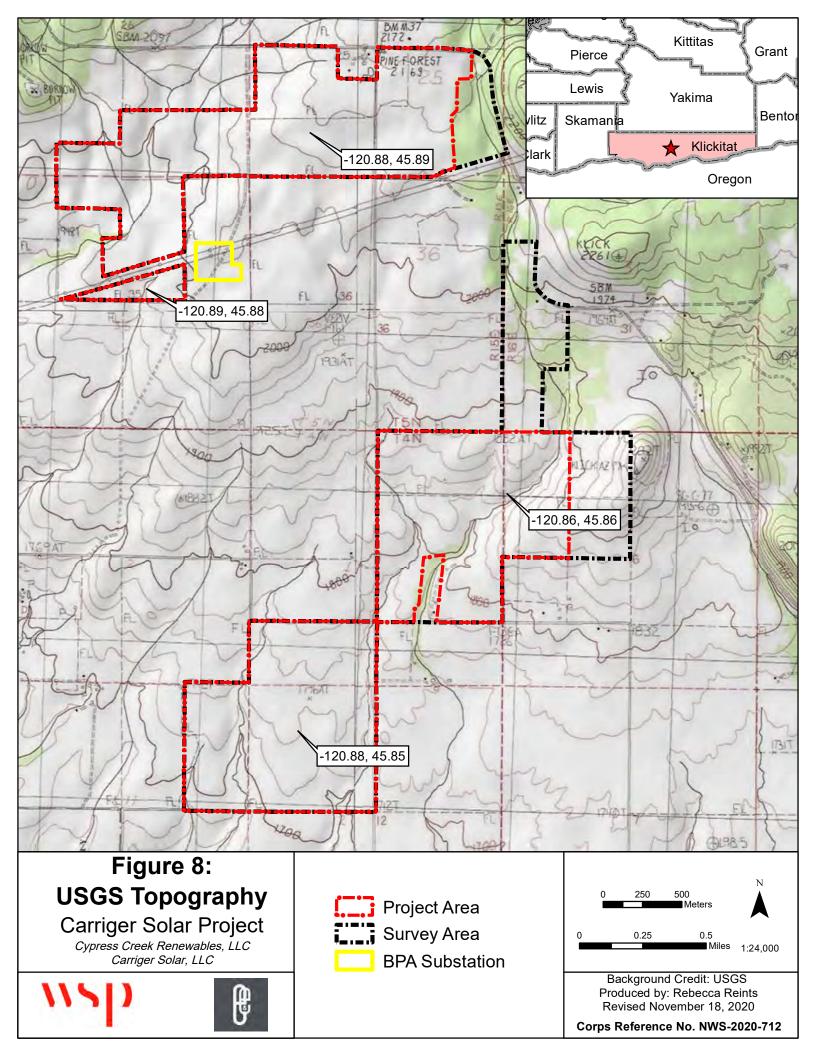
**Upland Sampling Locations** 

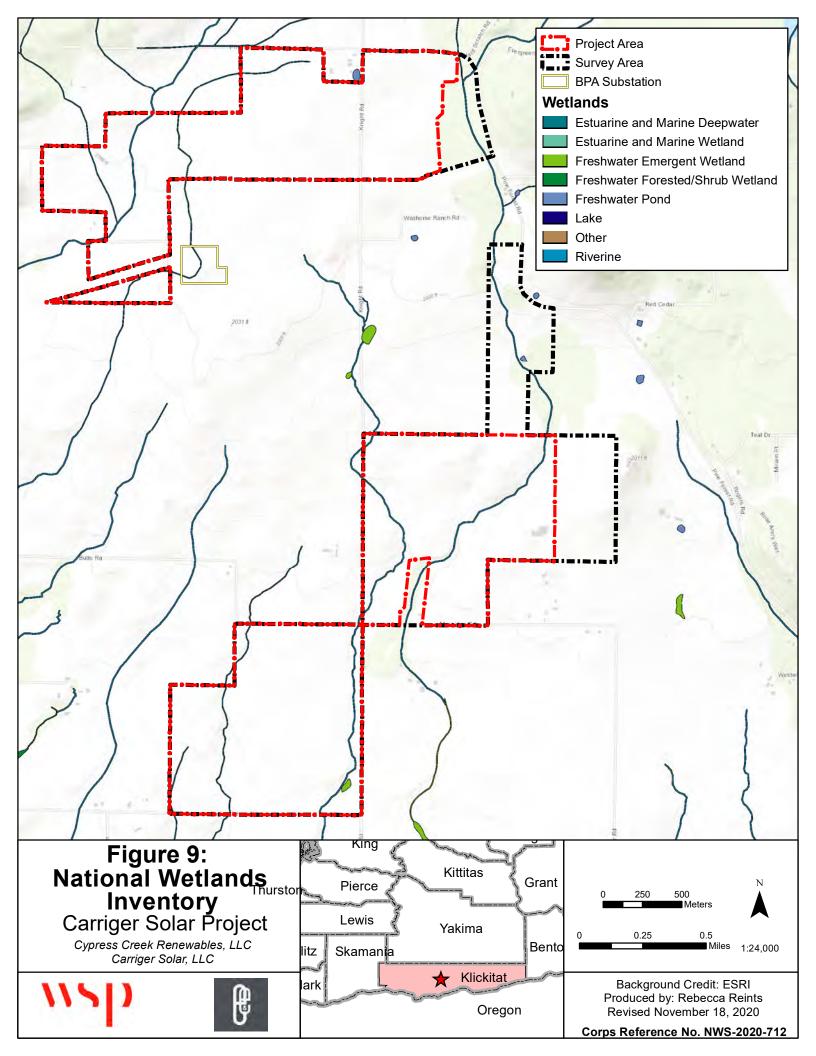
Culvert

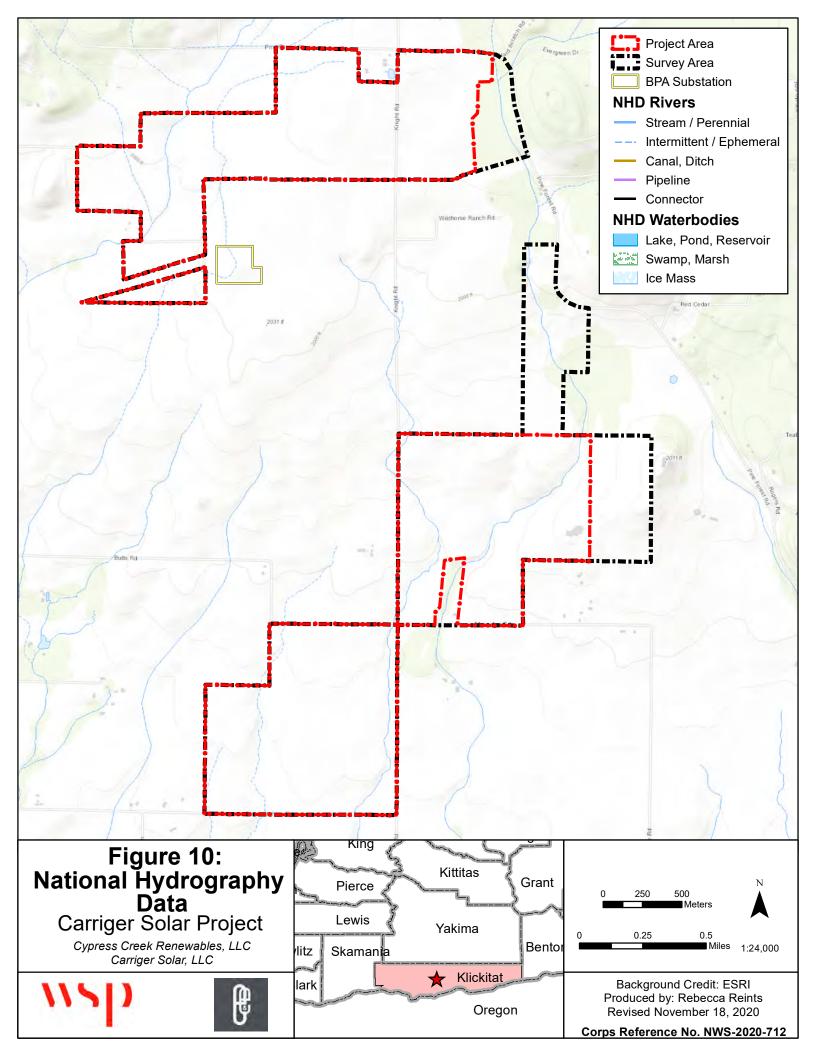


Background Credit: ESRI Produced by: Rebecca Reints Data Collected on: April 29 - May 1 and May 5, 2020 by Bridget Wojtala and Rachel Locke Revised November 18, 2020

Corps Reference No. NWS-2020-712







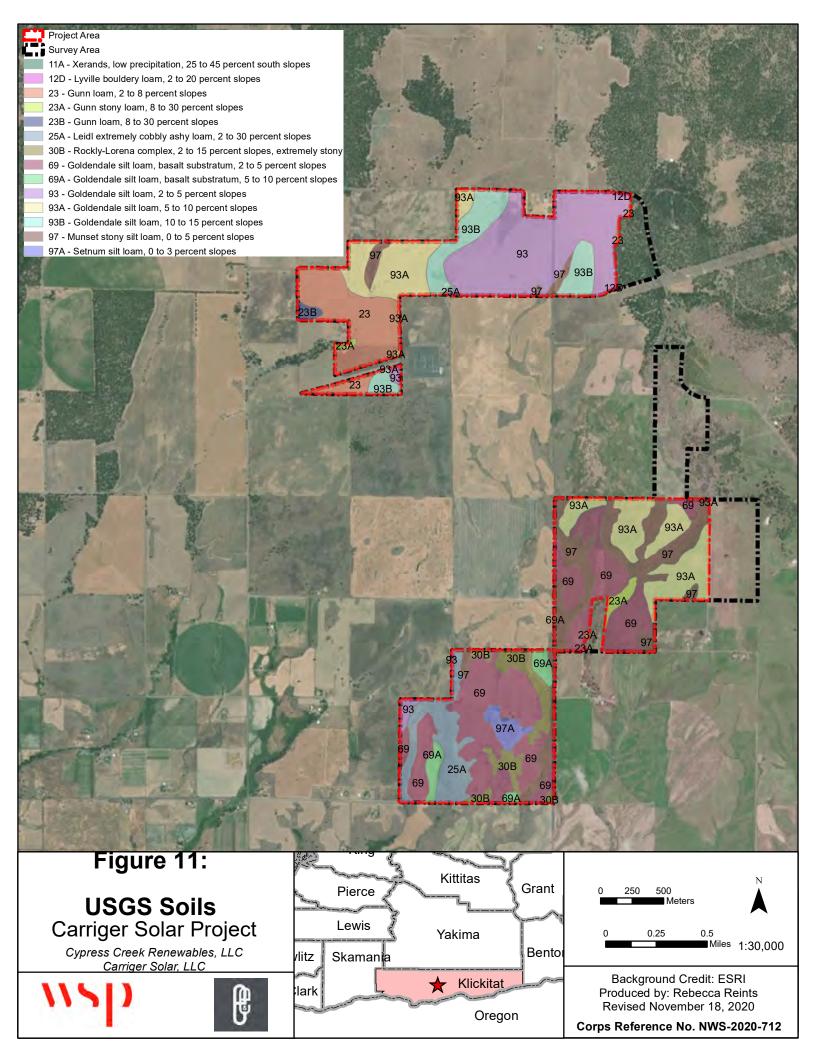
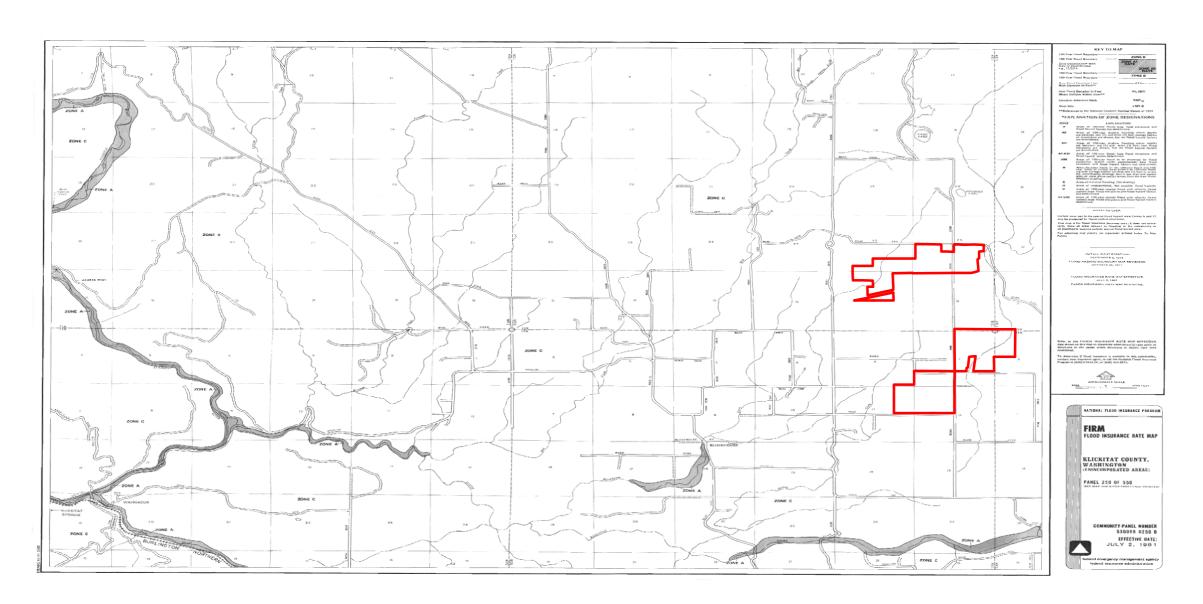


Figure 12: FEMA





## B Wetland Data Forms and Scoring **Sheets**

MP: Wettanel A

policant/Owner: Cupress Creek Revestigator(s): R. Joche B. Wolf Restigator(s): R. Joche B. Wolf Red Restigator (hillslope, terrace, etc.): + oe slope Red Restigator (LRR): LR R. B.	Lat: 45  ony SIH low for this time of year? significantly dist naturally proble	stion, Township, Rar cal relief (concave, o 5.8478 2M 0 to 5° Yes No _ urbed? Are	State: WAY Sampling Date: 97970  State: WAY Sampling Point: 59-1  Inge: 512THN RISE  convex, none): CONCONC Slope (%): 5  Long: -120, 8758 Datum: NADIO  (If no, explain in Remarks.)  Normal Circumstances' present? Yes No  needed, explain any answers in Remarks.)  occations, transects, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?	No	is the Sampled	Area
Remarks: Verification of Ni year - See WETS table EGETATION - Use scientific names of		nel. It hional da	is unseasonably dry this ta.
Tree Stratum (Plot size:	Absolute D	ominant Indicator	Dominance Test worksheet:
1	% Cover S	pecies? Status	Number of Dominant Species
2			That Are OBL, FACW, or FAC: (A)
3			Total Number of Dominant Species Across All Strata: 2 (B)
-			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:		Total Cover	That Are OBL, FACW, or FAC: 100 (A/B)
			Prevalence Index worksheet:
			Total % Cover of: Multiply by:
			OBL species x1 = 50
x			FACW species <u>50</u> x2 = <u>100</u> FAC species <u>0</u> x3 = 0
A CONTRACTOR		Total Cover	FACU species 2 x4 = 8
Herb Stratum (Plot size: 5 Lect )	4.5	V CANA	UPL species 0 x5 =O
Carex praegracilis Eleocharis halustris	<u>50</u> -	Y FACW	Column Totals: 102 (A) 158 (B)
Taraxacum officionale		N FACU	Prevalence Index = B/A = 1.54
Poa bulbosa		N FACU	Hydrophytic Vegetation Indicators:
			Dominance Test is >50%
			✓ Prevalence Index is ≤3,01
			Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)
loody Vine Stratum (Plot size: )	102 =	Total Cover	
Violation (Violation			Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
		Total Cover	Hydrophytic
			Vegetation /
Bare Ground in Herb Stratum %	Cover of Biotic Crus	1_0	Present? Yes V No.

Depth (inches) Golor (moist) %  0-8 7.5 Y R 3/2 100  8-13 10 Y R 4/1 95	Color (moist) % Type Lo	Texture Remarks  Joan Many 10075
Type: C=Concentration, D=Depletion, RM= Hydric Soil Indicators: (Applicable to all Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR C) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Reduced Matrix, CS=Covered or Coated Sar LRRs, unless otherwise noted.)  Sandy Redox (S5)  Stripped Matrix (S6)  Loamy Mucky Mineral (F1)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F7)  Redox Depressions (F8)  Vernal Pools (F9)	Indicators for Problematic Hydric Solls <sup>3</sup> :  1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2) Other (Explain in Remarks)  Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic.
estrictive Layer (if present):		

Primary Indicators (minimum of one required; of Surface Water (A1)  High Water Table (A2)	Salt Crust (B11) Biotic Crust (B12)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)
Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C1 Oxidized Rhizospheres alo Presence of Reduced Iron Recent Iron Reduction in T Thin Muck Surface (C7) Other (Explain in Remarks)	Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) (C4) Crayfish Burrows (C8) Illed Soils (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Fleid Observations:  Surface Water Present? Yes No  Water Table Present? Yes No  Saturation Present? Yes No  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitor)	Depth (inches):	Wetland Hydrology Present? Yes No
Remarks:		

MP: Wetland A

State: Winvestigator(s): Public Compress Creek Renewables  Nonvestigator(s): Public Renewables  Section, Township, Range: \$12 Township,	ty Sampling Date: 4/29
No.   Section, Township, Range: S12 Talla   Section, Township, Range	Sampling Point: SP-2
andform (nillslope, terrace, etc.): \( \text{\te	
Unsequent (LFR): CRKB Lat: 43,8477 Long: 120.  Oil Map Unit Name: 77 - Munset Story 51 Floam 0 to 5 6 30 ph Min da re climatic / hydrologic conditions on the site typical for the time of year? Yes No (If no, explain are vegetation Soil or Hydrology significantly disturbed? (If needed, explain any are vegetation Soil or Hydrology naturally problematic? (If needed, explain any are vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present of Dominant Indicator Species? Slatus Number of Dominant That Are OBL, FAC Species Prevalence Index You Preva	lat man 1
oil Map Unit Name: 97 - MUNCET STONING IT IDAM 0 to 5 % SUPNING dare climatic / hydrologic conditions on the site typical for the time of year? Yes No (If no, explain re Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstance re Vegetation Soil or Hydrology naturally problematic? (If needed, explain any are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any are Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present of Dominar Hydrology Prevalence Inches Stratum (Plot size: Seet 1 A Chillea Mille Dirum 15 N NL PACU NL PREVENCE Prevalence Inches Dominar That Are OBL, FAC Species FACU species Prevalence Inches Dominar That Are OBL, FACU NL PREVENCE Prevalence Inches Dominar That Are OBL, FACU NL PREVENCE Prevalence Inches Dominar That Are OBL, FACU NL PREVENCE Prevalence Inches Dominar That Are OBL, FACU NL PREVENCE Prevalence Inches Dominar That Are OBL, FACU NL PREVENCE Prevalence Inches Dominar That Are OBL, FACU NL PREVENCE Prevalence Inches Dominar That Are OBL, FACU NL PREVENCE Prevalence Inches Dominar That Are OBL, FACU NL PREVENCE Prevalence Inches Dominar That Are OBL, FACU NL PREVENCE PREVALENCE PREVALENCE PREVALENCE PREVALENCE PREVALENCE PREVALENCE PREVALENCE PREVAL	
re climatic / hydrologic conditions on the site typical for the time of year? Yes No (If no, explain re Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstance of Personal Circumstance" (If needed, explain any are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any are Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Prevalence Index No Wetland Prevalence Index No Wetland Hydrology Prevalence Index No Wetland Hydrology Prevalence Index No Wetland Hydrology Prevalence Index No Wetland Prevalence Index No Wetland Hydrology Prevalence Index No Wetland Hydrology Prevalence Index No Wetland Hydrology Prevalence Index No Wetland Pre	Datum: NA
re Vegetation	
### Stratum (Plot size:    Sapling/Shrub Stratum (Plot size:   Achillea mille tolium   Sapling/Shrub Stratum (Plot size:   Pervalence linds   Sapling/Shrub Stratum (Plot size:   Pervalence   Sapling/Shrub Stratum (Plot size:   Perval	in Remarks.)
Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Wetland Hydrology Present. W	
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Wetland Hydrology Present?  Wetland Hydrology Present?  Remarks: Up   and pit is approximately   0 feet above we use additional   VEGETATION - Use scientific names of plants.  Tree Stratum (Plot size:	The state of the s
Hydric Soil Present?  Wetland Hydrology Present?  Remarks: Up   and pit is approximately 10 feet above we unseason aboly my - see wetts table for additional    //EGETATION - Use scientific names of plants.  Tree Stratum (Plot size:	cts, important features, et
Remarks: Upland pit is approximately 10 feet above we unseason ably any - see wets table for additional indicator.  Free Stratum (Plot size:	No V
VINSEASON (LBLY) ANY - SEE WETS HIGHE FOR Additional Indicator & Cover Species? Status  Tree Stratum (Plot size:	17 170
Absolute % Cover Species? Status    Absolute % Cover Species? Status   Number of Dominant That Are OBL, FAC	
Tree Stratum (Plot size:	
Total Number of Dominar That Are OBL, FAC Species Across All.  Sapling/Shrub Stratum (Plot size:	
Total Number of Do Species Across All.  Sapling/Shrub Stratum (Plot size:	
Species Across All  Percent of Dominar That Are OBL, FAC  Prevalence Index of Total Cover  OBL species FACW species FACW species FACU s	
Sapling/Shrub Stratum (Plot size:	
Prevalence Index  Total % Cover of OBL species FACW species FAC species FAC species FACU species	nt Species W, or FAC: (A/B)
Total % Cover of OBL species  A	17 17 17 17 17 17 17 17 17 17 17 17 17 1
FACW species FAC species FAC species FACU sp	43
FAC species  FAC species  FACU	0 x1= 0
Total Cover	
Herb Stratum (Plot size: 5 FERT)  A Chillea Miller Olium  B MY FACU  Column Totals: 1  Prevalence Inc.  Lo Mathium Audicable  B MY FACU  Prevalence Inc.  Hydrophytic Veget  Dominance Tes.  Prevalence Ind.  Morphological Adata in Rema.  Problematic Hydrophytic  Indicators of hydric be present, unless d.  Total Cover  Hydrophytic	0 x3= 0
A Chillea Millerolium  Paa bulbosa  Eroclium cicutarium  Lo matium nudicale  Bromus tectorum  S N NL  Prevalence Inc  Hydrophytic Veget  Dominance Tes  Prevalence Inde  Morphological A  data in Rema  Problematic Hydrophytic  Indicators of hydric be present, unless d  Hydrophytic	35 x4= 140
20 May PACU 30 Frodium cicutarium 30 Y NL 30 Frodium cicutarium 30 Y NL 4. Lo matium nudicate 25 Y UPL 5. Bromus tectorum 15 N NL 5. Dominance Tes 6. Prevalence Index 6. Morphological A data in Rema 6. Problematic Hydrody Vine Stratum (Plot size:  105 = Total Cover  Indicators of hydric be present, unless described in the present of t	
Lo matium nudicate   25   UPL   Hydrophytic Veget	05 60(A) 470 265(B)
Dominance Test	dex = B/A = 4,41
Prevalence Inde  Morphological A data in Rema  Problematic Hyd  Voody Vine Stratum (Plot size:)  Indicators of hydric be present, unless d  ### Total Cover  #### Total Cover  Hydrophytic	ation indicators:
	CONTRACTOR OF THE PARTY OF THE
data in Rema	
Voody Vine Stratum (Plot size:)  Voody Vine Stratum (Plot size:)  Indicators of hydric be present, unless d  = Total Cover Hydrophytic	daptations (Provide supporting arks or on a separate sheet)
Voody Vine Stratum (Plot size:)  Indicators of hydric be present, unless d  = Total Cover Hydrophytic	drophytic Vegetation (Explain)
Indicators of hydric be present, unless d	(Explain)
= Total Cover Hydrophytic	soil and wetland hydrology must
	isturbed or problematic.
6 Bare Ground in Herb Stratum % Cover of Biotic Crust O	Yes No /
Remarks:	TesNo_V

Profile Des	cription: (Describe to t	he depth ne	eded to docum	ent the indic	ator or confir	m the absence of ir	dicators.)	
Depth	Matrix			Features				
(inches)	Color (moist)	% C	olor (moist)	% Ty	pe Loc	Texture	Remarks	
2-13	10 YR 4/3	00				sandy loa	m	
	_					J		
_								
	-						EAT / THE COURSE DE STORY	
	Concentration, D=Depleti				Coated Sand G	rains. Location	PL=Pore Lining, M=Matrix	
	Indicators: (Applicable	e to all LRR					roblematic Hydric Soils*:	
Histoso	pipedon (A2)		Sandy Redo Stripped Ma	the state of the s			(A9) (LRR C) (A10) (LRR B)	
	fistic (A3)			ky Mineral (F1	Ý.	Reduced Ve		
	en Sulfide (A4)			red Matrix (F2)			Material (TF2)	
_ Stratifie	ed Layers (A5) (LRR C)		Depleted Ma			Other (Explain in Remarks)		
	luck (A9) (LRR D)			Surface (F6)				
	ed Below Dark Surface (	A11)		ark Surface (F	7)	19077000	and the second s	
	Dark Surface (A12)			ressions (FB)			drophytic vegetation and	
	Mucky Mineral (S1) Gleyed Matrix (S4)	-	Vernal Pool	s (F9)			ology must be present, ed or problematic.	
	Layer (If present):			_	_	driless distore	ed di problemato.	
Type:							1	
Depth (i	nches):					Hydric Soil Pres	ent? Yes No	
Remarks:	200 8.43	42	2			24-575-2457-124		
	Soil is very	dig						
-								
Vetland H	ydrology Indicators:	- 1 10	TATANA :	-Vien		5711350	Market Barrell Barrell	
Vetland H		required; ch	eck all that appl	y)			Indicators (2 or more required)	
Vetland Hy Primary Ind Surface	ydrology Indicators: licators (minimum of one e Water (A1)	required; ch	Salt Crust	(B11)		Water	Marks (B1) (Riverine)	
Vetland Hi Primary Ind Surface High W	ydrology Indicators: licators (minimum of one e Water (A1) /ater Table (A2)	required; ch	Salt Crust Biotic Crus	(B11) st (B12)		Water Sedim	Marks (B1) (Riverine) ent Deposits (B2) (Riverine)	
Vetland Hi Primary Ind Surface High W Satural	ydrology Indicators: licators (minimum of one e Water (A1) /ater Table (A2) tion (A3)		Salt Crust Biotic Crus Aquatic Inv	(B11) st (B12) vertebrates (B		Water Sedim	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine)	
Primary Ind Surface High W Saturar	ydrology Indicators: licators (minimum of one e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriverine	a)	Salt Crust Biotic Crus Aquatic Inv Hydrogen	(B11) st (B12) vertebrates (B Sulfide Odor (	C1)	Water Sedim Drift Do Draina	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10)	
Vetland Hy Primary Ind Surface High W Satural Water Sedime	ydrology Indicators: licators (minimum of one e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverine ent Deposits (B2) (Nonri	e) verine)	Salt Crust Biotic Crus Aquatic Inv Hydrogen Oxidized F	(B11) st (B12) vertebrates (B Sulfide Odor (G Rhizospheres a	C1) dong Living Ro	Water Sedime Drift Do Draina ots (C3) Dry-Se	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2)	
Primary Ind Surface High W Satural Water Sedime	ydrology Indicators: licators (minimum of one e Water (A1) /ater Table (A2) lion (A3) Marks (B1) (Nonriverine ent Deposits (B2) (Nonriverine	e) verine)	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence	(B11) st (B12) vertebrates (B' Sulfide Odor (GR Rhizospheres a of Reduced Iro	C1) Ilong Living Roo In (C4)	Water Sedimi Drift Do Draina ots (C3) Dry-Se Crayfis	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) eason Water Table (C2) th Burrows (C8)	
Surface High W Satural Water Sedime Drift De	ydrology Indicators: licators (minimum of one e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverine ent Deposits (B2) (Nonri eposits (B3) (Nonriverine e Soil Cracks (B6)	e)	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized F Presence	(B11) st (B12) vertebrates (B1 Sulfide Odor (I Rhizospheres a of Reduced Iro in Reduction in	C1) dong Living Ro	Water Sedim Drift Do Draina ots (C3) Dry-Se Crayfis 6) Satura	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C5)	
Vetland Hyrimary Ind Surface High W Saturar Water I Sedime Drift De Surface Inunda	ydrology Indicators: licators (minimum of one e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverine ent Deposits (B2) (Nonri eposits (B3) (Nonriverine e Soil Cracks (B6) tion Visible on Aerial Ima	e)	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro	(B11) st (B12) vertebrates (B1 Sulfide Odor (Chizospheres a of Reduced Iro in Reduction in Surface (C7)	C1) Ilong Living Roo In (C4) Tilled Soils (Cl	Water Sedim Drift Do Draina ots (C3) Dry-Se Crayfis Satura Shallon	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) eason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (Cs	
Primary Ind Surface High W Satural Water Sedime Drift De Surface Inunda Water-	ydrology Indicators: licators (minimum of one e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverine ent Deposits (B2) (Nonri eposits (B3) (Nonriverin e Soil Cracks (B6) tion Visible on Aerial Ima Stained Leaves (B9)	e)	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro	(B11) st (B12) vertebrates (B1 Sulfide Odor (I Rhizospheres a of Reduced Iro in Reduction in	C1) Ilong Living Roo In (C4) Tilled Soils (Cl	Water Sedim Drift Do Draina ots (C3) Dry-Se Crayfis Satura Shallon	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C5)	
Primary Ind Surface High W Satural Water Sedime Drift De Surface Inunda Water-	ydrology Indicators: licators (minimum of one e Water (A1) /ater Table (A2) lition (A3) Marks (B1) (Nonriverine ent Deposits (B2) (Nonri eposits (B3) (Nonriverin e Soil Cracks (B6) tion Visible on Aerial Ima Stained Leaves (B9) ervations:	e) verine) e) agery (B7)	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence R Recent Iro Thin Muck Other (Exp	(B11) st (B12) vertebrates (B: Sulfide Odor (i Rhizospheres a of Reduced Iro in Reduction in Surface (C7) olain in Remark	C1) Ilong Living Roo In (C4) Tilled Soils (Cl	Water Sedim Drift Do Draina ots (C3) Dry-Se Crayfis Satura Shallon	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) eason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (Civering Cost)	
Surface High W Satural Water Sedime Drift De Surface Inunda Water- Field Obse	ydrology Indicators: licators (minimum of one e Water (A1) /ater Table (A2) lion (A3) Marks (B1) (Nonriverine ent Deposits (B2) (Nonri eposits (B3) (Nonriverin e Soil Cracks (B6) ltion Visible on Aerlal Ima Stained Leaves (B9) ervations: ater Present? Yes	e) (verine) e) agery (B7)	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence Recent Iro Thin Muck Other (Exp	(B11) st (B12) vertebrates (B: Sulfide Odor (i Rhizospheres a of Reduced Iro in Reduction in Surface (C7) blain in Remark	C1) Ilong Living Roo In (C4) Tilled Soils (Cl	Water Sedim Drift Do Draina ots (C3) Dry-Se Crayfis Satura Shallon	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) eason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (Cs	
Primary Ind Surface High W Satural Water Sedime Drift De Surface Inunda Water-	ydrology Indicators: licators (minimum of one e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverine ent Deposits (B2) (Nonriverine eposits (B3) (Nonriverine e Soil Cracks (B6) tion Visible on Aerial Ima Stained Leaves (B9) irvations: ater Present? Yes	o) (verine) e) agery (B7) No _ No _	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence R Recent Iro Thin Muck Other (Exp	(B11) st (B12) vertebrates (B1 Sulfide Odor (CR) Rhizospheres a of Reduced Iro on Reduction in Surface (C7) olain in Remark ches):	C1) Islang Living Room (C4) Tilled Soils (Ci	Water Sedim Drift Do Draina ots (C3) Dry-Se Crayfis Satura Shallon	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) eason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C w Aquitard (D3) eutral Test (D5)	

Remarks:

plicant/owner Cupress (			KITH County sampling Date 4/19/2 State: WAY Sampling Point: SP-3
restigator(s): R. Whe	B Woitala	Section, Township, R	Range: 512 T4N RISE
ndform (hillslope, terrace, etc.): 3tr	ream Herrace	Local relief (concave	e, convex, none): Concave Slope (%): 5
bregion (LRR): LRR B	Lat: _ l	15,8469	Long: -120, 8774 Datum: NAD 19
			To slope NWI classification: N/A
e climatic / hydrologic conditions on the	site typical for his time of ye	ar? Yes No	(If no, explain in Remarks.)
e Vegetation, Soil, or H	ydrology significantly	disturbed? Are	e "Normal Circumstances" present? Yes No
e Vegetation, Soil, or H	ydrology naturally pro	oblematic? (If r	needed, explain any answers in Remarks.)
JMMARY OF FINDINGS - Att	ach site map showing	sampling point	locations, transects, important features, etc.
lydrophytic Vegetation Present? lydric Soil Present? Vetland Hydrology Present?	Yes No WM	is the Sample within a Wetla	The state of the s
Remarks: 11 al	ication mulat	in low an	ea adjacent to NHD line
VETO tobles indi	rate unseasona	bhr drs w	ea adjacent to NHD line.
VEIS TROUB MAIN	Day C Unscassina	9 0	7
GETATION - Use scientific r	names of plants.		
wa openia workers.	Absolute	Dominant Indicator	Dominance Test worksheet:
ree Stratum (Plot size:		Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:
			Total Number of Dominant Species Across All Strata:  (B)
			Percent of Dominant Species
apling/Shrub Stratum (Plot size:	. —	= Total Cover	That Are OBL, FACW, or FAC: 160% (A/B)
GDINIA GNAIDIN (NAC SIES)			Prevalence Index workshaet:
			Total % Cover of: Multiply by:
-			OBL species35x1=35
			FACW species
L	-	-	FAC species x3 = FACU species x4 = 20
erb Stratum (Plot size: 5 feet	,	= Total Cover	UPL species OMB x5 = 6250 0000
Camassia avamas		MY FACW	Column Totals: W680 55(A) 4410/85 (B)
Pag bulbosal)		N FACU	4101 1 1 A
Eleocharis palustr	(15 35	Y OBL	Prevalence Index = B/A = VIII DV 29/1
Taeniatherum capt	-modusae 45	Y NU	Hydrophytic Vegetation Indicators:
			Dominance Test is >50%  Prevalence Index is ≤3.0'
			Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
	100	= Total Cover	Problematic Hydrophytic Vegetation¹ (Explain)
		- Total Cover	
oody Vine Stratum (Plot size:			Indicators of hydric soil and wetland hydrology must
oody Vine Stratum (Plot size:			be present, unless disturbed or problematic.
		= Total Cover	Hydrophytic / M
			/
Bare Ground in Herb Stratum		ust	Hydrophytic Vegetation Present? Yes No No

Depth Matrix	epth needed to document the Indicator of Redox Features	to committee absence of mulcators.
inches) Color (moist) %	Color (moist) % Type	Loc <sup>2</sup> Texture Remarks
)-12 104K 3/3 99	7,5 YR 4/6 1 C	M Sandy loam
Type: C=Concentration, D=Depletion, R	M=Reduced Matrix, CS=Covered or Coated	d Sand Grains. <sup>2</sup> Location; PL=Pore Lining, M=Matrix.
yone soil indicators: (Applicable to	all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solis <sup>3</sup> :
_ Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Stratified Layers (A5) (LRR C)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
_ 1 cm Muck (A9) (LRR D)	Depleted Matrix (F3)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	<ul> <li>Redox Dark Surface (F6)</li> <li>Depleted Dark Surface (F7)</li> </ul>	
Thick Dark Surface (A12)	Redax Depressions (F8)	3 Indicators of hydrophytic vegetation and
_ Sandy Mucky Mineral (S1)	Vernal Pools (F9)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)		unless disturbed or problematic.
Restrictive Layer (if present):		
Type:		The second secon
AT THE DATE OF THE PARTY OF		
Depth (inches):Remarks: Soil does no	t meet hydric soil	Hydric Soil Present? Yes No_V
Remarks: Soil does no	t meet hydric soil	
Remarks: Soil does no	t meet hydric soil	
YDROLOGY Wetland Hydrology Indicators:		-indicators
Primary Indicators (minimum of one requ	ired; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requ Surface Water (A1)	ired; check all that apply) Salt Crust (B11)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requ Surface Water (A1) High Water Table (A2)	lired; check all that apply) Salt Crust (B11) Biotic Crust (B12)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requ Surface Water (A1) High Water Table (A2) Saturation (A3)	lired; check all that apply)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)
Primary Indicators (minimum of one requestrate Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	ired; check all that apply)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one requestrates Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)	ired; check all that apply)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3)  Dry-Season Water Table (C2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requesting Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	lired; check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L Presence of Reduced Iron (C4)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3)  Crayfish Burrows (C8)
YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)	sired; check all that apply)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3) Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Soils (C6) Saturation Visible on Aerial Imagery (C
YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one requestions Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery	Salt Crust (B11)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled  (B7)  Thin Muck Surface (C7)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Soils (C6)  Shallow Aquitard (D3)
YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery  Water-Stained Leaves (B9)	sired; check all that apply)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3) Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Soils (C6) Saturation Visible on Aerial Imagery (C
YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one requestions)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery  Water-Stained Leaves (B9)  Field Observations:	Salt Crust (B11)  Salt Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled  (B7)  Other (Explain in Remarks)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Soils (C6)  Shallow Aquitard (D3)
YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one requestions)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present?  Yes	Salt Crust (B11)  — Salt Crust (B12)  — Aquatic Invertebrates (B13)  — Hydrogen Sulfide Odor (C1)  — Oxidized Rhizospheres along L  — Presence of Reduced Iron (C4)  — Recent Iron Reduction in Tilled  (B7)  — Thin Muck Surface (C7)  — Other (Explain in Remarks)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Soils (C6)  Shallow Aquitard (D3)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions (Mainimum of one requestions) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Water Table Present?	Salt Crust (B11)  Salt Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled  (B7)  Thin Muck Surface (C7)  Other (Explain in Remarks)  No  Depth (inches):  No  Oepth (inches):	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Soils (C6)  Saturation Visible on Aerial Imagery (Canada Shallow Aquitard (D3)  FAC-Neutral Test (D5)
YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one requestions)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes  Water Table Present? Yes  Saturation Present? Yes  Includes capillary fringe)	Salt Crust (B11)  — Salt Crust (B12)  — Aquatic Invertebrates (B13)  — Hydrogen Sulfide Odor (C1)  — Oxidized Rhizospheres along L  — Presence of Reduced Iron (C4)  — Recent Iron Reduction in Tilled  (B7)  — Thin Muck Surface (C7)  — Other (Explain in Remarks)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Soils (C6)  Saturation Visible on Aerial Imagery (Ca)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)
Proposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Water Table Present? Saturation Present? Session Present? Sessi	Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled  (B7)  Thin Muck Surface (C7)  Other (Explain in Remarks)  No  Depth (inches):  No  Depth (inches):	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Soils (C6)  Saturation Visible on Aerial Imagery (Ca)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)
YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one requested Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes  Water Table Present? Yes  Saturation Present? Yes  Includes capillary fringe)  Describe Recorded Data (stream gauge,	Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled  (B7)  Thin Muck Surface (C7)  Other (Explain in Remarks)  No  Depth (inches):  No  Depth (inches):  Thorogen Sulfide Odor (C1)  Depth (inches):  No  Depth (inches):	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Soils (C6)  Saturation Visible on Aerial Imagery (Ca)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)
YDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Water-Stained Leaves (B9)  Field Observations: Surface Water Present?  Water Table Present?  Yes Includes capillary fringe)  Describe Recorded Data (stream gauge,	Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled  (B7)  Thin Muck Surface (C7)  Other (Explain in Remarks)  No  Depth (inches):  No  Depth (inches):  Thorogen Sulfide Odor (C1)  Depth (inches):  No  Depth (inches):	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Soils (C6)  Saturation Visible on Aerial Imagery (Ca)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)
IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one requested Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes  Water Table Present? Yes  Saturation Present? Yes  (includes capillary fringe)  Describe Recorded Data (stream gauge,	Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled  (B7)  Thin Muck Surface (C7)  Other (Explain in Remarks)  No  Depth (inches):  No  Depth (inches):  Thorogen Sulfide Odor (C1)  Depth (inches):  No  Depth (inches):	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Soils (C6)  Saturation Visible on Aerial Imagery (Ca)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)
YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one requested Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes  Water Table Present? Yes  Saturation Present? Yes  Includes capillary fringe)  Describe Recorded Data (stream gauge,	Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled  (B7)  Thin Muck Surface (C7)  Other (Explain in Remarks)  No  Depth (inches):  No  Depth (inches):  Thorogen Sulfide Odor (C1)  Depth (inches):  No  Depth (inches):	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Living Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Soils (C6)  Saturation Visible on Aerial Imagery (Ca)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)

Are climatic / hydrologic conditions on the site typical for this lime of year? Yes No (If no, explain in Remarks.)  Are Vegetation Soil or Hydrology significantly disturbed? Are Normal Circumstances' present? Yes_ (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important if the sampled Area within a Wetland? Yes No within a Wetland? Yes No within a Wetland? Yes No WETS table for additional in for VEGETATION - Use scientific names of plants.  Tree Stratum (Plot size: Absolute Sampling Stratum (Plot size: Absolute Sampling/Shrub Stratum (Plot size: Faculty Section of the Stratum (Plo	
Investigator(s): VIOCLE B. Wo TALLA Section, Township, Range: SIZ TYN RIS Landform (nilislope, terrace, etc.): Depression Local relief (concave, convex, none): Landform (nilislope, terrace, etc.): Depression Local relief (concave, convex, none): Landform (nilislope, terrace, etc.): Depression Local relief (concave, convex, none): Landform Ris Subregion (LRR): LIZ B Lat 45, 8512 Long - 120, 8740  Lat 45, 8512 Long - 120, 8740  Are Vegetation Soil or Hydrology significantly disturbed? Are Vegetation Soil or Hydrology industrially problematic?  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 of the sampled Area within a Wetland?  Hydrophylic Vegetation Present?  Yes No Wetland Hydrology Present?  Yes No  Is the Sampled Area within a Wetland?  Yes No  No  Wetland Hydrology Present?  Yes No  No  Is the Sampled Area Within a Wetland?  Yes No  No  Wetland Hydrology Present?  Yes No  Is the Sampled Area Within a Wetland?  Yes No  No  Wetland Hydrology Present?  Yes No  No  Is the Sampled Area Within a Wetland?  Yes No  No  Wetland Hydrology Present?  Yes No  No  Is the Sampled Area Within a Wetland?  Yes No  No  Wetland Hydrology Present?  Yes No  No  Is the Sampled Area Within a Wetland?  Yes No  No  Prevalence Index Sampled  No  Prevalence Index Worksheet:  Total Cover Office Hydrology  Prevalence Index Worksheet:  Total Cover Office Hydrology  Prevalence In	4/2
Investigator(s): Vocale 3. Wo tata. Section, Township, Range. State: MY Sampling Plants. State: MY Sam	00
And form (hillslope, terrace, etc.):  Depression  Local relief (concave, convex, none): Lencane  Subregion (LRR): L/2 / 3  Lat 45.8512 Long: 1/20.8744 Day  Are Vegetation   Soil   Are Vegetation   Are Vegetation   Soil   Are Vegetation   Are Vege	SP-
Subregion (LRR): LIRR S  Lat 45. 8512 Long: -120.8740 Da  Soll Map Unil Name: 47 - MUnSet 5 to my 511   [am. 0 to 516 NM classification: N/ Are climatic / hydrologic conditions on the site typical for this line of year? Yes No (if no, explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturbed? Are Normal Circumstances* present? Yes (if needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important if Hydrophytic Vegetation Present?  Yes No Is the Sampled Area within a Wetland? Yes No	E
Soil Map Unit Name: 97 - MUNSET 5 tonus 11 Lown. 0 to 56 NW classification: NV re climatic / hydrologic conditions on the site typical for this kine of year? Yes No (If no explain in Remarks.)  No every expetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important of the Hydrology Present? Yes No within a Wetland? Yes No	ope (%):
Tree climatic / hydrologic conditions on the site typical for this kine of year? Yes No (If no, explain in Remarks.)  Ne Vegetation Soil or Hydrology significantly disturbed? Are 'Normal Circumstances' present? Yes (if needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important thydrophytic vegetation present? Yes No within a Wetland Hydrophytic Vegetation Present? Yes No within a Wetland Hydrophytic Vegetation Present? Yes No within a Wetland? Yes No	um: NAP
Tree Stratum (Plot size:    Absolute   Dominant Indicator   Species Z Status	A
Are "Normal Circumstances" present? Yes_ No Hydrology	
SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important of the strength o	/ No
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important of the Hydrophytic Vegetation Present?  Hydrophytic Vegetation Present?  Hydrophytic Vegetation Present?  Hydrophytic Vegetation Present?  Yes No Welland Hydrology Present?  Yes No Welland?  No Welland	
Hydrophysic Vegetation Present?  Wetland Hydrology Present?  Yes No	
Hydric Soil Present?  Wetland Hydrology Present?  Wetland Hydrology Present?  Remarks: Small depression where drainage connects to NHD line.  UN SEASCHABLY CAY See WET'S truble for additional in fo.  VEGETATION - Use scientific names of plants.  Iree Stratum (Plot size:  1. Absolute Dominant Indicator Species? Status Number of Dominant Species That Are OBL, FACW, or FAC:  2. Total Number of Dominant Species That Are OBL, FACW, or FAC:  2. Total Number of Dominant Species That Are OBL, FACW, or FAC:  2. Provalence Index worksheet:  Total % Cover of Multip Cover Species 40 x1 = 4	eatures, et
Wetland Hydrology Present?  Yes No within a Wetland?  Westland Hydrology Present?  Westland?  Westland.  Westland?  Westland.  Westl	
Remarks: Small de pression where drainage connects to NHD line.  Un seaschably dry see WETs table for additional in fo.  //EGETATION - Use scientific names of plants.  Tree Stratum (Plot size:	
Absolute   Species   Status   Dominant Indicator   Species   Status   Number of Dominant Species   That Are OBL, FACW, or FAC:	
Absolute   Species?   Status   Dominant Indicator   Species?   Status   Number of Dominant Species   That Are OBL, FACW, or FAC:	Itis
Absolute   Species   Status   Dominant Indicator   Species   Status	
Absolute % Cover   Status   Dominant Indicator Species?   Status   Number of Dominant Species   That Are OBL, FACW, or FAC:	
Number of Dominant Species   That Are OBL, FACW, or FAC:	
Number of Dominant Species That Are OBL, FACW, or FAC:    Sapling/Shrub Stratum   Plot size:	
2. 3. 4. Septing/Shrub Stratum (Plot size: 1. 2. 3. 4. Percent of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: 1. Prevalence Index worksheet: Total % Cover of: Multip OBL species PACW species	
Sapling/Shrub Stratum (Plot size: = Total Cover	(A)
### Species Across All Status.  ### Sapling/Shrub Stratum (Plot size:)  ### Percent of Dominant Species That Are OBL, FACW, or FAC:	
That Are OBL, FACW, or FAC:   OBL	(B)
Total % Cover of: Multip  OBL species 40 x1 = 4  FACW species 2 x2 = 5  FAC species x3 = 5  FACU species x3 = 5  FACU species x4 = 4  UPL species x5 = 6  Column Totals: 42 (A) 2  Prevalence Index = B/A = 4  Hydrophytic Vegetation Indicators: 42 Dominance Test is >50%  Prevalence Index is \$3.0'  Morphological Adaptations' (Provide data in Remarks or on a separate problematic Hydrophytic Vegetation!  Woody Vine Stratum (Plot size: )	O_ (A/B)
OBL species 40 x1 = 4  FACW species 2 x2 = 5  FAC species x3 = FACU species x4 = UPL species x5 = Column Totals: 42 (A)  Prevalence Index = B/A = WM  Hydrophytic Vegetation Indicators: V Dominance Test is >50%  Prevalence Index is \$3.0'  Morphological Adaptations' (Provide data in Remarks or on a separate Problematic Hydrophytic Vegetation'  Noody Vine Stratum (Plot size: )	
FACW species 2 x 2 = FAC species	
FAC species x3 = FAC species x4 = UPL species x5 = Column Totals: 42 (A)  Prevalence Index = B/A = WOMD  Prevalence Index is >50%  Prevalence Index is >50%  Prevalence Index is >3.0¹  Morphological Adaptations¹ (Provide data in Remarks or on a separate Problematic Hydrophytic Vegetation  Woody Vine Stratum (Plot size:	10
### Stratum (Plot size: 5 feet)  1. Electronis palustris 2. Navametra intertexta 3. Prevalence Index = B/A = 1/2 (A)  Prevalence Index = B/A = 1/2 (A)  Prevalence Index is \$\frac{1}{2}\$ (Provide data in Remarks or on a separate Problematic Hydrophytic Vegetation  Woody Vine Stratum (Plot size:    Problematic Hydrophytic Vegetation   Problemat	1
Herb Stratum (Plot size: 5 feet)  1. Elect Nam's palustris 40 y 08L  2. Navametria intertexta 2 N FACW  Prevalence Index = B/A = 1000  Hydrophytic Vegetation Indicators:  Dominance Test is >50%  Prevalence Index is \$3.0'  Morphological Adaptations' (Provide data in Remarks or on a separate Problematic Hydrophytic Vegetation'  Woody Vine Stratum (Plot size: )	-
Prevalence Index = B/A = World   Morphological Adaptations   Provider data in Remarks or on a separate   Problematic Hydrophytic Vegetation   Problematic Hydro	-
Prevalence Index = B/A = William  Hydrophytic Vegetation Indicators:  Dominance Test is >50%  Prevalence Index is <3.0¹  Morphological Adaptations¹ (Provide data in Remarks or on a separate Problematic Hydrophytic Vegetation¹  Noody Vine Stratum (Plot size:  Problematic Hydrophytic Vegetation¹	14 (B)
Hydrophytic Vegetation Indicators:  Dominance Test is >50%  Prevalence Index is ≤3.0¹  Morphological Adaptations¹ (Provide data in Remarks or on a separate	10/
Dominance Test is >50%  Prevalence Index is ≤3.0¹  Morphological Adaptations¹ (Provide data in Remarks or on a separate Problematic Hydrophytic Vegetation¹  Woody Vine Stratum (Plot size:)	18 1,00
Prevalence Index is ≤3.0¹  Morphological Adaptations¹ (Provide data in Remarks or on a separate  ———————————————————————————————————	
Morphological Adaptations¹ (Provide data in Remarks or on a separate Problematic Hydrophytic Vegetation¹  Woody Vine Stratum (Plot size:)	
data in Remarks or on a separate  H2 = Total Cover  Problematic Hydrophytic Vegetation  Voody Vine Stratum (Plot size:)	
Voody Vine Stratum (Plot size: Problematic Hydrophytic Vegetation	supporting sheet)
Voody Vine Stratum (Plot size:)	
	(
Indicators of hydric soil and wetland hyd	ology must
be present, unless disturbed or problema	ic.
= Total Cover Hydrophytic	
% Bare Ground in Herb Stratum Wa 45 % Cover of Biotic Crust 15 Vegetation Present? Yes V No	
Remarks: 10 140 14 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	
Remarks: Biotic crust present throughout depression.	

Sampling Point: 5P-4

Depth Matrix	Redox	Features			
(inches) Color (moist) %	Color (moist)	%	Type	Loc²	Texture Remarks
0-4 7.5 1/2 3/80	7,54276	20	C	M	silt loam
1-8 7,5 YR 3/1 75	5 4R 3/4	25	С	M	clay loam
ype: C=Concentration, D=Depletion, R	M=Reduced Matrix, CS=	Covered	or Coate	ed Sand G	
ydric Soil Indicators: (Applicable to a			d.)		Indicators for Problematic Hydric Solls <sup>3</sup> :
_ Histosol (A1)	Sandy Redox				1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2) Stripped Matrix (S6)				2 cm Muck (A10) (LRR B)
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Mucky		7. 3(2)		Reduced Vertic (F18)
Stratified Layers (A5) (LRR C)	Loamy Gleye		(1-2)		Red Parent Material (TF2)
_ 1 cm Muck (A9) (LRR D)	Depleted Mat		ERY		Other (Explain in Remarks)
_ Depleted Below Dark Surface (A11)	Depleted Dark	11			
_ Thick Dark Surface (A12)	Redox Depre				3Indicators of hydrophytic vegetation and
_ Sandy Mucky Mineral (S1)	Vernal Pools				wetland hydrology must be present,
_ Sandy Gleyed Matrix (S4) testrictive Layer (if present):					unless disturbed or problematic.
Type: Compacted Soil Depth (Inches): B Inches Jemarks:	bys				Hydric Soll Present? Yes No
Depth (inches): B IV Chus	bys				Hydric Soll Present? Yes No
Depth (inches): B N Ches temarks:	bys				Hydric Soll Present? Yes No
Depth (inches): B IN Ches Remarks:  YDROLOGY  Vetland Hydrology Indicators:					
Depth (inches): B N Ches lemarks:  /DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one require	red; check all that apply)				Secondary Indicators (2 or more required)
Depth (inches): B N Ches  demarks:  PDROLOGY  Vetland Hydrology Indicators:  rimary Indicators (minimum of one require  Surface Water (A1)	red; check all that apply)				Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)
Primary Indicators (minimum of one required Surface Water (A1)  High Water Table (A2)	red; check all that apply)  Sall Crust (B	(B12)	/B13\		Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)
Depth (inches): B IN Ches  Remarks:  YDROLOGY  Vetland Hydrology Indicators:  Inimary Indicators (minimum of one require  Surface Water (A1)  High Water Table (A2)  Saturation (A3)	red; check all that apply)  Salt Crust (B  Biotic Crust  Aquatic Inve	(B12) rtebrates	75. 20.		Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Prift Deposits (B3) (Riverine)
Depth (inches): B N Ches  demarks:  PDROLOGY  Vetland Hydrology Indicators:  rimary Indicators (minimum of one requir  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)	red; check all that apply)  Salt Crust (B	(B12) rtebrates ulfide Odd	or (C1)	iving Roo	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)
Depth (inches): B National Semarks:  POROLOGY  Vetland Hydrology Indicators:  rimary Indicators (minimum of one require  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)	red; check all that apply)  Salt Crust (Biotic Crust  Aquatic Inve  Hydrogen St  Oxidized Rhi	(B12) rtebrates ulfide Odd izosphere	or (C1) es along	Store Service Co.	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Prift Deposits (B3) (Riverine)  Drainage Patterns (B10)  ots (C3) Dry-Season Water Table (C2)
Depth (inches): By Williams  POROLOGY  Vetland Hydrology Indicators:  rimary Indicators (minimum of one require  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)	red; check all that apply)  Sall Crust (B Biotic Crust Aquatic Inve Hydrogen St Oxidized Rhi Presence of	(B12) rtebrates ulfide Odd izosphere Reduced	or (C1) es along liron (C4	)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Prift Deposits (B3) (Riverine)  Drainage Patterns (B10)  ots (C3) Dry-Season Water Table (C2)  Crayfish Burrows (C8)
Depth (inches): B Nation  PROLOGY  Vetland Hydrology Indicators:  rimary Indicators (minimum of one require  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)	red; check all that apply)  Salt Crust (B Biotic Crust Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron	(B12) rtebrates ulfide Odd izosphere Reduced Reduction	or (C1) es along l Iron (C4 n in Tilled	)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Prift Deposits (B3) (Riverine)  Varianage Patterns (B10)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial imagery (C5)
Depth (inches): B IVICUS emarks:  DROLOGY  Vetland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	red; check all that apply)  Salt Crust (B Biotic Crust Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron	(B12) rtebrates ulfide Odd izosphere Reduced Reduction urface (C	or (C1) es along l Iron (C4 n in Tilled (7)	)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Prift Deposits (B3) (Riverine)  Drainage Patterns (B10)  ots (C3) Dry-Season Water Table (C2)  Crayfish Burrows (C8)
Depth (inches): B NO Ches  Parants:	red; check all that apply)  Salt Crust (B  Biotic Crust  Aquatic Inve  Hydrogen St  Oxidized Rhi  Presence of  Recent Iron  (B7)  Thin Muck S	(B12) rtebrates ulfide Odd izosphere Reduced Reduction urface (C	or (C1) es along l Iron (C4 n in Tilled (7)	)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Prift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C6)  Shallow Aquitard (D3)
Depth (inches): By Linches  POROLOGY  Vetland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery ( Water-Stained Leaves (B9) eld Observations:	red; check all that apply)  Salt Crust (B  Biotic Crust  Aquatic Inve  Hydrogen St  Oxidized Rhi  Presence of  Recent Iron  (B7)  Thin Muck S	(B12) rtebrates ulfide Odd izosphere Reduced Reductio urface (C in in Ren	or (C1) es along l Iron (C4 n in Tilled (7)	)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Prift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C6)  Shallow Aquitard (D3)
Depth (inches):	red; check all that apply)  Salt Crust (B Biotic Crust Aquatic Inve Hydrogen Si Oxidized Rhi Presence of Recent Iron (B7) Thin Muck S Other (Expla	(B12) rtebrates ulfide Odd izosphere Reduced Reductio urface (C in in Ren es):	or (C1) es along l Iron (C4 n in Tilled (7)	)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Prift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C6)  Shallow Aquitard (D3)
Popth (inches): Process  Proce	red; check all that apply)  Sall Crust (B Biotic Crust Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron Recent Iron Other (Expla	(B12) rtebrates rtebrates ulfide Odd izosphere Reduced Reductio urface (C in in Ren es):es):	or (C1) es along l Iron (C4 n in Tilled (7)	) I Soils (C6	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Prift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C6)  Shallow Aquitard (D3)
Popth (inches): Process  Poperates:  Poper	red; check all that apply)  Sall Crust (B Biotic Crust Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron Recent Iron Other (Expla	(B12) rtebrates ulfide Odd izosphere Reduced Reductio urface (C in in Ren es):es):es):	or (C1) es along d I Iron (C4 n in Tilled (77) marks)	) I Soils (C6	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C1)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)
Principles (Inches): Principle	red; check all that apply)  Salt Crust (B Biotic Crust Aquatic Inve Hydrogen Si Oxidized Rhi Presence of Recent Iron Recent Iron Other (Expla	(B12) rtebrates ulfide Odd izosphere Reduced Reductio urface (C in in Ren es):es):es):	or (C1) es along d I Iron (C4 n in Tilled (77) marks)	) I Soils (C6	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C1)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)
Population (Present? Yes	red; check all that apply)  Sall Crust (B Biotic Crust Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron Recent Iron Other (Expla	(B12) rtebrates ulfide Odd izosphere Reduced Reductio urface (C in in Ren es):es):es):	or (C1) es along d I Iron (C4 n in Tilled (77) marks)	) I Soils (C6	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C1)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)
Depth (inches):	red; check all that apply)  Salt Crust (B Biotic Crust Aquatic Inve Hydrogen Si Oxidized Rhi Presence of Recent Iron Recent Iron Other (Expla	(B12) rtebrates ulfide Odd izosphere Reduced Reductio urface (C in in Ren es):es):es):	or (C1) es along d I Iron (C4 n in Tilled (77) marks)	) I Soils (C6	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C1)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)
Popular (inches): Procession of the process of the	red; check all that apply)  Salt Crust (B Biotic Crust Aquatic Inve Hydrogen Si Oxidized Rhi Presence of Recent Iron Recent Iron Other (Expla	(B12) rtebrates ulfide Odd izosphere Reduced Reductio urface (C in in Ren es):es):es):	or (C1) es along d I Iron (C4 n in Tilled (77) marks)	) I Soils (C6	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C1)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)

mp:
Wetland B

estigator(s): L, Wolle B, Wojto	lenewable ala secti	ion, Township, Rai al relief (concave, o	
Map Unit Name: 97-Munset Stone climatic / hydrologic conditions on the site typical for vector of the state o	this time of year?  significantly distu  naturally problem	Yes No rbed? Are '	NWI classification: N/A
ydric Soil Present? Yes Vetland Hydrology Present? Yes	No WIND	Is the Sampled within a Wetlar	nd? YesNo
emarks: Area looks as if it day this year-see WE		an-maele for mor	e info.
GETATION – Use scientific names of pla		SISSA YSWELLS	
ee Stratum (Plot size:)		minant Indicator ecles? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
		==	Total Number of Dominant Species Across All Strata: 2 (B)
	= To	otal Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:  (A/B)
pling/Shrub Stratum (Plot size:)			100110000000000000000000000000000000000
pling/Shrub Stratum (Plot size:)			Prevalence Index worksheet:  Total % Cover of: Multiply by:
pling/Shrub Stratum (Plot size:)		==	Prevalence Index worksheet:
pling/Shrub Stratum (Plot size:)			Prevalence Index worksheet:
nt Stratum (Plot size: 5 leet) Bromus Feetorum	=To	otal Cover	Prevalence Index worksheet:
b Stratum (Plot size: 5 leet) Bromus fectorum Lomanum triturnatum	<u>60</u>	otal Cover  V NL  W V UPL  V N L	Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         0         x 1 = 0           FACW species         0         x 2 = 60           FAC species         0         x 3 = 0           FACU species         0         x 4 = 0           UPL species         0         x 5 = 60           Column Totals: 35 (B)         (A)         400 85 (B)
no Stratum (Plot size: S leet) Bromus Feetorum	<u>60</u>	otal Cover  Y  N  W  V  UPL  V  FACW	Prevalence Index worksheet:
rb Stratum (Plot size: 5 feet) Bromus tectorum Luma hum triternatum Luninus septieus serice Exilobium hirstum	<u>le0</u> <u>5</u> <u>1</u> <u>30</u> <u>30</u>	Y NL WY UPL V NL	Prevalence Index worksheet:
ro Stratum (Plot size: Sleet) Bromus tectorum Luma hum triternatum Luninus sencieus serice Extilobium hirstum	<u>le0</u> <u>5</u> <u>1</u> <u>30</u>	Y NL WY UPL Y NL Y FACW	Prevalence Index worksheet:
lomation triternatum Lupinus serice Exilobium hiratum	<u>le0</u> <u>5</u> <u>1</u> <u>30</u> <u>30</u>	Y NL WY UPL Y NL Y FACW	Prevalence Index worksheet:

Sampling Point: SP-5
indicators.)
Remarks
am

SOIL Profile Description: (Describe to the depth needed to document the indicator or confirm the absence Redox Features Depth Matrix Color (moist) (inches Color (moist) 0-<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) 1 cm Muck (A9) (LRR C) Sandy Redox (S5) Histic Epipedon (A2) 2 cm Muck (A10) (LRR B) Stripped Matrix (S6) Black Histic (A3) Reduced Vertic (F18) Loamy Mucky Mineral (F1) Red Parent Material (TF2) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) (LRR C) Other (Explain in Remarks) Depleted Matrix (F3) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Indicators of hydrophytic vegetation and Sandy Mucky Mineral (S1) wetland hydrology must be present. Vernal Pools (F9) unless disturbed or problematic. Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) Biotic Crust (B12) High Water Table (A2) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Presence of Reduced Iron (C4) Drift Deposits (B3) (Nonriverine) Cravfish Burrows (C8) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Shallow Aguitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Field Observations: Depth (inches): No Surface Water Present?

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

No

Depth (inches):

Depth (inches):

Remarks:

Water Table Present?

Saturation Present?

Wetland Hydrology Present? Yes

WETLAND DETERMINATION DATA FORM - Arid West Region city/county: Klick/tat County sampling Date: 4/30/20 Applicant/Owner: Cypress Creek Renewables State: WA Sampling Point SP-Investigator(s): R. Dolle, B. Wo; lala Section, Township, Range: SI THN RISE Landform (hillslope, terrace, etc.): dupression Local relief (concave, convex, none): London Slope (%): 15 Subregion (LRR): LRR B Lat: 45.8541 Long: -120,8748 Datum: NAD 1983 Soil Map Unit Name: 30B-Rackly-Lerena complex 2 to 15% NWI classification: Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_\_ No V (If no, explain in Remarks.) Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes V \_\_\_, 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? \_ No\_\_\_\_ Is the Sampled Area Hydric Soil Present? within a Wetland? Yes V No Wetland Hydrology Present? Remarks: Depression that wilets water from uphill ag fields. Feels water into NHD sneam It is unseasonably dry this year see WETS table for more info. VEGETATION - Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Plot size: % Cover Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species = Total Cover That Are OBL, FACW, or FAC: Sapling/Shrub Stratum (Plot size: ) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species FACW species  $75 \times 2 = 150$ FAC species FACU species = Total Cover Herb Stratum (Plot size: 5 feet) 1. Navaretha interks Column Totals: 2. Navarcetia interferta Prevalence Index = B/A = Hydrophytic Vegetation Indicators: ✓ Dominance Test is >50% Prevalence Index is ≤3.0 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 75 = Total Cover Woody Vine Stratum (Plot size: Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic = Total Cover Vegetation 10 % Cover of Biotic Crust 15 Present? Yes % Bare Ground in Herb Stratum Remarks:

Depth Matrix Redox Features	ndicator or confirm the absence of indicators.)
(inches) Color (moist) % Color (moist) %	Type Loc Texture Remarks
0-8 10 YR 7/2 85 5 YR 4/6 15	C M silty loam
8-12 754R 29, 60 754R 4/4 40	
8-12 7.5 YR 1/4 40	loam gravely
	1 9
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered	or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.  Indicators for Problematic Hydric Solls <sup>3</sup> :
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise note	
Histosol (A1) Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral	2 cm Muck (A10) (LRR B)
	(F2) Red Parent Material (TF2) Other (Explain in Remarks)
'하다' 나타자들은 Berling 가입니다 하다 하다 하다 하는 그는 그는 사람들이 하다면서 하다 되었다.	
1 cm Muck (A9) (LRR D) Redox Dark Surface ( Depleted Below Dark Surface (A11) Depleted Dark Surface	
Thick Dark Surface (A12) Redox Depressions (F	The state of the s
Sandy Mucky Mineral (S1) Vernal Pools (F9)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	unless disturbed or problematic.
Restrictive Leyer (if present):	
Type: _ LOCUS	/
Depth (inches):	Hydric Soil Present? Yes V No
Wetland Hydrology Indicators:	
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Salt Crust (B11)	Water Marks (B1) (Riverine)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Salt Crust (B11)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) s (B13) Drift Deposits (B3) (Riverine)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Salt Crust (B11)  Biotic Crust (B12)	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  s (B13)  Drift Deposits (B3) (Riverine)  lor (C1)  Drainage Patterns (B10)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)  Wetland Hydrology Indicators:  Sati Crust (B11) Biotic Crust (B12) Aquatic Invertebrates Hydrogen Sulfide Oct	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  s (B13) Drift Deposits (B3) (Riverine)  ior (C1) Drainage Patterns (B10)  res along Living Roots (C3) Dry-Season Water Table (C2)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)  Hydrogen Sulfide Oct	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  In (B13)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Tes along Living Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Presence of Reduce	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Sediment Deposits (B3) (Riverine) Sediment Deposits (B2) (Riverine) Sediment Deposits (B2) (Riverine) Sediment Deposits (B2) (Riverine) Sediment Deposits (B2) (Riverine) Sediment Deposits (B3) (Riverine) Sediment Dep
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Biotic Crust (B12)  Saturation (A3) Aquatic Invertebrate:  Water Marks (B1) (Nonriverine) Hydrogen Sulfide Oc.  Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospher  Drift Deposits (B3) (Nonriverine) Presence of Reduce  Surface Soil Cracks (B6) Recent Iron Reduction	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  In (B13)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  d Iron (C4)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Biotic Crust (B12)  Saturation (A3) Aquatic Invertebrates  Water Marks (B1) (Nonriverine) Hydrogen Sulfide Oc  Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospher  Drift Deposits (B3) (Nonriverine) Presence of Reduce  Surface Soil Cracks (B6) Recent Iron Reduction  Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (6)	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  In (B13)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  d Iron (C4)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Biotic Crust (B12)  Saturation (A3) Aquatic Invertebrates  Water Marks (B1) (Nonriverine) Hydrogen Sulfide October Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospher Presence of Reduce Surface Soil Cracks (B6) Recent Iron Reduction Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (Water-Stained Leaves (B9) Other (Explain in Reduction Reduction Thin Muck Surface (Market Market (B9))	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  In (B13)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  d Iron (C4)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Field Observations:	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  In (B13)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  d Iron (C4)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Biotic Crust (B12)  Saturation (A3) Aquatic Invertebrate:  Water Marks (B1) (Nonriverine) Hydrogen Sulfide Oc.  Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospher  Drift Deposits (B3) (Nonriverine) Presence of Reduce:  Surface Soil Cracks (B6) Recent Iron Reduction  Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (Control of the Control o	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  In (B13)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  d Iron (C4)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present?  Water Table Present?  Yes  No  Depth (inches):  Depth (inches):	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  In (B13)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  d Iron (C4)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present?  Water Table Present?  Yes  No  Depth (inches):  Saturation Present?  Yes  No  Depth (inches):  Depth (inches):	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  In prift Deposits (B3) (Riverine)  Sor (C1)  Drainage Patterns (B10)  Drainage Patterns (B10)  Drainage Patterns (B10)  Drainage Patterns (C2)  Crayfish Burrows (C8)  Drainage Patterns (C3)  Crayfish Burrows (C8)  Drainagery (C9)  Drainage Patterns (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  C7)  Marks)  FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present?  Water Table Present?  Yes  No  Depth (inches):  Saturation Present?  Yes  No  Depth (inches):	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  In prift Deposits (B3) (Riverine)  Sor (C1)  Drainage Patterns (B10)  Drainage Patterns (B10)  Drainage Patterns (B10)  Drainage Patterns (C2)  Crayfish Burrows (C8)  Drainage Patterns (C3)  Crayfish Burrows (C8)  Drainagery (C9)  Drainage Patterns (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  C7)  Marks)  FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present?  Water Table Present?  Yes  No  Depth (inches):  Saturation Present?  Yes  No  Depth (inches):  Cincludes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, presented in the present of the prese	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  In prift Deposits (B3) (Riverine)  Sor (C1)  Drainage Patterns (B10)  Drainage Patterns (B10)  Drainage Patterns (B10)  Drainage Patterns (C2)  Crayfish Burrows (C8)  Drainage Patterns (B10)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Biotic Crust (B12)  Saturation (A3) Aquatic Invertebrate: Hydrogen Sulfide Oc. Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospher Drift Deposits (B3) (Nonriverine) Presence of Reduce: Surface Soil Cracks (B6) Recent Iron Reduction Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (Explain in Reservations:  Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, present)	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  In prift Deposits (B3) (Riverine)  Sor (C1)  Drainage Patterns (B10)  Drainage Patterns (B10)  Drainage Patterns (B10)  Drainage Patterns (C2)  Crayfish Burrows (C8)  Drainage Patterns (C3)  Crayfish Burrows (C8)  Drainagery (C9)  Drainage Patterns (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  C7)  Marks)  FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present?  Water Table Present?  Yes  No  Depth (inches):  Saturation Present?  Yes  No  Depth (inches):  Cincludes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, present of the present	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  In prift Deposits (B3) (Riverine)  In prift Deposits (B3) (Riverine)  In prift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Pers along Living Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  In in Tilled Soils (C6)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Biotic Crust (B12)  Saturation (A3) Aquatic Invertebrate: Hydrogen Sulfide Oc. Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospher Drift Deposits (B3) (Nonriverine) Presence of Reduce: Surface Soil Cracks (B6) Recent Iron Reduction Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (Explain in Reservations:  Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, present)	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  In prift Deposits (B3) (Riverine)  In prift Deposits (B3) (Riverine)  In prift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Pers along Living Roots (C3)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  In in Tilled Soils (C6)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes No

MP: Wetland C

oject/Site: Site	Cit	VICOUNTY KIL	chitat Country sampling Date: 4/30,
oplicant/Owner: Cupress Cheek Re	newa bles		State: IN/A Sampling Point: SP-
vestigator(s): 12 V Locker 13 har	tala a	ction Township E	Same SITUN RISE
andform (hillstope, terrace, etc.):	hill to		e, convex, none): CM VEX Slope (%):
ubregion (LRR): LRK 13	100 614		Long: -120.8748 Datum: NAD
oil Map Unit Name: 3013 - Rockly-Le	Lat. 1.	11/100 11	Long: 10.01 10 Datum: 1010
e climatic / bydrologic conditions as the six a C	or arec con	ipax, 2 to	NWI classification: 10/74
re climatic / hydrologic conditions on the site typical for	this time of year?	Yes No	
re Vegetation, Soil, or Hydrology	_ significantly dis	turbed? Are	e "Normal Circumstances" present? Yes No
re Vegetation, Soil, or Hydrology			needed, explain any answers in Remarks.)
UMMARY OF FINDINGS - Attach site ma	p showing sa	ampling point	locations, transects, important features, et
	No /	Is the Sample	and? Yes No V
Remarks: Upland pit approx 15 unseasonably dry thi	ximately is year	10 feet See W	above wetland pit. It IETs table for additional
EGETATION - Use scientific names of pl	ants.		
Tree Stratum (Plot size: )	Absolute D	ominant Indicator	Dominance Test worksheet:
1,	% Cover S	pecies? Status	Number of Dominant Species
2.			That Ale OBL, FACW, OF FAC.
3.			Total Number of Dominant Species Across All Strata:
4.			10/
120 I-		Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 15 feet)	4.5	Se 30	
1. Lupinus sericeus	10	Y NL	Prevalence Index worksheet:
2			OBL species
4			FACW species   x2 = 2
5.			FAC species O x3= O
	20 =1	Total Cover	FACU species S x4= Le
Herb Stratum (Plot size: 5 feet)			UPL species O WAYS x5= USANTS O
1. Cometium tritemation		N OPL	Column Totals: MINO (A) MONTH 2 (B)
2. Achilles mille follows	- 3 -	N HACU	Prevalence Index = B/A = WM 3,66
3. 150 mus tectorum	96	V NL	
4. Camasia gvanush 5. Epodium cikutarium	15	N FACE	Hydrophytic Vegetation Indicators:  Dominance Test is >50%
100000		N_ N_	Prevalence Index is ≤3.0 <sup>4</sup>
6 7.			Morphological Adaptations (Provide supporting
8	4		data in Remarks or on a separate sheet)
Ÿ1	1112 =T	otal Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)			Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			and the state of t
1	To the second second	otal Cover	Hydrophytic Vegetation
Woody Vine Stratum (Plot size:)  1  2  % Bare Ground in Herb Stratum % Cov	= T	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	Hydrophytic

Sampling Point: 5p-7

Depth Matrix	depth needed to document the indicator of Redox Features		
inches) Color (moist) %	Color (moist) % Type	Loc <sup>2</sup> Texture	Remarks
0-12 10 412 3/3 100		loam	grands 3 boolder
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR C) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11 Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6)	Indicato1 cm2 cmRedOthe	Docation: PL=Pore Lining, M=Matrix.  In Section of Problematic Hydric Solls of Muck (A9) (LRR C)  Muck (A10) (LRR B)  Luced Vertic (F18)  Parent Material (TF2)  In (Explain in Remarks)  The of hydrophytic vegetation and the disturbed or problematic.
Restrictive Layer (if present):  Type:  Depth (inches):  Remarks: Soil 15 d	my	Hydric Sc	ill Present? Yes No
Type:	my .	Hydric Sc	ill Present? Yes No
Type:	my .	Hydric Sc	il Present? Yes No
Type:		Sec	Ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Pattems (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Type:	guired; check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled by (B7) Thin Muck Surface (C7) Other (Explain in Remarks)  No Depth (inches): No Depth (inches):	Sec  ving Roots (C3)  Soils (C6)  Wetland Hydrolo	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3)
Type:		Sec  ving Roots (C3)  Soils (C6)  Wetland Hydrolo	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Pattems (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (CS Shallow Aquitard (D3) FAC-Neutral Test (D5)
Type:	guired; check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled by (B7) Thin Muck Surface (C7) Other (Explain in Remarks)  No Depth (inches): No Depth (inches):	Sec  ving Roots (C3)  Soils (C6)  Wetland Hydrolo	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Pattems (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (CS Shallow Aquitard (D3) FAC-Neutral Test (D5)

MP: Wetland P

Project/Site: Site 1		12 leel	With County sampling Date: 4/30/
applicant/Owner: Cypress Creek Per	City/C	county: 12110	State: WA Sampling Point SP-8
Pupplications (2)	hunnes	72.00.00	State: WIT Sampling Point 1
nvestigator(s): Bilocke B. Wo	Jaun Section	on, Township, Ra	ange) 5 11 -110 15 E
androrm (hillslope, terrace, etc.): IVVa (LOCO)	Loca	relief (concave,	convex, none): Cancave Slope (%): 16
Subregion (LRR): LRR B			Long: 120,8746 Datum: NAD I
Soil Map Unit Name: 69A - Goldenclub		/	
Are climatic / hydrologic conditions on the site typical for	or this time of year? Y		
Are Vegetation, Soil, or Hydrology	significantly distur	bed? Are	*Normal Circumstances* present? Yes V No
Are Vegetation, Soil, or Hydrology	naturally problems	atic? (If n	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site m	nap showing sam	pling point	locations, transects, important features, etc
Hydric Soil Present? Yes	No	is the Samples within a Wetla	
	No		The Box
Meadow abuts NI Mis year- see WETS	table for	more i	info.
VEGETATION – Use scientific names of p			
Tree Stratum (Plot size:)		ninant Indicator	Dominance Test worksheet:
1	A COVE	Juge Charas	Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
2.			Total Number of Dominant
3,			Species Across All Strata: 2 (B)
4.			Percent of Dominant Species
i i i i i i i i i i i i i i i i i i i	= Tol	al Cover	That Are OBL, FACW, or FAC: 100 (A/B)
Sapling/Shrub Stratum (Plot size:)			Prevalence Index worksheet:
1			Total % Cover of: Multiply by:
2			OBL species x 1 =
4.			FACW species 150 x2= 300
5.			FAC species x 3 =
10 1	= Tot	al Cover	FACU species x 4 =
Herb Stratum (Plot size: 6 lect	20 N	FACH	UPL species x 5 =
1. Camasia guamash	- W N	PACIO	Column Totals: 150 (A) 300 (B)
2 Potentilla Sp. 3 Aloxuns pratensis	HO Y	FACIN	Prevalence Index = B/A = 2
The state of the s	90 Y	FACW	Hydrophytic Vegetation Indicators:
4. Phalans annamquae		Luciy	Dominance Test is >50%
5			✓ Prevalence Index is ≤3.0'
7.			Morphological Adaptations1 (Provide supporting
3			data in Remarks or on a separate sheet)
j	151 = Tota	al Cover	Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size:)		0.00	The second secon
			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2		200	
	= Tota	al Cover	Hydrophytic Vegetation
% Bare Ground in Herb Stratum 0 % Co	over of Biotic Crust	0	Present? Yes No
Remarks:			
lon max			

Remarks:

MP

Project/Site: Site /		City/Cour	ny: Klich	with County sampling Date: 4/30/2
Applicant/Owner: Cypress Creek 16	enewab	US.		State: WA Sampling Point: 50-9
nvestigator(s): R. Licke B. Wojt	ala	Section,	Township, R	ange: SITHN RISE
Consider (missippe, terrace, etc.): VIIII 5 to De				, convex, none): flat Slope (%): 5
Subregion (LRR): LAKB	Lat:	15.8	3550	1000 -120 9145 Datum NAD 10
Soil Map Unit Name: 69A - Goldendele	silt loan	m.h	salt su	INSTRUMENT Classification: NIA
Are climatic / hydrologic conditions on the site typical for	this time of ve	ar? Yes	No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology	significantly	disturbed		"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology	naturally pro	hlematic?		needed, explain any answers in Remarks.)
Attach site ma	ap snowing	sampli	ing point	locations, transects, important features, etc.
Hydric Soil Present? Yes  Wetland Hydrology Present? Yes			the Sample thin a Wetla	
	1.76.1	in T	Cest al	ma valled ait This
unseasonable du - cla	WETC	Ha hi	Goe M	cove wetland pit. It is
see	VO 1-15	Nove	Hor IV	are into
VEGETATION - Use scientific names of p	onto			
		Destina		15
Tree Stratum (Plot size: 30 feet)	Absolute % Cover		nt Indicator  Status	Dominance Test worksheet:
1. Crataegus douglasii		_1	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
2. J				Total Number of Dominant
3				Species Across All Strata: (B)
4.		52000		Percent of Dominant Species 100 Region
Sapling/Shrub Stratum (Plot size: 15 feet )	_16	= Total C	over	That Are OBL, FACW, or FAC: (A/B)
1. Crataegus douglasii	_ 20	_Y_	FAC	Prevalence Index worksheet:
2				Total % Cover of: Multiply by:
3				OBL species x 1 =
4				FACW species $30 \times 2 = 72$
5		1.17 10.1	-	FAC species x 3 =
Herb Stratum (Plot size: 5 feet)	_20_	= Total C	over	FACU species
1. Paa bulbosa	1	N	FACU	UPL species
2. Wyethia amplexicaviis	50	Y	FAC	Column totals. When (A) The column (B)
3. Tataxaum Officionale	15	N	FACU	Prevalence Index = B/A =
4. Alopewrus pratensis	5_	N	FHCW	Hydrophytic Vegetation Indicators:
5. Camassia quamash		Ņ	FACW	✓ Dominance Test is >50%
6. Promus tectorum	30	y	NL	✓ Prevalence Index is ≤3.0¹
7. Phalan's annolinateae	_ 30_		FACIN	Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
8	120	T	-	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:)	134	= Total Co	over	
1				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
2				be present, unless disturbed or problematic.
		= Total Co	over	Hydrophytic / //
				Vegetation
% Bare Ground in Herb Stratum % Cov	er of Biotic Cru	st		Present? Yes V No W
% Bare Ground in Herb Stratum % Cov	ver of Biotic Cru	ıst		Present? Yes V No 1907

Depth inches)	Matrix		Dode			or commin	n the absence of indicators.)
(7)	Color (moist)	%	Color (moist)	x Feature %	Type	Loc2	Texture Remarks
0-5	10 YK 72	100					loam
5-12	10 YR 3/1	100					clair loam
							<del>-</del>
				-	-		
				_	-	_	
		_		_			
Type: C=C	oncentration, D=Deple	tion, RM=	Reduced Matrix, C	S=Covere	d or Coate	ed Sand Gr	rains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.
ydric Soil	Indicators: (Applicat	ole to all L	RRs, unless other	rwise not	ted.)		Indicators for Problematic Hydric Soils <sup>1</sup> :
Makerit	140.4						
_ Histosol	(A1)		Sandy Red	ox (S5)			1 cm Muck (A9) (LRR C)
The second second	Control of the contro		Sandy Red				1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)
_ Histic Ep	oipedon (A2)		Stripped M	atrix (S6)	N/E4V		2 cm Muck (A10) (LRR B)
_ Histic Ep _ Black Hi	pipedon (A2) stic (A3)		Stripped M Loamy Mud	atrix (S6) cky Minera			2 cm Muck (A10) (LRR B) Reduced Vertic (F18)
Histic Ep Black Hi Hydroge	pipedon (A2) stic (A3) en Sulfide (A4)		Stripped M Loamy Mud Loamy Gle	atrix (S6) cky Minera yed Matrix	(F2)		2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2)
Histic Ep Black Hi Hydroge Stratified	pipedon (A2) stic (A3) on Sulfide (A4) d Layers (A5) (LRR C)		Stripped M Loamy Mu Loamy Gle Depleted M	atrix (S6) oky Minera yed Matrix fatrix (F3)	(F2)		2 cm Muck (A10) (LRR B) Reduced Vertic (F18)
Histic Ep Black Hi Hydroge Stratified 1 cm Mu	bipedon (A2) stic (A3) on Sulfide (A4) d Layers (A5) (LRR C) uck (A9) (LRR D)		Stripped M Loamy Muc Loamy Gle Depleted M Redox Dan	atrix (S6) cky Minera yed Matrix fatrix (F3) k Surface	(F2) (F6)		2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2)
Histic Ep Black Hi Hydroge Stratified 1 cm Mu Depleted	bipedon (A2) stic (A3) en Sulfide (A4) d Layers (A5) (LRR C) uck (A9) (LRR D) d Below Dark Surface		Stripped M Loamy Mu Loamy Gle Depleted M	atrix (S6) cky Minera yed Matrix fatrix (F3) k Surface	(F2) (F6)		2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2)
Histic Ep Black Hi Hydroge Stratified 1 cm Mu Depleted	bipedon (A2) stic (A3) on Sulfide (A4) d Layers (A5) (LRR C) uck (A9) (LRR D)		Stripped M Loamy Muc Loamy Gle Depleted M Redox Dan	atrix (S6) cky Minera yed Matrix fatrix (F3) k Surface ark Surfa	(F2) (F6) ce (F7)		2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2)
Histic Ep Black Hi Hydroge Stratified 1 cm Mu Depleted Thick Da	bipedon (A2) stic (A3) en Sulfide (A4) d Layers (A5) (LRR C) uck (A9) (LRR D) d Below Dark Surface		Stripped M Loamy Muc Loamy Gle Depleted M Redox Dar Depleted D Redox Dep	atrix (S6) cky Minera yed Matrix flatrix (F3) k Surface tark Surface pressions	(F2) (F6) ce (F7)		2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2) Other (Explain in Remarks)  Indicators of hydrophytic vegetation and
Histic Ep Black Hi Hydroge Stratified 1 cm Mu Depleted Thick Da Sandy M	bipedon (A2) stic (A3) en Sulfide (A4) d Layers (A5) (LRR C) uck (A9) (LRR D) d Below Dark Surface (ark Surface (A12) Mucky Mineral (S1)		Stripped M Loamy Muc Loamy Gle Depleted M Redox Dar Depleted D	atrix (S6) cky Minera yed Matrix flatrix (F3) k Surface tark Surface pressions	(F2) (F6) ce (F7)		2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and wetland hydrology must be present.
Histic Ep Black Hi Hydroge Stratified 1 cm Mu Depleted Thick Da Sandy M	bipedon (A2) stic (A3) en Sulfide (A4) d Layers (A5) (LRR C) uck (A9) (LRR D) d Below Dark Surface (ark Surface (A12) Mucky Mineral (S1) Bleyed Matrix (S4)		Stripped M Loamy Muc Loamy Gle Depleted M Redox Dar Depleted D Redox Dep	atrix (S6) cky Minera yed Matrix flatrix (F3) k Surface tark Surface pressions	(F2) (F6) ce (F7)		2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2) Other (Explain in Remarks)  Indicators of hydrophytic vegetation and
Histic Ep Black Hi Hydroge Stratified 1 cm Mu Depleted Thick Da Sandy M Sandy G Restrictive I	bipedon (A2) stic (A3) en Sulfide (A4) d Layers (A5) (LRR C) uck (A9) (LRR D) d Below Dark Surface (ark Surface (A12) Mucky Mineral (S1)		Stripped M Loamy Muc Loamy Gle Depleted M Redox Dar Depleted D Redox Dep	atrix (S6) cky Minera yed Matrix flatrix (F3) k Surface tark Surface pressions	(F2) (F6) ce (F7)		2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and wetland hydrology must be present.
Histic Ep Black Hi Hydroge Stratified 1 cm Mu Depleted Thick Da Sandy M	bipedon (A2) stic (A3) en Sulfide (A4) d Layers (A5) (LRR C) uck (A9) (LRR D) d Below Dark Surface (A12) Aucky Mineral (S1) Bleyed Matrix (S4) Layer (If present):		Stripped M Loamy Muc Loamy Gle Depleted M Redox Dar Depleted D Redox Dep	atrix (S6) cky Minera yed Matrix flatrix (F3) k Surface tark Surface pressions	(F2) (F6) ce (F7)		2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and wetland hydrology must be present.

## HYDROLOGY

Wetland Hydrology Indicators:	**************************************	
Primary Indicators (minimum of one require	d; check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9)	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled	Crayfish Burrows (C8)
Water Table Present? Yes	No Depth (inches):  No Depth (inches):  Depth (inches):  Depth (inches):  Depth (inches):	Wetland Hydrology Present? Yes No
Remarks:		

0.1	WETLAND DETER			- Arid West Region
Project/Site: SIFE		City	County: Klick	Litat County sampling Date: 4/30/
Applicant/Owner: Cunners	- Creek Rev	ouxibles	4	State: WA Sampling Point: SP-10
nvestigator(s): L. Woche	3 B. Woita	A Sec	tion. Township, Ra	ange: SIITYN RISE
andform (hillslope, terrace, etc.):	toes lo pe	10	cal relief (concave.	convex, none): CONCAVE Slope (%): 5
Subregion (LRR): LRR B	10-210/10	lat: 45	.8464	Long: -120,8851 Datum: NAD I
	Lead 1 extrem			000 NWI classification: N/A
Are climatic / hydrologic conditions				(If no, explain in Remarks.)
Are Vegetation, Soil			A Comment of the	"Normal Circumstances" present? Yes No
Are Vegetation, Soil				eeded, explain any answers in Remarks.)
And the property of the second				ocations, transects, important features, etc.
45 9 70 70 70 70		1		
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes No	V	is the Sampled within a Wetlan	
Remarks: C-/I - 11	ADDWSCIM-	at the	end (bo	ttom) of Stream 2 It is
unseasonably di	y this year	-see W	ets table	for additional info.
VEGETATION - Use scien	tific names of plant	s.		
	- y		ominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:		% Cover S	pecies? Status	Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
2.				Total Number of Dominant
3.				Species Across All Strata: (B)
4	10 D L		otal Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: 07 (A/B)
Sapling/Shrub Stratum (Plot siz	e: 15 feet	5	Y NL	Prevalence Index worksheet:
1 Eriogenum +	nymoraes		1 100	Total % Cover of: Multiply by:
2	0			OBL species O x1= 0
3 4.				FACW species 0 x 2 = 0
5.				FAC species x3 =
	0	5 =1	otal Cover	FACU species 10 ×4= 40
Herb Stratum (Plot size: 5	CET )	<	Y FACU	UPL species 8 x5= 168 0
1. Poa bulbosa	Con bro	-2-	Y FACU	Column Totals: 4/10 (A) 4/10 (B)
2. Flypochaeris ras	III.WIW.		/ Ine-	Prevalence Index = B/A = 4/8/15 4
4.				Hydrophytic Vegetation Indicators:
5.				Dominance Test is >50%
6.				Prevalence Index is ≤3.0'
7				Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
8.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
and the second second second		_LO_=T	otal Cover	
Woody Vine Stratum (Plot size:				Indicators of hydric soil and wetland hydrology must
1,				be present, unless disturbed or problematic.
*		====	otal Cover	Hydrophytic
% Bare Ground in Herb Stratum _	90 % Cover	of Biotic Crust		Vegetation Present? Yes No
Remarks:	do he was	tahan	indicat	ove mit
No hydron	ohytic very	JULY 10Y	margan	VI 3 1.001
	0			
•				

Depth Matrix	needed to document the Indicator or Redox Features	committee of maleators.	
(inches) Color (moist) %	Color (moist) % Type'	Loc <sup>2</sup> Texture Remarks	
0-13 10 1 14/3 100		Siltloam	
Type: C=Concentration, D=Depletion, RM=R	educed Matrix CS=Covered or Coaled S	Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=M	atrix.
lydric Soll Indicators: (Applicable to all LF	RRs, unless otherwise noted.)	Indicators for Problematic Hydric Sol	
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR C) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Vernal Pools (F9)	1 cm Muck (A9) (LRR C)2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2) Other (Explain in Remarks)  alpha calculations of hydrophytic vegetation and wetland hydrology must be present,	
Sandy Gleyed Matrix (S4)		unless disturbed or problematic.	
Restrictive Layer (if present):  Type:  Depth (inches):		Hydric Soil Present? Yes N	./
Soil is very dry			
Wetland Hydrology Indicators:	chock all that apply)	Secondary Indicators (2 or more red	wired)
Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)		Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) ing Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8)	ne)
Field Observations:			
Surface Water Present? Yes No	Depth (inches):	Wetland Hydrology Present? Yes N	o <u>/</u>
Saturation Present? Yes No	-0.0	ctions), if available:	
Saturation Present? Yes No (includes capillary fringe) Describe Recorded Data (stream gauge, moni	-0.0		

opicant/Owner: Cypress Creek Reve vestigator(s): R. Locke, B. Wo' talk andform (hillslope, terrace, etc.): toe slope ubregion (LRR): LRL B oil Map Unit Name: 25 A - Leidl extremel re climatic / hydrologic conditions on the site typical for this	Lat:	Section,	Township, F	State: WA Sampling Point SP-11  Range: SII TYN RISE
andform (hillslope, terrace, etc.): to slope ubregion (LRR): LIZE B  oil Map Unit Name: 25 A - Leid extremely re climatic / hydrologic conditions on the site typical for this	Lat:	Section,	Township, F	State: WA Sampling Point SP-11
andform (hillslope, terrace, etc.): to slope ubregion (LRR): LIZE B  oil Map Unit Name: 25 A - Leid extremely re climatic / hydrologic conditions on the site typical for this	Lat:	Section,	Township, F	Range: SITYN RISE
andform (hillslope, terrace, etc.):toe_slope ubregion (LRR):LRL B  oil Map Unit Name:25 A - Leid   extremel  re climatic / hydrologic conditions on the site typical for this	Lat: L			
oil Map Unit Name: 25 A - Leid extremel re climatic / hydrologic conditions on the site typical for this	Lat:		ief (concave	e, convex, none): Concave Slope (%):
re climatic / hydrologic conditions on the site typical for this	0.7.10	15.8	464	Long: -120,8898 Datum: NAD
re climatic / hydrologic conditions on the site typical for this	4 cob	bly as	hu loa	m / NWI classification: N/A
	Ime of ye	ar? Yes	11	(If no, explain in Remarks.)
e Vegetation, Soil, or Hydrology si				e "Normal Circumstances" present? Yes No
e Vegetation, Soil, or Hydrology na				needed, explain any answers in Remarks.)
UMMARY OF FINDINGS - Attach site map s	howing	sampli	ng point	locations, transects, important features, et
Hydrophytic Vegetation Present? Yes No. Hydric Soil Present? Yes No. Wetland Hydrology Present? Yes No.	7	ls Wi	the Sample	ed Area and? Yes No
Soil pit in low spot at e this year-see WETs table	nd of e for	NH add	D line	2. It is unseasonably day
EGETATION - Use scientific names of plant	s.			
Tree Stratum (Plot size:)	Absolute % Cover		nt Indicator 7 Status	
N	70 00401	Opecies	Cialus	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
				Total Number of Dominant
	_	_	-	Species Across All Strata: (B)
·	_	= Total C		Percent of Dominant Species
Sanling/Shrub Stratum (Plot size: 15 Feet)	2/	101010	4 - 6	That Are OBL, FACW, or FAC: (A/B)
Eriogonum strictum	95	Y_	NL	Prevalence Index worksheet:
		_		
	_		_	FACW species O x2= 0
				FAC species O x 3 = O
Herb Stratum (Plot size: 5 feet)	95	= Total C	over	FACU species 10 x 4 = 40
Hu po chueris radicata	10	V	FACU	UPL species WHO x 5 = WAHH O
		- 1 10-	1100	Column Totals: Md/H3 (A) M/H5 10 (B)
				Prevalence Index = B/A = MIPIO 4
	-			Hydrophytic Vegetation Indicators:
			_	Dominance Test is >50%
				Prevalence Index is ≤3.0¹     Morphological Adaptations¹ (Provide supporting)
				data in Remarks or on a separate sheet)
	10	= Total Co	ver	Problematic Hydrophytic Vegetation¹ (Explain)
/oody Vine Stratum (Plot size:)			_	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		= Total Co	ver	Hydrophytic /
Bare Ground in Herb Stratum 10 % Cover of		- / - / -		Vegetation Present? Yes No
emarks: No hydrophytic veget	2117.00		· · ·	356 110 110

Depth Desc	ription: (Describe t Matrix	to the dep		ment the		or confirm	n the absenc	e of Indicators.)
(inches)	Color (moist)	_%	Color (moist)	_%	Type	Loc	Texture	Remarks
0-13	10 714 3/3	100				_	Sandy	oaun
		-		_				
		-		_		_		
		_	-		_			-
Type: C=Co	Incentration D=Dool	lation DM					26	
Hydric Soil I	ncentration, D=Depl ndicators: (Applica	able to all	LRRs, unless othe	s=Covere	ed.)	d Sand G	Indicators	cation: PL=Pore Lining, M=Matrix s for Problematic Hydric Soils <sup>3</sup> :
_ Histosol			Sandy Red		34.7			Muck (A9) (LRR C)
	ipedon (A2)		Stripped M	Application of the second			and the second second	Muck (A10) (LRR B)
Black Hi			Loamy Muc	cky Minera	(F1)		Redu	ced Vertic (F18)
	n Sulfide (A4)		Loamy Gle	yed Matrix	(F2)		Red F	Parent Material (TF2)
	Layers (A5) (LRR C	2)	Depleted M	fatrix (F3)			Other	(Explain in Remarks)
	ck (A9) (LRR D)		Redox Dan	k Surface	(F6)			
Depleted	Below Dark Surface	e (A11)	Depleted D	ark Surfac	e (F7)			
	ark Surface (A12)		Redox Dep	ressions (	F8)		3Indicators	of hydrophytic vegetation and
	lucky Mineral (S1)		Vernal Poo	Is (F9)			4112947110	hydrology must be present.
Sandy G	sleyed Matrix (S4)						unless (	disturbed or problematic.

HYDROLOGY

Type: \_\_\_\_\_ Depth (inches):

Remarks:

Restrictive Layer (if present):

Soil is moist.

Wetland Hydrology Indicators:	and Charles being	Tanana Cara Cara Cara Cara Cara Cara Cara
Primary Indicators (minimum of one required; cl	neck all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1)	Salt Crust (B11)	Water Marks (B1) (Riverine)
High Water Table (A2)	Biotic Crust (B12)	Sediment Deposits (B2) (Riverine)
Saturation (A3)	Aquatic Invertebrates (B13)	Drift Deposits (B3) (Riverine)
Water Marks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Sediment Deposits (B2) (Nonriverine)	<ul> <li>Oxidized Rhizospheres along Living</li> </ul>	ng Roots (C3) Dry-Season Water Table (C2)
Drift Deposits (B3) (Nonriverine)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Surface Soil Cracks (B6)	Recent Iron Reduction in Tilled Sc	oils (C6) Saturation Visible on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes No _	Depth (inches):	
Water Table Present? Yes No	Depth (inches):	
Saturation Present? Yes No No	Depth (inches);	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspect	tions), if available:
	*	
Remarks:		

Hydric Soil Present?

MP:

Wetland E WETLAND DETERMINATION DATA FORM - Arid West Region Applicant/Owner: Cypress Check Rewables

City/County: K/ICKI tat County Sampling Date: 4/30/20

State: WA Sampling Point: SP-12

Investigator(s): 2 1 10 11 11 Investigator(s): RY Wille, B. Wo! tala Section, Township, Range: SIT4N RISE Landform (hillslope, terrace, etc.): Stream bank Local relief (concave, convex, none): Concave Slope (%): 45.8549 Long: -120,8845 Datum: NAD 1983 Subregion (LRR): LARC Soll Map Unit Name: 25A - Leidlexhemely cobbly ash Ican NWI classification: No \_\_\_\_ (If no, explain in Remarks.) Are climatic / hydrologic conditions on the site typical for this time of year? Yes Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? (If needed, explain any answers in Remarks.) Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: Wet meadow adjacent to NMD line, It is inscressed by VEGETATION – Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: % Cover Species? Status Tree Stratum (Plot size: \_\_\_\_\_) Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species 100 (A/B) = Total Cover That Are OBL, FACW, or FAC: Sapling/Shrub Stratum (Plot size: \_\_\_\_) Prevalence Index worksheet: Total % Cover of: OBL species **FACW species** FAC species FACU species = Total Cover Herb Stratum (Plot size: 5 Leet **UPL** species 1. Camassia avamash Column Totals: 2. Wrethia almple xicavii Prevalence Index = B/A = 2, 6 3. Holwslana Hydrophytic Vegetation Indicators: ✓ Dominance Test is >50% Prevalence Index is ≤3.01 Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) 110 = Total Cover Woody Vine Stratum (Plot size: \_\_\_\_ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic = Total Cover Vegetation % Cover of Biotic Crust Present? % Bare Ground in Herb Stratum \_ Remarks:

Histosol (A1) Sandy Redox (S5) 1 Histic Epipedon (A2) Stripped Matrix (S6) 2 Black Histic (A3) Loamy Mucky Mineral (F1) Re Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Re Straitfied Layers (A5) (LRR C) Depleted Matrix (F3) O 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Aindica Sandy Mucky Mineral (S1) Vernal Pools (F9) Wetl Sandy Gleyed Matrix (S4) Unite Sandy Gleyed Matrix (S4) Wetl Restrictive Layer (If present): Type: Depth (inches): Depth (inches): Surface Water (A1) Salt Crust (B11) High Water Table (A2) Biotic Crust (B12) Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Diff Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Depth (inches):	e Remarks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.	3 (5.0) (102) (5.0)
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to Loamy Mucky Mineral (F1) RR (Applicable to Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to Application (Applicable to Applicable to Applicable to Applicable to Application (Applicable to Applicable to Applicable to Applicable to Applicable to Application (Applicable to Applicable to Application (Applicable to Applicable to Applicable to Applicable to Applicable to Applicable to Application (Applicable to Applicable to Ap	Trom were to
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to Loamy Mucky Mineral (F1)	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to all LRRs, unless otherwise noted.) Indicators (Applicable to Applicable to Application (Applicable to Applicable to Applicable to Application (Applicable to Applicable to Application (Applicable to Applicable to Applicable to Application (Applicable to Applicable to Application (Applicable to Application (Application (Application (Application	loam
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)	
Histosol (A1) Sandy Redox (S5) 1 Histosol (A2) Stripped Matrix (S6) 2 Black Histic Epipedon (A2) Stripped Matrix (S6) 2 Black Histic (A3) Loamy Mucky Mineral (F1) Re Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Re Stratified Layers (A5) (LRR C) Depleted Matrix (F3) O 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Indica Sandy Mucky Mineral (S1) Vernal Pools (F9) Wetl Sandy Gleyed Matrix (S4) Vernal Pools (F9) Wetl Sandy Gleyed Matrix (S4) Vernal Pools (F9) Wetl Restrictive Layer (If present): Type: Depth (Inches): Hydric Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Sait Crust (B12) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Monriverine) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No Depth (Inches): Wetland Hydric Recent Iron Reduction in Tilled Soils (C6) Saturation Present? Yes No Depth (Inches): Wetland Hydric Recent Iron Reduction in Tilled Soils (C6) Saturation Present? Yes No Depth (Inches): Wetland Hydric Recent Iron Reduction in Tilled Soils (C6) Saturation Present? Yes No Depth (Inches): Wetland Hydric Recent Iron Reduction in Tilled Soils (C6) Saturation Present? Yes No Depth (Inches): Wetland Hydric Recent Iron Reduction in Tilled Soils (C6) Saturation Present? Yes No Depth (Inches): Wetland Hydric Recent Iron Reduction in Tilled Soils (C6) Saturation Present? Yes No Depth (Inches): Wetland Hydric Recent Iron Reduction in Tilled Soils (C6) Saturation Present? Yes No Depth (Inches): Wetland Hydric Recent Iron Reduction in Tilled Soils (C6) Saturation Present? Yes No Depth (Inches): Wetland Hydric Recent Iron Reduction in Tilled Soils (C6) Saturation Present? Yes No Depth (Inches): Wetland Hydric Recent Iron Reduction Iron Recent Iron	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)	
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)	
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)	
Histosol (A1) Sandy Redox (S5) 1 Histosol (A1) Sandy Redox (S5) 1 Histosol (A2) Stripped Matrix (S6) 2 Black Histic (A3) Loamy Mucky Mineral (F1) Re Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Re Stratified Layers (A5) (LRR C) Depleted Matrix (F3) O 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Indica Sandy Mucky Mineral (S1) Vernal Pools (F9) Wetl Sandy Gleyed Matrix (S4) Restrictive Layer (If present): Type: Depth (Inches): Hydric Remarks: Surface Water (A1) Salt Crust (B11) High Water Table (A2) Biotic Crust (B12) Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Monriverine) Oxidized Rhizospheres along Living Roots (C3) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Inundation Visible on Aerial Imagery (B7) Depth (Inches): Depth (Inches): Surface Vater Present? Yes No Depth (Inches): Wetland Hydric Related Scapillary fringe)	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)	_
Histosol (A1) Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) Rehydrogen Sulfide (A4) Straitfied Layers (A5) (LRR C) 1 cm Muck (A9) (LRR D) Pepleted Matrix (F3) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (If present): Type: Depth (Inches): Depth (Inches): Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonrriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water Staturation Present? Ves Indees Vater (Pesent? Ves No Depth (Inches): Depth (Inches	<sup>2</sup> Location: PL=Pore Lining, M=Matrix. tors for Problematic Hydric Solis <sup>3</sup> :
Histic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) (LRR C) Jepleted Matrix (F3) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (If present): Type: Depth (inches): Depth (inches): Depth (inches): Depth (inches): Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B3) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water Table (Present? Water Table Present? Final Present? Final Present? Final Present? Final Present? Final Present? Final Matrix (B1) Depth (inches): Depth (inches)	
Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR C) Jepleted Matrix (F3) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Perposition (A11) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (If present): Type: Depth (inches):  Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Drift Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water Table Present? Ves No Depth (inches): Wetland Hydroles): Wetland Hydroles (C7) Water Present? Wetland Hydroles (B2) Depth (inches):	cm Muck (A9) (LRR C)
Hydrogen Sulfide (A4)	cm Muck (A10) (LRR B)
Hydrogen Sulfide (A4)	educed Vertic (F18)
Stratified Layers (A5) (LRR C)  1 cm Muck (A9) (LRR D)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F6)  Depleted Dark Surface (F7)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Redox Depressions (F8)  Jandica Wetl Sandy Gleyed Matrix (S4)  Restrictive Layer (If present):  Type:  Depth (inches):  Depth (inches):  Surface Water (A1)  Salt Crust (B11)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Drift Deposits (B2) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water Table Present?  Yes  No  Depth (inches):  Depth (inches):  Depth (inches):  Depth (inches):  Depth (inches):  Wetland Hydrology  Wetland Hydr	ed Parent Material (TF2)
Tom Muck (A9) (LRR D)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F6)  Depleted Dark Surface (F7)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Redox Depressions (F8)  Vernal Pools (F9)  Wetland Pools (F9)  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Drift Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water Table Present?  Wetland Hydrology  Depth (inches):  Depth (inches):  Wetland Hydrology  Wetland Hydrology  Wetland Hydrology  Vernal Pools (F9)  Ve	ther (Explain in Remarks)
Depleted Below Dark Surface (A11)	No. of the second of the secon
Thick Dark Surface (A12)	
Sandy Mucky Mineral (S1)	itors of hydrophytic vegetation and
Sandy Gleyed Matrix (S4)  Restrictive Layer (If present):  Type:	
Restrictive Layer (If present):  Type:	and hydrology must be present.
Type:	ess disturbed or problematic.
Pint (Inches):	
Primary Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soils (C6)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Presence of Reduced Iron (C4)  Surface Water Present?  Ves No Depth (inches):  Depth (inches):  Depth (inches):  Depth (inches):  Wetland Hydra Includes capillary fringe)	
Primary Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water Table Present?  Ves No Depth (Inches):  Saturation Present?  Ves No Depth (Inches):  Saturation Present?  Wetland Hydral  Saturation Present?  Yes No Depth (Inches):  Wetland Hydral  Wetland Hydral  Wetland Hydral	Soil Present? Yes No
YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water Table Present?  Water Table Present?  Yes  No  Depth (inches):  Depth (inches):  Depth (inches):  Depth (inches):  Wetland Hydrology  Wetland Hydrology  Saturation Present?  Yes  No  Depth (inches):  Wetland Hydrology  Saturation Present?  Yes  No  Depth (inches):  Wetland Hydrology  Inches (C7)  Wetland Hydrology  Inches (C7)  Depth (inches):  Wetland Hydrology  Inches (C7)  Wetland Hydrology  Inches (C7)  Wetland Hydrology  Inches (C7)  Depth (inches):  Depth (inches):  Depth (inches):  Depth (inches):	
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Field Observations:  Surface Water Present?  Yes  No  Depth (inches):  Saturation Present?  Yes  No  Depth (inches):  Wetland Hydrogen Sulfide Odor (C1)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Roots (C3)  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soils (C6)  Thin Muck Surface (C7)  Other (Explain in Remarks)  Depth (inches):  Wetland Hydrogen Sulfide Odor (C1)  Saturation Present?  Yes  No  Depth (inches):  Wetland Hydrogen Sulfide Odor (C1)  Saturation Present?  Wetland Hydrogen Sulfide Odor (C1)  Saturation Present?  Yes  No  Depth (inches):  Wetland Hydrogen Sulfide Odor (C1)  Saturation Present?  Wetland Hydrogen Sulfide Odor (C1)  Saturation Present?  Wetland Hydrogen Sulfide Odor (C1)  Saturation Present?  Yes  No  Depth (inches):  Wetland Hydrogen Sulfide Odor (C1)  Saturation Present?  Wetland Hydrogen Sulfide Odor (C1)  Saturation Present?  Yes  No  Depth (inches):  Wetland Hydrogen Sulfide Odor (C1)  Saturation Present?  Wetland Hydrogen Sulfide Odor (C1)  Saturation Present?  Wetland Hydrogen Sulfide Odor (C1)  Saturation Present?  Yes  No  Depth (inches):  Wetland Hydrogen Sulfide Odor (C1)  Saturation Present?	
Surface Water (A1) Salt Crust (B11) Salt Crust (B12) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Water Table Present? Ves No Depth (Inches): Setiment Present? No Depth (Inches): Setimation Present? Setimation Present Pre	
Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present?  Ves No Depth (inches):  Saturation Present? Yes No Depth (inches):  Saturation Present?  Ves No Depth (inches):  Depth (inches):  Wetland Hydronic Crust (B12)  Biotic Crust (B12)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Roots (C3)  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soils (C6)  Thin Muck Surface (C7)  Other (Explain in Remarks)  Depth (inches):  Saturation Present?  Ves No Depth (inches):  Wetland Hydronic Crust (B12)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Roots (C3)  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soils (C6)  Thin Muck Surface (C7)  Other (Explain in Remarks)  Depth (inches):  Depth (inches):  Depth (inches):  Wetland Hydronic Crust (B12)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Roots (C3)  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soils (C6)  Thin Muck Surface (C7)  Depth (inches):  Depth (inches):  Wetland Hydronic Crust (B12)  Depth (inches):	accordent Indicators (2 as makes as a size d)
High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Ves No Depth (Inches): Saturation Present? Ves No Depth (Inches): Saturation Present? Ves No Depth (Inches): Depth (Inches): Wetland Hydrogen Sulfide Odor (C1) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)  Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)  Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)  Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)  Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)  Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks)  Field Observations:  Surface Water Present?  Yes No Depth (Inches):  Depth (Inches): Wetland Hydrogen Sulfide Odor (C1)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Roots (C3)  Presence of Reduced Iron (C4)  Thin Muck Surface (C7)  Other (Explain in Remarks)  Depth (Inches):  Depth (Inches):  Wetland Hydrogen Sulfide Odor (C1)  Depth (Inches):	econdary Indicators (2 or more required)
Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks)	Water Marks (B1) (Riverine)
Water Marks (B1) (Nonriverine)	Sediment Deposits (B2) (Riverine)
Water Marks (B1) (Nonriverine)	_ Drift Deposits (B3) (Riverine)
Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present?  Ves No Depth (Inches):  Saturation Present? Yes No Depth (Inches):  Depth (Inches):  Depth (Inches):  Wetland Hydroniculdes capillary fringe)	Drainage Patterns (B10)
Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present?  Ves No Depth (inches):  Saturation Present?  Yes No Depth (inches):  Depth (inches):  Depth (inches):  Depth (inches):  Wetland Hydra includes capillary fringe)	
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks)  Field Observations: Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydra includes capillary fringe)	Dry-Season Water Table (C2)
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks) Surface Water Present? Yes No Depth (Inches):	_ Crayfish Burrows (C8)
Water-Stained Leaves (B9)  Other (Explain in Remarks)  Field Observations:  Surface Water Present? Yes No Depth (inches):  Nater Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Wetland Hydra includes capillary fringe)	Saturation Visible on Aerial Imagery (C9)
Field Observations:  Surface Water Present? Yes No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Wetland Hydroincludes capillary fringe)	_ Shallow Aquitard (D3)
Field Observations:  Surface Water Present? Yes No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Seturation Present? Yes No Depth (inches): Wetland Hydroincludes capillary fringe)	FAC-Neutral Test (D5)
Nater Table Present? Yes No Depth (inches): Wetland Hydroincludes capillary fringe) Wetland Hydroincludes Capillary fringe)	2000 000 000 000 000
Nater Table Present? Yes No Depth (inches): Wetland Hydroincludes capillary fringe) Wetland Hydroincludes Capillary fringe)	
Saturation Present? Yes No/ Depth (inches): Wetland Hydroincludes capillary fringe)	- 2
includes capillary fringe)	
	ology Present? Yes V No
	e:
Remarks:	

ID: Netland E WETLAND DETERMINATION DATA FORM - Arid West Region Sitel City/County: Klick tat Com/ Gampling Date Project/Site: State: WA Sampling Point: SP-Cypress Creek Renewables Applicant/Owner B. Wo, tala Section, Township, Range: SITYN RISE Investigator(s): Landform (hillslope, terrace, etc.): 54ream Dank Local relief (concave, convex, none): +11+ Slope (%): Subregion (LRR): LRRC Lat: 45,8553 Long: -120.8830 Datum: NAD 1983 Soil Map Unit Name: 25 /4 - Leid ! extremely cobbly asky loans dassification: Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_\_\_ Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes 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? Is the Sampled Area Hydric Soll Present? within a Wetland? Wetland Hydrology Present? Yes Remarks: Mendow adjacent to N+1D line. Both soil pits bane Stream bank. It is unseasonably dry - see table VEGETATION - Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Plot size: \_\_\_\_\_) % Cover Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: **Total Number of Dominant** Species Across All Strata: Percent of Dominant Species = Total Cover That Are OBL, FACW, or FAC: Sapling/Shrub Stratum (Plot size: Prevalence Index worksheet: Total % Cover of: OBL species FACW species 10 FAC species FACU species = Total Cover Herb Stratum (Plot size: 5 Let UPL species i O War 1. Camistria a vamach 78200 (B) 410 Column Totals: #240 (A) 2. Pou hulbosh Lomatium triternatum 10 Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 4. Festuca idahoensis 5. Geranium Carolinianum Dominance Test is >50% Prevalence Index is ≤3.01 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 20 = Total Cover Woody Vine Stratum (Plot size: Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic = Total Cover Vegetation % Bare Ground in Herb Stratum \_ % Cover of Biotic Crust Present? Remarks:

Sampling Point: SP-13

Depth Matrix Redox Features Inches) Color (moist) % Color (moist) % Type Lo.  O-Le 10 Y R 2/L 100	Silflocus
0-6 10 YR 1/2 100	siltloan
Fype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sar lydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1) Sandy Redox (S5)  Histic Epipedon (A2) Stripped Matrix (S6)  Black Histic (A3) Loamy Mucky Mineral (F1)  Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)  Stratified Layers (A5) (LRR C) Depleted Matrix (F3)  1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)  Thick Dark Surface (A12) Redox Depressions (F8)  Sandy Mucky Mineral (S1) Vernal Pools (F9)  Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Solls <sup>3</sup> :  1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and welland hydrology must be present, unless disturbed or problematic.
Depth (inches): 11 inches by s temarks: Soil is alm	Hydric Soli Present? Yes No
/DROLOGY	
/etland Hydrology Indicators:	Managara ta disensa 10 ta di ana ana ana ana
rimary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Biotic Crust (B12)  Saturation (A3) Aquatic Invertebrates (B13)  Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1)  Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living  Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4)  Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soil  Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)  Water-Stained Leaves (B9) Other (Explain in Remarks)	Crayfish Burrows (C8)
eld Observations:	
urface Water Present? Yes No Depth (Inches):	
later Table Present? Yes No Depth (inches):	· /
aturation Present? Yes No Depth (inches): loculdes capillary fringe) escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection	Wetland Hydrology Present? Yes No
emarks:	

CAND DETERMINATION DA	ATA FORM	- West	tern Mou	intains, Valleys, and Coast Region
oject/site: Site 2	C	itv/County	Klick	Stat County sampling Date: 5/1/
plicanvowner: Cypness Creek Re	nevabl	US.	1.11.51	State: WA Sampling Point: SP - 14
vestigator(s): L. Loche B. Wo!	tala c	action To	urachia Da	inge SSITSN RIGE
indform (hillslope, terrace, etc.): Hillslope				convex, none): \$\int Slope (%): 2.5
ibregion (LRR): LARE		the same of the same	AND THE RESERVE	
	Lat:	15.87	1 1 1 1 1 1	Long: -120.8613 Datum: NAD
oil Map Unit Name: 12 D-Lyville bould	very 100	WI Z	10 20	6 5 6 po NWI classification: PUDFX
e climatic / hydrologic conditions on the site typical for the	is time of year	? Yes _	No_	
e Vegetation, Soil, or Hydrology	significantly d	isturbed?	Are '	"Normal Circumstances" present? Yes No
re Vegetation, Soil, or Hydrology	naturally prob	lematic?	(If ne	eeded, explain any answers in Remarks.)
UMMARY OF FINDINGS - Attach site map	showing s	samplin	g point l	ocations, transects, important features, et
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes	No //	I I I Townson	e Sampleo	
	No_V_		in a Wetlar	111
NHO stram. It is unseason	nably 1	is s	ris of	sloped, and is 15 feet above ear-see WETs table for
regeration - Use scientific names of plan		V	0	
7 - A /2 -		Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 feet)	% Cover	Species?		Number of Dominant Species
Pinus Ponderosa	10	_1_	FACU	That Are OBL, FACW, or FAC: (A)
2			=	Total Number of Dominant
4				Species Across All Strata: 42 (B)
10-	10	= Total Co		Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15 feet)		- Itali Co	VEI	That Are OBL, FACW, or FAC: U (A/B
1. Querus gargana	30	Y	FACU	Prevalence Index worksheet:  Total % Cover of: Multiply by:
2. Eriogonum (strictum	5	N	NL	OBL species 0 x1 = 0
3				FACW species 0 x2 = 0
4				FAC species 0 x3= 0
5	- 35	-500	_	FACU species 40 x4= (100) 160
Herb Stratum (Plot size: 5 fect)	23	= Total Co	ver	UPL species O COM x5 = WEG O
. Carex aeueri	75	У	NL	Column Totals: 40 Mag (A) Mag (B)
2	4-436			Prevalence Index = B/A = 4088 4
3				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
k	-			2 - Dominance Test is >50%
5				3 - Prevalence Index is ≤3.01
Y				4 - Morphological Adaptations (Provide supporting
<u> </u>				data in Remarks or on a separate sheet)
(				5 - Wetland Non-Vascular Plants'
0,			_	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	70			Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
11	75 =	Total Cov	er	The state of the s
Noody Vine Stratum (Plot size:)				Hydrophytic
Noody Vine Stratum (Plot size:)				Hydrophytic Vegetation
Woody Vine Stratum (Plot size:)  1)		Total Cov	er	

Profile Description: (Describe to the	depth needed to document the Indicator or co	onfirm the absence	Sampling Point:
Depth Matrix	Redox Features	ommin the ausence	or marcators.
(inches) Color (moist) %	Color (moist) % Type Lo	oc Texture	Remarks
0-6 10 YR 3/2 10		loam	many rock
		Town	Trace Toe IS
			V
Type: C=Concentration, D=Depletion	RM=Reduced Matrix, CS=Covered or Coated Sal	nd Cening 71 ag	ation: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Applicable to	o all LRRs, unless otherwise noted.)	Indicator	s for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Sandy Redox (S5)		Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)		Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLR	RA 1) Very	Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Glever Matrix (F2)		(Explain in Remarks)
Depleted Below Dark Surface (A11	Depleted Matrix (F3)		(4.1)2.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1
Thick Dark Surface (A12)	Redox Dark Surface (F6)	3Indicator	s of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetlan	d hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless	disturbed or problematic.
Restrictive Layer (if present):			
Type: Kock			/
Depth (inches): (p inches	loas	Models Call	Descento Van Na V
	ers throughout plot 2	Hydric Soil F	Present? Yes No_V_
Remarks: Large bould	ers throughout plot 2	6.00	resentr tes No_V
Remarks: Large bould	ers throughout plot 21	6.00	resent, tes No_V
Remarks: Large Louid		0%	
Remarks: Large Would	puired; check all that apply)	€°Zs	Jary Indicators (2 or more required)
IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one recommend) Surface Water (A1)	nuired; check all that apply) Water-Stained Leaves (B9) (except	€°Zs	
IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one rec Surface Water (A1) High Water Table (A2)	nuired; check all that apply)  Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	€°Zs	Jary Indicators (2 or more required)
IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one rec Surface Water (A1) High Water Table (A2) Saturation (A3)	puired; check all that apply)  Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)	© Zs  Second  L Wa	Jary Indicators (2 or more required) Iter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10)
IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	guired; check all that apply)  Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)	Second t Wa Dr Dr	lary Indicators (2 or more required) hter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) y-Season Water Table (C2)
Primary Indicators:  Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ouired; check all that apply)  Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)	Second t Wa Dr Sa	lary Indicators (2 or more required) hter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) y-Season Water Table (C2)
Property Coulds  In the country of t	puired; check all that apply)  Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living	Second t Wa Dr Dr Sa g Roots (C3) Ge	dary Indicators (2 or more required) htter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) /-Season Water Table (C2) hteration Visible on Aerial Imagery (Comorphic Position (D2)
Property Pro	cuired; check all that apply)  Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)	Second t Wa Dn Dn Sa g Roots (C3) Ge Sh	lary Indicators (2 or more required) htter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) /-Season Water Table (C2) hteration Visible on Aerial Imagery (Comorphic Position (D2) allow Aquitard (D3)
Remarks: Large Avuida  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	cuired; check all that apply)  Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soil	Second t	lary Indicators (2 or more required) htter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) /-Season Water Table (C2) hteration Visible on Aerial Imagery (Comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5)
Property Pro	puired; check all that apply)  Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soil  Stunted or Stressed Plants (D1) (LF	Second t	lary Indicators (2 or more required) Itter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Isinage Patterns (B10) I/-Season Water Table (C2) Ituration Visible on Aerial Imagery (Comorphic Position (D2) Itural (D3) C-Neutral Test (D5) Issed Ant Mounds (D6) (LRR A)
Remarks: Large Aoulds  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagel	puired; check all that apply)  Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soil  Stunted or Stressed Plants (D1) (LF	Second t	lary Indicators (2 or more required) ster-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) /-Season Water Table (C2) turation Visible on Aerial Imagery (Comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5)
Remarks: Large Aould  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagel Sparsely Vegetated Concave Surface	puired; check all that apply)  Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soil  Stunted or Stressed Plants (D1) (LF	Second t	lary Indicators (2 or more required) ster-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) /-Season Water Table (C2) turation Visible on Aerial Imagery (Comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A)
Remarks: Large Aould  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagel Sparsely Vegetated Concave Surface Field Observations:	water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soil  Stunted or Stressed Plants (D1) (LF of (Explain in Remarks)	Second t	lary Indicators (2 or more required) ster-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) /-Season Water Table (C2) turation Visible on Aerial Imagery (Comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A)
Remarks: Large Aould  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagel Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes	water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soil  Stunted or Stressed Plants (D1) (LF of (Explain in Remarks)  Poepth (inches):	Second t	lary Indicators (2 or more required) ster-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) /-Season Water Table (C2) turation Visible on Aerial Imagery (Comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A)
Remarks: Large Aould  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagel Sparsely Vegetated Concave Surface Field Observations: Surface Water Present?  Water Table Present?  Yes Water Table Present?	water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soit  Stunted or Stressed Plants (D1) (LF  ry (B7)  Other (Explain in Remarks)  Depth (inches):  Depth (inches):	Second t Wa Dr Dr Sa g Roots (C3) Ge Sh is (C6) FA RR A) Ra Fro	lary Indicators (2 or more required) ster-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) (-Season Water Table (C2) turation Visible on Aerial Imagery (Ci omorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A) ist-Heave Hummocks (D7)
Remarks: Large Aould  RYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagel Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soit  Stunted or Stressed Plants (D1) (LF  ry (B7)  Other (Explain in Remarks)  Depth (inches):  Depth (inches):	Second t	lary Indicators (2 or more required) ster-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) (-Season Water Table (C2) turation Visible on Aerial Imagery (Ci omorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A) ist-Heave Hummocks (D7)
Remarks: Large Audio  RYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagel Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Includes capillary fringe)	water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soit  Stunted or Stressed Plants (D1) (LF  ry (B7)  Other (Explain in Remarks)  Depth (inches):  Depth (inches):	Second  Wetland Hydrology	dary Indicators (2 or more required) ster-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) (-Season Water Table (C2) turation Visible on Aerial Imagery (C omorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A) ist-Heave Hummocks (D7)
Remarks: Large Audio  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagel Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Includes capillary fringe)	water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soit  Stunted or Stressed Plants (D1) (LF Other (Explain in Remarks)  Pepth (inches):  No Depth (inches):  Depth (inches):	Second  Wetland Hydrology	dary Indicators (2 or more required) ster-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) (-Season Water Table (C2) turation Visible on Aerial Imagery (C omorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A) ist-Heave Hummocks (D7)
IYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagel Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Water Table Present? Yes Saturation Present? Yes Concorded Data (stream gauge	water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soil  Stunted or Stressed Plants (D1) (LF of (Explain in Remarks)  oce (B8)  No Depth (inches):  No Depth (inches):  Depth (inches):  e, monitoring well, aerial photos, previous inspection	Second  Wetland Hydrology	lary Indicators (2 or more required) ster-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) sinage Patterns (B10) (-Season Water Table (C2) turation Visible on Aerial Imagery (C omorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A) ist-Heave Hummocks (D7)
PYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one reconstruction)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagel  Sparsely Vegetated Concave Surface (B4)  Field Observations: Surface Water Present?  Water Table Present?  Water Table Present?  Ves  Saturation Present?  Seturation Present?  Seturation Present?  Seturation Present?  Describe Recorded Data (stream gauge	water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soil  Stunted or Stressed Plants (D1) (LF of (Explain in Remarks)  oce (B8)  No Depth (inches):  No Depth (inches):  Depth (inches):  e, monitoring well, aerial photos, previous inspection	Second  Wetland Hydrology	lary Indicators (2 or more required) ster-Stained Leaves (B9) (MLRA 1, 2) 4A, and 4B) sinage Patterns (B10) (-Season Water Table (C2) turation Visible on Aerial Imagery (Comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A) ist-Heave Hummocks (D7)

C 1 .	ATA FORM -	Western Mou	intains, Valleys, and Coast Region
roject/Site: Dite 2		County: KIICL	Litat County Sampling Date: 5/2/
pplicant/Owner Cypress Creek Ker	recables		State: WAQ Sampling Point: 5P-1
vestigator(s): 12 locke 13, Woite	ala sec	tion, Township, Ra	inge: S31 T5N KILE
andform (hillslope, terrace, etc.): Stream to	race Loc	al relief (concave,	conver none) (DY (AVE Slope (%):
ubregion (LRR): LRRE	Lat 45	8716	Long: -120,8610 Datum: NAC
oil Map Unit Name: 120 - 24 Ville bould	era Innim	2 to 80%	& Slopeshwi classification: N/A
re climatic / hydrologic conditions on the site typical for the	71		
			"Normal Circumstances" present? Yes No
re Vegetation, Soil, or Hydrology	나 친탁 하나다 얼마나		eded, explain any answers in Remarks.)
re Vegetation, Soil, or Hydrology			
UMMARY OF FINDINGS - Attach site map		mpling point le	ocations, transects, important features, et
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No J	Is the Sampled within a Wetlan	nd? Yes NoV
Remarks: Soil pit along stream dry during this year - see	terrace of WETS to	NHD stre	additional data.
/EGETATION – Use scientific names of pla	nts.		
	The state of the s	minant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 Feet)		Status	Number of Dominant Species That Are ORL FACW or FAC.  (A)
. Pihus ponderosa		Y FACU	That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3	-		Species Across All Strata: (B)
4	30 =T	otal Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:  (A/B)
Sapling/Shrub Stratum (Plot size:		Star Gover	Prevalence Index worksheet:
			Total % Cover of: Multiply by:
2	-		OBL species
3			FACW species O x 2 = O
<b>(</b>			FAC species O x 3 = O
5	-	and Marine	FACU species 30 x4= 120
Herb Stratum (Plot size: 5 Rect )		otal Cover	UPL species 0 x5=
Carex geyeri	85	Y NL	Column Totals: NOTA 30 (A) BYTA I (B)
			Prevalence Index = B/A = 4
			Hydrophytic Vegetation Indicators:
0.4	سنست		1 - Rapid Test for Hydrophytic Vegetation
ir			2 - Dominance Test is >50%
	$\leftarrow$		3 - Prevalence Index is <3.01
·			4 - Morphological Adaptations' (Provide supporting
l	-	_	data in Remarks or on a separate sheet)  5 - Wetland Non-Vascular Plants <sup>1</sup>
1	-	$\rightarrow$	Problematic Hydrophytic Vegetation (Explain)
0.			Indicators of hydric soil and wetland hydrology must
1,	85 = Tot	al Couce	be present, unless disturbed or problematic.
Voody Vine Stratum (Plot size:	0 3 - 10	ai Cover	
VOCAY VINE SUBTOM			Hydrophytic
			Vegetation
		Section 1	Present? Yes No V
6 Bare Ground in Herb Stratum	= Tot	al Cover	

			100	
WETLAND DETERMINATION I	DATA FORM -	Western Mo	untains, Valleys, and C	oast Region
Project/Site Site 2	City	County Lic	kitat Countrys	mpling Dale 5/1/20
Applicant/Owner Coultress Creek few			State WAY Sa	mpling Point SP -16
Investigator(s): 12, Locke 16, Wo		dian, Township Ra		RIGE
Landform (Hillstope, terrace, etc.) Strucks &			convex none) _Cin Ltn	
1 0 1 0		B731	Long -120,8618	Datum NAO 19
				G 1 / A
		0 20% Slop		
Are climatic / hydrologic conditions on the site typical for	this time of year?	Yes No_	(If no. explain in Rema	arks.)
Are Vegetation Soil or Hydrology	_significantly dista	urbed? Are	"Normal Circumstances" pres	ent? Yes_V_ No
Are Vegetation Soil or Hydralogy	naturally probler	nalie? (If n	eeded, explain any answers in	Remarks.)
SUMMARY OF FINDINGS - Attach site ma	p showing sa	mpling point	locations, transects, in	portant features, etc.
Hydrophylic Vegetation Present? Yes	No 4	1 March 201		/
Hydric Soil Present? Yes	No V	is the Samples		
Welland Hydrology Present? Yes	No_V_	within a Wetla	nd? Yes	No
nemarks Wet stream mealing/ unseasonably day this year	ferrace of ar - See 1	vets tal	ble for addition	It is b.
VEGETATION – Use scientific names of pla	ints			
		minant Indicator	Dominance Test workshe	et:
Tree Stratum (Plot size:	% Cover Sp	ecies? Status	Number of Dominant Species That Are OBL, FACW, or FA	
2				
3.			Total Number of Dominant Species Across All Strata	Z (B)
4.				
	= 7	otal Cover	Percent of Dominant Specie That Are OBL, FACW, or FA	
Sapling/Shrub Stratum (Plot size:			Prevalence Index workshe	et:
1-	-		Total % Cover of:	Muttaly by:
2.		$\overline{}$	OBL species 30	x1=_30
3.	-		FACW species i C	12= 20
4-			FAC spedesO	x3=_0_
5.	= 1/	otal Cover	FACU species	x4= 100
Hero Stratum (Plot size: 5 feet		nai cover	UPL species 5	150 1915 25
1. Camassia quamush	10 A	J FACW	Column Totals:	(A) (B) 2
2 Pau bulbosh	40 Y	FACU	Prevalence Index = 8.	A= 3000 1.76
3 Eleocharis palustris		OBL	Hydrophytic Vegetation in	dicators:
a Lymatium hudicale	MS_A	LUPL	1 - Rapid Test for Hydro	phytic Vegetation
s Bromus tectorum	1	NL	2 . Dominance Test is >	30.14
6. Geranium carolinianum	75	NL.	3 - Prevalence Index is:	≤3,01
7			4 - Morphological Adapt	ations' (Provide supporting
8	-	_	date in Remarks or o	
9/			5 - Wetland Non-Vascui	7 400
10,	-		Problematic Hydrophytic	
31)	TAR AL		Indicators of hydro soil and be present, unless disturbed	or problematic
Mineral Vine Stephen (District	MIRA = Tot	al Cover		
Woody Vine Stratum (Plot size:			Third in the same	2 60
			Hydrophytic Vegetation	/ Ma
2	= Test	a) Cover	Present? Yes_V	No JV
% Bare Ground in Herb Stratum		2,34151		
Remarks:				

WETLAND DETERMINATION DATA FORM - Arid West Region CHYCOUNTY: Klickitat County sampling Date: 5/1/20 Project/Site: Applicant/Owner: Cymess Creck Renewables State: WH Sampling Point SP-RILOCUE B, Wo, tala Section, Township, Range: SITYN RISE Local relief (concave, convex, none): Con Cave Slope (%): 10 Landform (hillstope, terrace, etc.): Stream H. Valle Lat 45,8606 Long: -120,8685 Datum: NAD 1983 Subregion (LRR): LAR Soil Map Unit Name: 23 A - Gunn Stony Loam, 8 to 30 % slopes NWI classification: N/A Are climatic / hydrologic conditions on the site typical for will time of year? Yes \_\_\_\_\_ No V (If no, explain in Remarks.) Are "Normal Circumstances" present? Yes \_ Are Vegetation \_\_\_\_\_ Soil \_\_\_\_ or Hydrology \_\_\_\_ significantly disturbed? (If needed, explain any answers in Remarks.) Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: Wet meadow adjacent to Stream, It is unseasonably dry this year-see WETs Hable for additional info. VEGETATION - Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Plot size: \_\_\_\_) % Cover Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant (B) Species Across All Strata: Percent of Dominant Species 100 = Total Cover That Are OBL, FACW, or FAC: Sapling/Shrub Stratum (Plot size: Prevalence index worksheet: Total % Cover of: Multiply by: x1= 60 60 OBL species 0 0 FACW species FAC species 10 FACU species = Total Cover Herb Stratum (Plot size: 5 Lect) UPL species 0 1. Eleocharis nalustris (nD 120 Column Totals: 2 Holcus lanatus Prevalence Index = B/A = 2,08 FACI 3 Fostuca idahoensis Hydrophytic Vegetation Indicators: \* Rumex crispus ✓ Dominance Test is >50% ✓ Prevalence Index is ≤3.01 Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 120 = Total Cover Woody Vine Stratum (Plot size: \_\_\_ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic = Total Cover Vegetation % Cover of Blotic Crust Present? % Bare Ground in Herb Stratum Remarks:

Depth Matrix (inches) Color (moist) %	Redox Feature Color (moist) %	Type	Loc	Texture	Remarks
1-6 7.5 1/3/75	54R3/4 25	C	M	Joam	
			_		
			_	1	
		=			
ype: C=Concentration, D=Depletion, RM	=Reduced Matrix, CS=Covere	d or Coate	ed Sand G		n: PL=Pore Lining, M=Matrix.
ydric Soll Indicators: (Applicable to all	LRRs, unless otherwise no	ed.)			Problematic Hydric Soils*:
_ Histosol (A1)	Sandy Redox (S5)				(A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	1			(A10) (LRR B)
Black Histic (A3)	Loarny Mucky Minera	4 4		A CONTRACTOR	rertic (F18) t Matenal (TF2)
Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR C)	Loarny Gleyed Matrix  Depleted Matrix (F3)	(1-2)			lain in Remarks)
_ 1 cm Muck (A9) (LRR D)	Redox Dark Surface	(F6)		_ 5000 (20)	A CALLES
Depleted Below Dark Surface (A11)	Depleted Dark Surfa				
Thick Dark Surface (A12)	Redox Depressions			3Indicators of h	ydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	0.0			ology must be present.
_ Sandy Gleyed Matrix (S4)				unless distur	bed or problematic.
					7
Type: Kock	-				/
Type: KoW  Depth (inches): U inches ba	5			Hydric Soil Pre	sent? Yes / No
Type: Ko (M Depth (inches): <u>U in (Mus. 12)</u> Remarks:	5_			Hydric Soli Pre	sent? Yes / No
Type: Ko (M. Depth (inches): V inches has Remarks:	5_			Hydric Soil Pre	sent? Yes / No
Type: Ko M Depth (inches): V in (MAX MAX Remarks:  YDROLOGY Netland Hydrology Indicators:	S				No
Type: Ko M Depth (inches): U inches has Remarks:  YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one require				Secondary	
Type: Ko (M. Depth (inches): V inches (M. Depth (inches): V inches (M. Depth (inches): Marks:  YDROLOGY  Netland Hydrology Indicators:  Primary Indicators (minimum of one require Surface Water (A1)	Salt Crust (B11)			Secondari Water	r Indicators (2 or more required)
Type: Ko M Depth (inches): V inches M Remarks:  YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2)		es (B13)		Secondari Water Sedin	/ Indicators (2 or more required) Marks (B1) (Riverine)
Type: Ko (M. Depth (inches): V inches (M. Depth (inches): V inches (M. Depth (inches): Marks:  YDROLOGY  Netland Hydrology Indicators:  Primary Indicators (minimum of one require (M. Depth (M. Dep	Salt Crust (B11) Biotic Crust (B12)			Secondary Water Sedin	/ Indicators (2 or more required) Marks (B1) (Riverine) nent Deposits (B2) (Riverine)
Type:Ko (M	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide C	dor (C1)	Living Roc	Secondary Water Sedin Drift C	/ Indicators (2 or more required)  Marks (B1) (Riverine) nent Deposits (B2) (Riverine) leposits (B3) (Riverine)
Type: Ko M Depth (inches): Windows ba Remarks:  YDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide C	dor (C1) eres along		Secondary  Water Sedim Drift C Drains	/ Indicators (2 or more required) Marks (B1) (Riverine) tent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10)
Type:Ko (M	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizosphe	dor (C1) eres along ed Iron (C4	4)	Secondary Water Sedin Drift C Drains sts (C3) Crayfi	y Indicators (2 or more required) Marks (B1) (Riverine) Hent Deposits (B2) (Riverine) Heposits (B3) (Riverine) Heposits (
Type: Ko (M. Depth (inches): U inches (M. Dep	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizospho Presence of Reduct	dor (C1) eres along ed Iron (C4 ion in Tille	4)	Secondan  Water Sedim  Drift 0  Drift 0  Crayfi  Satura  Shalic	/ Indicators (2 or more required)  Marks (B1) (Riverine)  Ment Deposits (B2) (Riverine)  Deposits (B3) (Riverine)  age Pattems (B10)  eason Water Table (C2)  sh Burrows (C8)  ation Visible on Aerial Imagery (Cs  w Aquitard (D3)
Type: Ko (M. Depth (inches): V inches 12 Memarks:  YDROLOGY  Netland Hydrology Indicators:  Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizospho Presence of Reduct	dor (C1) eres along ed Iron (C4 ion in Tiller (C7)	4)	Secondan  Water Sedim  Drift 0  Drift 0  Crayfi  Satura  Shalic	y Indicators (2 or more required) Marks (B1) (Riverine) Hent Deposits (B2) (Riverine) Heposits (B3) (Riverine) Heposits (
Type: Ko (M. Depth (inches): Vinches (M. Depth (inches): V	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizospho Presence of Reduct Recent Iron Reduct Thin Muck Surface Other (Explain in Re	dor (C1) eres along ed Iron (C4 ion in Tiller (C7)	4)	Secondan  Water Sedim  Drift 0  Drift 0  Crayfi  Satura  Shalic	/ Indicators (2 or more required)  Marks (B1) (Riverine)  Ment Deposits (B2) (Riverine)  Deposits (B3) (Riverine)  age Pattems (B10)  eason Water Table (C2)  sh Burrows (C8)  ation Visible on Aerial Imagery (Cs  w Aquitard (D3)
Type: Ko M. Depth (inches): U Inches 128 Remarks:  YDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (E Water-Stained Leaves (B9)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizospho Presence of Reduct Recent Iron Reduct	dor (C1) eres along ed Iron (C4 ion in Tiller (C7)	4)	Secondan  Water Sedim  Drift 0  Drift 0  Crayfi  Satura  Shalic	/ Indicators (2 or more required)  Marks (B1) (Riverine)  Ment Deposits (B2) (Riverine)  Deposits (B3) (Riverine)  age Pattems (B10)  eason Water Table (C2)  sh Burrows (C8)  ation Visible on Aerial Imagery (Cs  w Aquitard (D3)
Type: Ko M Depth (inches): V Inches 128 Remarks:  YDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (E Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizosphe Presence of Reduce Recent Iron Reduct Thin Muck Surface Other (Explain in Re	dor (C1) eres along ed Iron (C4 ion in Tiller (C7)	4) d Soils (C6	Secondan  Water Sedim Drift D  Trift D	/ Indicators (2 or more required)  Marks (B1) (Riverine)  Ment Deposits (B2) (Riverine)  Deposits (B3) (Riverine)  age Pattems (B10)  eason Water Table (C2)  sh Burrows (C8)  ation Visible on Aerial Imagery (Cs  w Aquitard (D3)  Neutral Test (D5)
Depth (inches): U include to the semants:  YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (E) Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Fresent? Yes Saturation Fresent? Yes	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizospho Presence of Reduct Recent Iron Reduct Thin Muck Surface Other (Explain in Re	dor (C1) eres along ed Iron (C4 ion in Tiller (C7)	4) d Soils (C6	Secondan  Water Sedim  Drift 0  Drift 0  Crayfi  Satura  Shalic	/ Indicators (2 or more required)  Marks (B1) (Riverine)  Marks (B2) (Riverine)  Peposits (B3) (
Type: Ko (M. Depth (inches): Winches (M. Depth (inches): Winches (M. Depth (inches): Winches (M. Depth (inches): Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (EWater-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Thin Muck Surface Other (Explain in Ri	dor (C1) eres along ed Iron (C4 ion in Tiller (C7) ernarks)	d Soils (C6	Secondary Water Sedin Drift C Draina sts (C3) Dry-S Crayfi Satura Shallc FAC-t	/ Indicators (2 or more required)  Marks (B1) (Riverine)  Marks (B2) (Riverine)  Peposits (B3) (
Type: Ko (M. Depth (inches): U inches (M. Depth (	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Thin Muck Surface Other (Explain in Ri	dor (C1) eres along ed Iron (C4 ion in Tiller (C7) ernarks)	d Soils (C6	Secondary Water Sedin Drift C Draina sts (C3) Dry-S Crayfi Satura Shallc FAC-t	/ Indicators (2 or more required)  Marks (B1) (Riverine)  Marks (B2) (Riverine)  Peposits (B3) (
Type: Ko (M. Depth (inches): V Inches 128  Remarks:  YDROLOGY  Netland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (EWater-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrate Hydrogen Sulfide C Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Thin Muck Surface Other (Explain in Ri	dor (C1) eres along ed Iron (C4 ion in Tiller (C7) ernarks)	d Soils (C6	Secondary Water Sedin Drift C Draina sts (C3) Dry-S Crayfi Satura Shallc FAC-t	/ Indicators (2 or more required)  Marks (B1) (Riverine)  Marks (B2) (Riverine)  Peposits (B3) (

MP: Wetland F

policanvowner: Cypress Creek Re ivestigator(s): Lycyle, B. Wort	newables		State: WAO sampling Point: 5/1/20 state: WAO sampling Point: 5P-18
andform (hillslope, terrace, etc.): MISTope subregion (LRR): LRR B	Lat: 45	al relief (concave, 8607	convex, none): F1a+ Slope (%): 20 Long: -120.9685 Datum: NAD
are climatic / hydrologic conditions on the site typical for			(If no, explain in Remarks.)
re Vegetation, Soil, or Hydrology			"Normal Circumstances" present? Yes No
re Vegetation, Soil, or Hydrology			eeded, explain any answers in Remarks.)
			locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No J	is the Sampled within a Wetla	
Remarks: Upland soil pit is	10 feet	above wers	netlated soil pit. It is table for additional info
VEGETATION - Use scientific names of pla	ints.		
Tree Stratum (Plot size:) 1,		ninant Indicator cies? Status	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant Species Across All Strata: 82 (B)
Sapling/Shrub Stratum (Plot size: 5 Peot)	= To	tal Cover	Percent of Dominant Species That Are OBL., FACW, or FAC: 50 776 (A/B)
12			Prevalence Index worksheet:  Total % Cover of:  Multiply by:
3			OBL species $O$ $x 1 = O$ FACW species $O$ $x 2 = O$
5			FAC species
Herb Stratum (Plot size: 5 fect) 1. Holcus lanatus	30 °	tal Cover	FACU species 4 = 20 UPL species 20 D x5 = +9674461 Column Totals: 676 (A) 3669 17 PD
2. Erodium ciculatum 3. Lomatium nudicale	30	Y NL	Column Totals: (A) (B)  Prevalence Index = B/A = (B) (B)
Achillea millefolium	- 20 N	FACO	Hydrophytic Vegetation Indicators:
5,		11100	Dominance Test is >50%
5			Prevalence Index is ≤3.01
7/			Morphological Adaptations' (Provide supporting
8,	02 -		data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size:) 1.	<u>85</u> = To	tal Cover	
2.			Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		tal Cover	Hydrophytic Vegetation Present? Yes No
% Bare Ground in Herb Stratum	er of Biotic Crust _		

Notice parculation. Inserting to the neb	th needed to document the indicator or conf	irm the absence of indicators.)
Depth Matrix	Redox Features	- 3-1.7
(inches) Color (moist) %	Color (moist) % Type Loc	
0-6 1048 7/2 100		Siltloam
The second secon		
	=Reduced Matrix, CS=Covered or Coated Sand	Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all		Indicators for Problematic Hydric Solis <sup>3</sup> :
Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)
Histic Epipedon (A2) Black Histic (A3)	Stripped Matrix (S6) Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Indicators of hydrophytic vegetation and
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Redox Depressions (F8) Vernal Pools (F9)	wetland hydrology must be present.
Sandy Midday Milleral (S1) Sandy Gleyed Matrix (S4)	verial Pools (1 5)	unless disturbed or problematic.
Restrictive Layer (if present):		
Restrictive Layer (if present):  Type: Lott		/
//	5_	Hydric Soil Present? Yes No
A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5	Hydric Soil Present? Yes No
Type: Kock Depth (inches): ( inches bg	5_	Hydric Soil Present? Yes No
Type: Kock Depth (inches): ( inches bg	5	Hydric Soil Present? Yes No
Type: Kolk Depth (inches): (a inches bg	5_	Hydric Soil Present? Yes No
Type: Kolk Depth (inches): Le Inches ba	5_	Hydric Soil Present? Yes No
Type: Kolk Depth (inches): Le inches ba Remarks:  YDROLOGY	5_	
Type: Lock Depth (inches): Li Inches bg Remarks:  YDROLOGY Wetland Hydrology Indicators:		Secondary indicators (2 or more required)
Type: Lock Depth (inches): Li Inches bg Remarks:  YDROLOGY Wetland Hydrology Indicators:		Secondary indicators (2 or more required)  Water Marks (B1) (Riverine)
Type: Lock Depth (inches): Li Inches bg Remarks:  YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requires	d; check all that apply) Salt Crust (B11) Biotic Crust (B12)	Secondary indicators (2 or more required)  Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Type: Lock Depth (inches): Li Inches ba Remarks:  YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3)	d: check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Secondary indicators (2 or more required)  Water Marks (81) (Riverine) Sediment Deposits (82) (Riverine) Drift Deposits (83) (Riverine)
Type: Loll Depth (inches): Linches bg.  Remarks:  YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required and the state of the state	d: check all that apply)  — Salt Crust (B11)  — Biotic Crust (B12)  — Aquatic Invertebrates (B13)  — Hydrogen Sulfide Odor (C1)	Secondary indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)
Type: Low Depth (inches): Le inclus bag.  Remarks:  YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	d: check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R	Secondary indicators (2 or more required)  Water Marks (81) (Riverine)  Sediment Deposits (82) (Riverine)  Drift Deposits (83) (Riverine)  Drainage Patterns (810)  oots (C3) Dry-Season Water Table (C2)
Type: Lock Depth (inches): Linches bg Remarks:  IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	d: check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4)	Secondary indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  oots (C3) Dry-Season Water Table (C2)  Crayfish Burrows (C8)
Type: Low Depth (inches): Linches bg.  Remarks:  YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	d: check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) oots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Type: Low Depth (inches): Le inclus ba Remarks:  YDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B:	d: check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (7) Thin Muck Surface (C7)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  oots (C3) Dry-Season Water Table (C2)  Crayfish Burrows (C8)
Type: Low Depth (inches): Linches bg.  Remarks:  YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B3) Water-Stained Leaves (B9)	d: check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (	Secondary indicators (2 or more required)  Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) oots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Type: Lock Depth (inches): Li Inches bg Remarks:  Pydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B: Water-Stained Leaves (B9) Field Observations:	d: check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (7) Thin Muck Surface (C7)	Secondary indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  oots (C3) Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)
Type: Lock Depth (inches): Li Inches bg. Remarks:  Pydrology  Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B: Water-Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes	d: check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (I7) Thin Muck Surface (C7) Other (Explain in Remarks)	Secondary indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  oots (C3) Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)
Type: Lock Depth (inches): Li Inches bg. Remarks:  IYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B: Water-Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes	d: check all that apply)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living R  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soils (Inc.)  Thin Muck Surface (C7)  Other (Explain in Remarks)	Secondary indicators (2 or more required)  Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) oots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Type: Lock Depth (inches): Linches bg. Remarks:  Pyprology  Wetland Hydrology Indicators: Primary Indicators (minimum of one requires Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B: Water-Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes	Salt Crust (B11)  Salt Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living R  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soils (C7)  Other (Explain in Remarks)  No  Depth (inches):  Depth (inches):	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Oots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5)
Type: Low Depth (inches): Le inclus ba Remarks:  YDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one requires Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B: Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes	d: check all that apply)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living R  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soils (Inc.)  Thin Muck Surface (C7)  Other (Explain in Remarks)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Oots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5)

RATING Name of wetland (or ID # Rated by Lachel	SUMMAI :- Well Locke	and A	D	ate of site vis	it: 4/29/10
HGM Class used for ratin	g	Wet	land has multip	ole HGM class	ses?YN
NOTE: Form is not of Source of base and				ires can be co	mbined).
VERALL WETLAND	CATEGORY	(based	on functions_	or special	characteristics)
Categ	etland based ory I – Total sco ory II – Total sco ory III – Total sco ory III – Total sc ory IV – Total sc	re = 22-27 ore = 19-21 ore = 16-18	NS		Score for each function based on three ratings (order of ratings is not important)  9 = H.H.H
FUNCTION	Improving Water Quality	Hydrologic	Habitat		8 = H,H,M 7 = H,H,L
	Circle	the appropriate r	atings		7 = H,M,M
Site Potential	H M (L)	(H) M L	H M (L)		6 = H,M,L
Landscape Potential	H (M) L	H (M) L	H M (L)		6 = M,M,M
Value	H) M L	H M (L)	H M (L)	TOTAL	5 = H,L,L
Score Based on Ratings	v	6	3	15	5 = M,M,L 4 = M,L,L 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY  Circle the appropriate category		
Vernal Pools	II III		
Alkali	1		
Wetland of High Conservation Value	1		
Bog and Calcareous Fens	1		
Old Growth or Mature Forest – slow growing	1		
Aspen Forest	1		
Old Growth or Mature Forest – fast growing	11		
Floodplain forest	ц		
None of the above			

## Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	

#### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (can be added to another figure)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

#### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L1.1, L4.1, H1.1, H1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L.3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	/
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants  (can be added to figure above)	\$ 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	5 2.1, 5 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	\$3.1, \$3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	\$ 3.3	

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

For questions 1-4, 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 1-4 apply, and go to Question 5.

1.	The vegetated part of the of permanent open water	oth of the following criteria? wetland is on the water side of the Ordinary High Water Mark of a body (without any plants on the surface) that is at least 20 ac (8 ha) in size water area is deeper than 10 ft (3 m)
	NO - go to 2	YES - The wetland class is Lake Fringe (Lacustrine Fringe)
2.	The wetland is on a slope The water flows through seeps. It may flow subsu	meet all of the following criteria? (slope can be very gradual), the wetland in one direction (unidirectional) and usually comes from rface, as sheetflow, or in a swale without distinct banks; land without being impounded.
	NO - go to 3 NOTE: Surface water does n shallow depressions or behin	YES - The wetland class is <b>Slope</b> ot pond in these type of wetlands except occasionally in very small and hummocks (depressions are usually <3 ft diameter and less than 1 foot

3. 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 10 years.

NO - go to 4 YES - The wetland class is **Riverine NOTE**: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

4. 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 5

YES - The wetland class is Depressional

5. 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 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND 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.

Wetland	name or	number	
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**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 wetland 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 (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

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 WH and A

Points (only 1
score pe
box)
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DEPRESSIONAL WETLANDS	Points (only 1 scor
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion.	per box)
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 has no surface water outlet points = 8	1
Wetland has an intermittently flowing outlet points = 4	4
Wetland has a highly constricted permanently flowing outlet points = 4	
Wetland has a permanently flowing unconstricted surface outlet  (If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")	
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 deepest part (if dry).  Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding points = 8  Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding points = 6  The wetland is a headwater wetland points = 4  Seasonal ponding: 1 ft - < 2 ft points = 4  Seasonal ponding: 6 in - < 1 ft points = 2  Seasonal ponding: < 6 in or wetland has only saturated soils points in the boxes above  Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the surface of permanent ponding of the outlet. For wetland has only saturated soils points = 0  Record the rating on the surface of permanent points in the boxes above.	
D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0	
D.1. DOES the Websitu / eceive stormwater discharges.	-
D 3.2. 15 > 10/0 of the area within 130 ft of the medicine in a land of the field o	-
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses? Yes = $1 \cdot No = 0$	
Total for D 5 Add the points in the boxes above	-
lating of Landscape Potential If score is:3 = H1 or Z = M0 = L Record the rating on the lating of Landscape Potential If score is:3 = H1 or Z = M0 = L	he first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The wetland is in a landscape that has flooding problems.  Choose the description that best matches conditions around the wetland being rated. Do not add points.  Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND	
Flooding occurs in sub-basin that is immediately down-gradient of wetland points = 2  Surface flooding problems are in a sub-basin farther down-gradient points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.	
Explain why points = 0	
There are no problems with flooding downstream of the wetland points = 0	
D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	
Add the points in the boxes above	

RIVERINE WETLAND		Points lonly 1 score
Water Quality Functions - Indicators that the site function	s to improve water quality	per box)
R 1.0. Does the site have the potential to improve water quality?	?	
R 1.1. Area of surface depressions within the Riverine wetland that can	trap sediments during a flooding event:	
Depressions cover > '/3 area of wetland	points = 6	
Depressions cover > 1/10 area of wetland	points = 3	
Depressions present but cover < 1/10 area of wetland	points = 1	
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person	on height; not Cowardin classes):	
Forest or shrub > 2/3 the area of the wetland	points = 10	
Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland	points = 5	
Ungrazed, herbaceous plants > 2/3 area of wetland	points = 5	
✓ Ungrazed herbaceous plants 1/3 – 2/3 area of wetland	points = 2	0
Forest, shrub, and ungrazed herbaceous < 1/3 area of wetland	points = 0	1
Total for R 1	Add the points in the boxes above	3
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5	= L Record the rating on t	he first pag
R 2.0. Does the landscape have the potential to support the water	er quality function of the site?	
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 (No = 0)	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, p. within the last 5 years?	astures, or forests that have been clearcut Yes = 1 No = 0	1
R 2.4. Is > 10% of the area within 150 ft of wetland in land uses that gen		1
R 2.5. Are there other sources of pollutants coming into the wetland th		N.T.
R 2.1-R 2.4? Source	Yes = 1(No = 0)	0
Total for R 2	Add the points in the boxes above	2
ating of Landscape Potential If score is: 3-6 = H 1 or 2 = M	_0 = L Record the rating on I	he first pag
R 3.0. Is the water quality improvement provided by the site valu	able to society?	
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or mi?		
nan na said a da said a sa	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or	r pathogens? Yes = 1 No = 0	1
3.3. Has the site been identified in a watershed or local plan as import YES if there is a TMDL for the drainage in which wetland is found.		2
tes if there is a transfer the orange in trinen treatments journe.	Add the points in the boxes above	~

RIVERINE WETLANDS		Points (only 1 score
Hydrologic Functions - Indicators that site functions to reduce flooding	and stream erosion	per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?		
R 4.1. Characteristics of the overbank storage the wetland provides:		
Estimate the average width of the wetland perpendicular to the direction of the stream or river channel (distance between banks). Calculate the ratio: (average width of stream between banks).	flow and the width of the width of wetland)/(average 15 <b>k</b>	
If the ratio is more than 2	points = 10	1
Vif the ratio is 1-2  If the ratio is ½-<1	points = 8	1
If the ratio is ½-<1	= 7.5 points = 4	1.2
If the ratio is ¼-< ½	points = 2	0
If the ratio is < ¼	points = 1	0
R 4.2. Characteristics of plants that slow down water velocities during floods: Treat la shrub. Choose the points appropriate for the best description (polygons need to height. These are NOT Cowardin classes).  Forest or shrub for more than <sup>2</sup> / <sub>3</sub> the area of the wetland  Forest or shrub for > <sup>1</sup> / <sub>3</sub> area OR emergent plants > <sup>2</sup> / <sub>3</sub> area  Forest or shrub for > <sup>1</sup> / <sub>10</sub> area OR emergent plants > <sup>1</sup> / <sub>3</sub> area  Plants do not meet above criteria	points = 6 points = 4 points = 2 points = 0	4
	ne points in the boxes above	10
	ons of the site?	
R 5.0. Does the landscape have the potential to support the hydrologic function R 5.1. Is the stream or river adjacent to the wetland downcut?	ons of the site? Yes = 0 No = 1	0
R 5.1. Is the stream or river adjacent to the wetland downcut?		0
R 5.1. Is the stream or river adjacent to the wetland downcut? R 5.2. Does the up-gradient watershed include a UGA or incorporated area?	Yes = 0 No = 1	0
R 5.1. Is the stream or river adjacent to the wetland downcut? R 5.2. Does the up-gradient watershed include a UGA or incorporated area? R 5.3. Is the up-gradient stream or river controlled by dams?	Yes = 1 No = 1 Yes = 1 No = 0	0
R 5.1. Is the stream or river adjacent to the wetland downcut?  R 5.2. Does the up-gradient watershed include a UGA or incorporated area?  R 5.3. Is the up-gradient stream or river controlled by dams?  Total for R 5  Add t	Yes = 0 No = 1 Yes = 1 No = 0 Yes = 0 No = 1	O O the first page
R 5.1. Is the stream or river adjacent to the wetland downcut?  R 5.2. Does the up-gradient watershed include a UGA or incorporated area?  R 5.3. Is the up-gradient stream or river controlled by dams?  Total for R 5  Add total for R 5	Yes = 0 No = 1  Yes = 1 No = 0  Yes = 0 No = 1  The points in the boxes above	O 1 the first pag
R 5.1. Is the stream or river adjacent to the wetland downcut?  R 5.2. Does the up-gradient watershed include a UGA or incorporated area?  R 5.3. Is the up-gradient stream or river controlled by dams?  Total for R 5  Add to the include a UGA or incorporated area?  Add to the include a UGA or incorporated area?  Add to the include a UGA or incorporated area?  Add to the include a UGA or incorporated area?  Add to the include a UGA or incorporated area?  Add to the incorporated area?	Yes = 0 No = 1  Yes = 1 No = 0  Yes = 0 No = 1  The points in the boxes above  Record the rating on  the the description that best fits	the first pag
R 5.1. Is the stream or river adjacent to the wetland downcut?  R 5.2. Does the up-gradient watershed include a UGA or incorporated area?  R 5.3. Is the up-gradient stream or river controlled by dams?  Total for R 5  Add to lating of Landscape Potential If score is:3 = H 1 or 2 = M 0 = L  R 6.0. Are the hydrologic functions provided by the site valuable to society?  R 6.1. Distance to the nearest areas downstream that have flooding problems? Choose the site.  The sub-basin immediately down-gradient of site has surface flooding problem human or natural resources  Surface flooding problems are in a basin farther down-gradient	Yes = 0 No = 1  Yes = 1 No = 0  Yes = 0 No = 1  The points in the boxes above  Record the rating on the the description that best fits that result in damage to points = 2  points = 1  points = 0	O O I I I the first pag
R 5.1. Is the stream or river adjacent to the wetland downcut?  R 5.2. Does the up-gradient watershed include a UGA or incorporated area?  R 5.3. Is the up-gradient stream or river controlled by dams?  Total for R 5  Add t	Yes = 0 No = 1  Yes = 1 No = 0  Yes = 0 No = 1  The points in the boxes above  Record the rating on  The the description that best fits  The points = 2  Points = 1  Points = 0  The points = 0	the first po

Water Quality Functions - Indicators that the site functions to imp	rove water quality.	Points (only I score per
L 1.0. Does the site have the potential to improve water quality?		pox)
L 1.1. Average width of plants along the lakeshore (use polygons of Cowardin class	cael	1
Plants are more than 33 ft (10 m) wide		
Plants are more than 16 ft (5 m) and < 33 ft (10 m) wide	points = 6	
Plants are more than 6 ft (2 m) and < 16 ft (5 m) wide	points = 3	1
Plants are less than 6 ft wide	points = 1 points = 0	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate descripoints, and do not include any open water in your estimate of coverage. The dominant form or as an understory in a shrub or forest community. The of cover is total cover in the wetland, but it can be in patches. Herbaceous in the second of the cover in the wetland.	e herbaceous plants can be either ese are not Cowardin classes. Area	
Cover of herbaceous plants is > 90% of the vegetated area	points = 6	
Cover of herbaceous plants is $> \frac{2}{3}$ of the vegetated area	points ≈ 4	
Cover of herbaceous plants is $> \frac{1}{3}$ of the vegetated area	points = 3	
Other plants that are not aquatic bed > 2/3 wetland	points = 3	
Other plants that are not aquatic bed in > 1/3 vegetated area	points = 1	
Aquatic bed plants and open water cover > 2/3 of the wetland	points = 0	
Total for L1 A	dd the points in the boxes above	
Rating of Site Potential If score is: 8-12 = H 4-7 = M 0-3 = L	Record the rating on	the first no

lating of Landscape Potential If score is: 2 or 3 = H 1 = M 0 = L	nts in the boxes above  Record the rating on the fir.	
Total for L 2 Add the poin	to to the forms of your	
L 2.3. Does the lake have problems with algal blooms or excessive plants such as milfoil?	Yes = 1 No = 0	
L 2.2. Is > 10% of the area within 150 ft of wetland on the upland side in land uses that gene	rate pollutants? Yes = 1 No = 0	
L 2.1. Is the lake used by power boats?	Yes = 1 No = 0	
L 2.0. Does the landscape have the potential to support the water quality function of	of the site?	

L 3.0. Is the water quality improvement provided by the site valuable	to society?
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources?	Yes = 1 No = 0
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one a 303(d) list)?	aquatic resource in the basin is on the Yes = 1 No = 0
L 3.3. Has the site been identified in a watershed or local plan as important YES if there is a TMDL for the lake or basin in which wetland is found.	for maintaining water quality? Answer Yes = 2 No = 0
Total for L3	Add the points in the boxes above

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

Record the rating on the first page

LAKE FRINGE WETLANDS  Hydrologic Functions - Indicators that the wetland unit functions to redu	ice shoreline erosion	Points (only 1 score per box)
L 4.0. Does the site have the potential to reduce shoreline erosion?		
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore (a Choose the highest scoring description that matches conditions in the wetland.	do not include Aquatic Bed):	
> % of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 6	
> 1/2 of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide	points = 4	
> 1/2 distance is Scrub-shrub or Forested at least 33 ft (10 m) wide	points = 4	
Plants are at least 6 ft (2 m) wide (do not include Aquatic Bed)	points = 2	
Plants are less than 6 ft (2 m) wide (do not include Aquatic Bed)	points = 0	
Rating of Site Potential If score is: 6 = M 0-5 = L	Record the rating on	the first pag

L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0
L 5.2. Is the fetch on the lake side of the wetland at least 1 mile in distance?	Yes = 1 No = 0

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

L 6.1. Are there resources, both human and natural, along the shore that can be impacted by erosic	n?
If more than one resource is present, choose the one with the highest score.	
There are human structures or old growth/mature forests within 25 ft of OHWM of the shor wetland	e in the
	points = 2
There are nature trails or other paths and recreational activities within 25 ft of OHWM	points = 1
Other resources that could be impacted by erosion	points = 1
There are no resources that can be impacted by erosion along the shores of the wetland	points = 0

Rating of Value If score is: 2 = H \_\_1 = M \_\_0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve wa	ater quality	Points (anly 1 score pe box)
S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of average slope of wetland: (a 1% slope has a 1 ft vertical drop horizontal distance)	in elevation for every 100 ft of	
Slope is 1% or less	points = 3	
Slope is > 1% - 2%	points = 2	
Slope is > 2% - 5%	points = 1	
Slope is greater than 5%	points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic (use NR	CS definitions): Yes = 3 No = 0	
§ 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the have trouble seeing the soil surface (>75% cover), and uncut means not grazed higher than 6 in.	e wetland. Dense means you	
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > 1/2 of area	points = 2	
Dense, uncut, herbaceous plants > ¼ of area	points = 1	11
Does not meet any of the criteria above for plants	points = 0	
	he points in the boxes above	
Rating of Site Potential If score is: 12 = H6-11 = M0-5 = L	Record the rating on ti	he first po

S 2.0. Does the landscape have the potential to support the water quality function at the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources

Yes = 1 No = 0

Total for S 2

Add the points in the boxes above

Rating of Landscape Potential If score is: 1-2 = M 0 = L Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to so	ciety?
S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 3	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least basin is on the 303(d) list.	Yes = 1 No = 0
5.3.3. Has the site been identified in a watershed or local plan as important for mail YES if there is a TMDL for the drainage or basin in which wetland is found)?	Yes = 2 No = 0
Total for \$3	d the points in the boxes above

Rating of Value If score is: \_\_\_\_2-4 = H \_\_\_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce f	flooding and erosion	Points (only 1 score per box)
5 4.0. Does the site have the potential to reduce flooding and erosion?		
5 4.1. Characteristics of plants that reduce the velocity of surface flows during stor appropriate for the description that best fits conditions in the wetland. Sten enough (usually $> \frac{1}{8}$ in), or dense enough, to remain erect during surface flow	ns of plants should be thick ows.	
Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions	points = 1 points = 0	
Rating of Site Potential If score is:1 = M0 = L	Record the rating on t	he first page
S 5.0. Does the landscape have the potential to support the hydrologic fund	ctions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses t runoff?		
Rating of Landscape Potential If score is:1 = M0 = L	Record the rating on t	he first page
S 6.0. Are the hydrologic functions provided by the site valuable to society	?	
S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has surface flooding probleman or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream	lems that result in damage to points = 2 points = 1 points = 0	
S 6.2. Has the site been identified as important for flood storage and flood convey plan?	yance in a regional flood control  Yes = 2 No = 0	
Total for S 6	dd the points in the hoves above	

NOTES and FIELD OBSERVATIONS:

Rating of Value If score is: 2-4 = H

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	(only I score per box)
H 1.0. Does the wetland have the potential to provide habitat for many species?	
H 1.1. Structure of the plant community:  Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ½ ac or >= 10% of the wetland if wetland is < 2.5 ac.  Aquatic bed  Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover  Emergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% cover  Emergent plants > 40 in (> 100 cm) high are the highest layer with >30% cover  Scrub-shrub (areas where shrubs have >30% cover)  4 or more checks: points = 3  Forested (areas where trees have >30% cover)  3 checks: points = 2  2 checks: points = 0	0
H 1.2. Is one of the vegetation types Aquatic Bed?  Yes = 1 (No = 0)	^
H 1.3. Surface water	U
H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac OR 10% of its area during the March to early June OR in August to the end of September? Answer YES for Lake Fringe wetlands.  Yes = 3 points & go to H 1.4 No = go to H 1.3.2 H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least ¼ ac or 10% of its area? Answer yes only if H 1.3.1 is No Yes = 3 No = 0	3
Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> . Different patches of the same species can be combined to meet the size threshold. You do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)  # of species  Scoring: > 9 species: points = 2  4 species: points = 0	
H 1.5. Interspersion of habitats	Figure
Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.  Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are  High = 3 points	
	0