

**La Center Middle School**  
**Wetland Delineation and**  
**Assessment - Revised**  
**La Center, Washington**



**Prepared for:**  
La Center School District  
725 Highland Road  
La Center, WA 98629

**Prepared by:**  
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October 29, 2019



**OLSON**  
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ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION

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# REVISED WETLAND DELINEATION AND ASSESSMENT

**Project:** NE Lockwood Creek Road Properties  
**Applicant:** La Center School District  
**Location:** South of NE Lockwood Creek Road, La Center, Washington  
**Legal Description:** NE & SE ¼s of Sec. 02, T04N, R01E, W. M., Clark County  
**Serial Number(s):** 209118-000 (7.39 ac.), 209120-000 (9.78 ac.) & 209064-000 (1.9 ac.)  
**Study Area Size:** 19.07 acres  
**Jurisdiction:** City of La Center  
**Watershed:** East Fork of the Lewis River  
**WRIA:** Lewis (27)  
**Zoning:** R1-75/LDR-7.5  
**ComPlan:** UL  
**Assessment by:** Kevin Grosz, PWS; Ryan Thiele  
**Site Visit(s):** November 20, 2017; September 20, 2018; & December 6 & 7, 2018  
**Revised Report Date:** October 29, 2019

## 1.0 INTRODUCTION

This report details the results of a revised wetland delineation and assessment conducted by Olson Environmental, LLC (OE) for the La Center School District. Two main study areas were investigated independently. The initial field investigations for the southern study site (parcels 209118-000 & 209120-000) occurred on November 20, 2017, with revisions following field investigations on December 6 & 7, 2018. The field investigation for the northern study site (parcel 209064-000) occurred on September 20, 2018. Both study areas were investigated by the US Army Corps of Engineers (USACE) on January 11, 2019 and identified wetland boundaries within both study areas were subsequently revised. This revised report incorporates comments received from the USACE and Washington Department of Ecology (Ecology).

The combined study area is located south of NE Lockwood Creek Road on the east edge of La Center, Washington (Fig. 1). This report identifies the extent of any wetlands and associated buffers found within the study area as defined and regulated by the USACE and Ecology under sections 401 and 404 of the Clean Water Act, and locally by the City of La Center under the City's Critical Areas Ordinance (18.300.090(6) – Wetlands).

Currently, the combined study area is approximately 19 acres of vacant land. The study area appears to have been used for hay land. Generally, the site is relatively flat and gently slopes from north to south (Fig. 2).

## 2.0 WETLAND DELINEATION AND ASSESSMENT METHODS

The wetland delineation was conducted according to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (USACE, 2010.) hereafter, referred to as the manual. According to the manual, jurisdictional wetlands are defined as:

*Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.*

Prior to the on-site investigations, a review of existing information related to determination of wetland boundaries was conducted. This review included the Clark County LiDAR topographic data (Fig. 2), National Wetland Inventory (NWI) data and Clark County Wetland Inventory (LWI) data (Fig. 3), NRCS Clark County Soil Survey data (Fig. 4), and aerial photographs.

The manual uses three parameters in making wetland determinations: hydrophytic vegetation, hydric soils, and wetland hydrology. Except in certain situations defined in the manual, evidence of a minimum of one positive indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland determination.

Hydrophytic vegetation are plants that due to morphological, physiological, and/or reproductive adaptations, have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions. Hydrophytic vegetation is present when more than 50 percent of the dominant species have an indicator status of OBL, FACW, and/or FAC.

Wetland indicator status ratings and their ordinal rating categories, based on ecological descriptions:

Indicator Status (abbreviation) Ecological Description\*

*Obligate (OBL) Almost always occur in wetlands.*

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

*Facultative (FAC) Occur in wetlands and non-wetlands.*

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

*Upland (UPL) Almost never occur in wetlands.*

\*Source: Lichvar and Gillrich (2011)

Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation. The presence or absence of hydric soils is determined in the field by digging soil pits to a depth of a minimum of 16 inches and examining the soil for hydric soil indicators. Organic soils such as peats and mucks are considered hydric soils. Mineral hydric soils are generally either gleyed or have redox concentrations and/or low matrix chroma immediately below the A-horizon or 10 inches (whichever is shallower).

Soil colors are determined using the Munsell Soil Color Chart (Munsell Color System 2009).

Wetland hydrology is present when an area is inundated or saturated to the surface for at least 5 percent of the growing season. The growing season is defined as the portion of the year when soil temperature at 19.7 inches below the soil surface is greater than biological zero (5 degrees C). The site was examined for standing water and/or saturated soils, which serve as primary indicators of wetland hydrology. The area was also checked for other wetland hydrologic characteristics such as watermarks, drift lines, wetland drainage patterns, and morphological plant adaptations.

### **3.0 SITE-SPECIFIC METHODS**

OE conducted the onsite wetland delineation and assessment on November 20, 2017, September 20, 2018, and December 6 & 7, 2018, using the methodology found in the Regional Supplement to the Manual (USACE 2010). In addition, applicable guidance and any supporting technical guidance documents issued by the USACE, Ecology, and Clark County GIS were also utilized. As part of the approval process, the USACE conducted a field investigation on January 11, 2019, following the submittal of initial findings.

Study areas were first traversed by foot to observe any visible wetland conditions. Once the general locations of the wetland boundaries were identified, paired data plots were taken in areas that represented the conditions of the uplands and wetlands, respectively. Sample plots were chosen in a uniform topographic position that was representative of a single plant community. The paired plots were located approximately three meters apart to minimize the margin of error. Soils at each sample plot were generally inspected to a depth of 16 inches (or more) to determine the presence or absence of hydric soil characteristics and/or wetland hydrology. Data sheets for the sample plots are attached in Appendix A.

The wetland boundaries were determined based on the presence of all three wetland parameters including hydric soils, the presence of wetland hydrology (i.e. oxidized rhizospheres along living roots, soil saturation), and a dominance of hydrophytic vegetation. It should be noted that only paired plots were recorded in the field, however, numerous unrecorded plots were dug to confirm wetland boundaries. The on-site wetlands were classified according the USFWS classification system (Cowardin et al. 1979) and the Hydrogeomorphic (HGM) Classification system (Adamus et al. 2001).

The entire study area shown in this report was initially assessed as two separate areas, due to circumstances of landownership and project development. Following the consolidation of property ownership, the projects were combined into the same study area. Both assessments were initially conducted at a time of year when hydrology would typically be low and identifying primary indicators of wetland hydrology would be difficult. The field investigation by the USACE in January 2019 occurred at a time when wetland hydrologic conditions were more evident. Previously identified boundaries were

assessed at this time and were subsequently refined based on more relevant hydrologic conditions.

#### **4.0 RESULTS AND DISCUSSION**

According to the NWI/LWI wetlands map (Fig. 3) no wetlands have been previously identified or projected to be within the study area. It should be noted that these maps are created through aerial photograph and topographic map interpretation and are not intended to represent the extent of jurisdictional wetlands. There may be unmapped wetland and waters subject to regulation, and all wetlands and waters boundary mapping is approximate. In all cases, actual field conditions determine the presence, absence and boundaries of wetlands and waters.

Four soil types are mapped on the site (Fig. 4):

***Gee Silt Loam, 0 to 8 percent slopes (GeB).*** Gee soils are deep, moderately well drained soils formed in the old alluvium deposited by the Columbia River. They are moderately permeable in the surface layer and very slow in the subsurface, surface runoff is slow and the erosion hazard is slight. In a typical profile, these soils are a very dark grayish brown (10YR 3/2) silt loam in the upper nine inches. Below this to a depth of 14 inches they are a dark grayish brown (10YR 4/2) silt loam with yellowish brown (10YR 5/6) concentrations. It is listed as a **non-hydric** soil.

***Gee silt loam, 8 to 20 percent slopes (GeD).*** This soil is similar to Gee silt loam, 0 to 8 percent slopes, except that the surface layer is 1 to 3 inches thinner. Sidehill seeps are common on these slopes in winter and spring. Surface runoff is medium, and the erosion hazard is moderate. It is listed as a **non-hydric** soil.

***Hillsboro silt loam, 8 to 15 percent slopes (HoC).*** This soil was formed in mixed, silty and loamy old alluvium. It is well drained, has moderate permeability, surface runoff is slow to medium, and the erosion hazard is moderate. In a typical profile, soils are dark brown (10YR 3/3) loam or silt loam to a depth of 15 inches. It is listed as a **non-hydric** soil.

***Odne silt loam, 0 to 5 percent slopes (OdB).*** This soil generally occurs in concave areas in drainageways or depressions within areas of Gee soils. In most places the slope is 1 to 2 percent. In a typical profile, the surface layer is about 10 inches thick. It is mottled, dark-gray heavy silt loam in the upper part. The subsurface layer is firm, mottled, gray silt loam about nine inches thick. The next eight inches is very firm, mottled, dark-gray silty clay loam that overlies six inches of firm, mottled, dark-gray clay loam. This soil is poorly drained and very slowly permeable. A high water-table is common in winter. It is classified as a **hydric soil** according to the Clark County hydric soils list.

## 4.1 WETLANDS

Over the course of field studies, eight (8) wetlands were identified and delineated within the study area as shown in Figures 5 and Figure 6. Each wetland name (A-F) is followed by identifier that denotes the original study site in which it was identified, i.e. North (N) or South (S). Descriptions of each wetlands are as follows:

### Wetland A-S (27,200 sq. ft.)

Wetland A-S exists in the southwestern portion of the study area (Fig. 5). The wetland is an open grassland plant community that was more than likely seeded with a pasture/hay mixture. The wetland plant community is predominantly colonial bent grass (*Agrostis capillaris* - FAC), spreading bent grass (*A. stolonifera* – FAC), velvet grass (*Holcus lanatus* – FAC), reed canary grass (*Phalaris arundinacea* – FACW), tall false rye grass (*Schedonorus arundinaceus* - FAC), and sweet vernal grass (*Anthoxanthum odoratum* – FACU). Soils from 0 to 5 inches area a very dark grayish brown (10YR 3/2) silt loam. Below this to a depth of >16 inches the soil is a very dark gray (10YR 3/1) silty clay loam with dark reddish brown (5YR 3/3) concentrations. Wetland hydrology was indicated by the presence of surface water (1” depth) and soil saturation to the surface. The wetland is a depressional HGM class wetland.

### Wetland B-S (3,770 sq. ft.)

Wetland B-S is located in the northern portion of the property (Fig 5). Vegetation in this area consists of reed canary grass, spreading bent grass, colonial bent grass, velvet grass, and soft rush (*Juncus effusus* – FACW). Soils are a dark gray (10YR 4/1) silt loam with dark reddish brown (10YR 3/3) concentrations to a depth of >16 inches. Wetland hydrology was indicated by water and soil saturation at the surface. It appears that portions of this part of the study area may contain drain tile that are artificially draining the area. This is a slope HGM class wetland.

### Wetland C-S (3,315 sq. ft.)

Wetland C-S is located in the south of Wetland B-S (Fig 5). Vegetation in this area consists of spreading bent grass, colonial bent grass, tall false rye grass, cat’s ear (*Hypochaeris radicata* – FACU), and creeping buttercup (*Ranunculus repens* – FAC). Soils are a dark grayish brown (10YR 4/2) silt loam/clayey silt loam in the upper 10 inches with dark brown (7.5YR 3/3) concentrations in the bottom half of this layer. From 10 to 16 inches below the surface the soil is a dark gray (7.5YR 4/1) clay loam with dark yellowish brown (10YR 4/6) concentrations. No ponding or saturation was observed at the time of initial assessment however, wetland hydrology is assumed based on the presence of oxidized rhizospheres, saturation visible on aerial imagery and geomorphic position. This is a depressional HGM class wetland.

### Wetland D-S (74,740 sq. ft.)

Wetland D-S is located near the center of the site (Fig 5). Vegetation in this area is predominantly spreading bent grass, velvet grass, tall false rye grass, cat’s ear, and

creeping buttercup. Soils to a depth of nine inches are a brown (7.5YR 4/2) silt loam with dark brown (7.5YR 3/2) concentrations in the bottom half of this layer. Below nine inches the soil is a brown (7.5YR 4/2) clayey silt loam with dark brown (7.5YR 3/3) concentrations. No ponding or saturation was observed at the time of initial assessment however, wetland hydrology is assumed based on the presence of oxidized rhizospheres, saturation visible on aerial imagery and geomorphic position. This is a slope HGM class wetland. Table 1 outlines the functional assessment for this wetland.

#### Wetland E-S (19,960 sq. ft.)

Wetland E-S is located in the southeast corner of the site (Fig 5). Vegetation in this area consists of spreading bent grass, velvet grass, tall false rye grass, cat's ear, soft rush, and perennial rye grass (*Lolium perenne* – FAC). The top four inches of the soil is a dark grayish brown (10YR 4/2) silt loam. From 4-12 inches the soil is a dark gray (10YR 4/1) clayey silt loam with dark brown (7.5YR 3/3) concentrations. Below this to a depth of 16 inches the soil is a gray (10YR 5/1) clayey silt loam with brown (7.5YR 4/4) concentrations. No ponding or saturation was observed at the time of initial assessment, wetland hydrology is assumed based on the presence of oxidized rhizospheres, saturation visible on aerial imagery and geomorphic position. This is a depressional HGM class wetland.

#### Wetland D-N (290 sq. ft.)

Wetland D-N is characterized as a palustrine, emergent wetland and is located in the southwestern portion of the study area along the western property boundary (Fig. 5). It appears this wetland is predominately sustained by runoff from a ditch along the western property boundary. This wetland is classified as a slope HGM class.

The vegetation is predominantly colonial bent grass, reed canary grass and Himalayan blackberry (*Rubus armeniacus* – FAC). Hydric soil indicators included a reduced matrix. Soils from 0 to 12 inches are a very dark grayish brown (10YR 3/2) silt loam with brown (7.5YR 4/4) redox concentrations and turn very dark gray (10YR 3/1) from 12 to 16 inches with similar redox concentrations. Wetland hydrology at the time of initial assessment was indicated by drainage patterns and geomorphic position.

#### Wetland E-N (1,050 sq. ft.)

Wetland E-N is characterized as a palustrine, scrub-shrub wetland and is located in the northern portion of the property adjacent to NE Lockwood Creek Road (Fig 5). It appears that this wetland is predominately sustained by a culvert from the road that drains into the scrub/shrub portion of the study area along the roadside. This wetland is classified as a slope HGM class wetland.

Vegetation in Wetland E-N consists of snowberry (*Symphoricarpos albus* – FACU), Scouler's willow (*Salix scouleriana* – FAC), and meadowsweet (*Spiraea douglasii* – FACW) in the shrub layer. Reed canary grass dominates the herbaceous layer, with Himalayan blackberry interspersed. Hydric Soil indicators included a reduced matrix



with. Soils from 0 to 5 inches are a very dark grayish brown (10YR 3/2) silt loam and turn very dark gray (10YR 3/1) from 5 to 16 inches with dark brown (7.5YR 3/4) redox concentrations. Wetland hydrology was indicated by oxidized rhizospheres along living roots, drainage patterns and geomorphic position.

Wetland F-N (2,650 sq. ft.)

Wetland F-N is characterized as a palustrine, forested/scrub-shrub wetland and is located in the northeastern portion of the property adjacent to NE Lockwood Creek Road (Fig 5). This wetland appears to be predominately sustained by a road culvert that drains into this of the study area and may contain drain tile that is artificially draining this portion of the study area. This wetland is classified as a depressional HGM class wetland.

Vegetation in Wetland F-N is dominated by black cottonwood (*Populus balsamifera* – FAC) and Nootka rose (*Rosa nutkana* – FAC) in the tree and shrub canopies, with soft rush and colonial bent grass in the herbaceous layer. Hydric soil indicators included a reduced matrix. Soils from 0 to 16 inches are a very dark grayish brown (10YR 3/2) clayey silt loam with brown (7.5YR 4/4) redox concentrations. Wetland hydrology was indicated by oxidized rhizospheres along living roots, drainage patterns and geomorphic position.

**4.2 WETLAND FUNCTIONAL ASSESSMENT**

The delineated wetlands have been assessed using the Washington State Wetland Rating System for Western Washington (Hruby Update 2014). The system was designed to differentiate between wetlands based on their sensitivity to disturbance, their significance, their rarity, our ability to replace them, and the functions they provide. Through a series of questions, the wetland rating system generates a number for water quality functions, hydrologic functions, and habitat function, which creates an overall wetland function score. Based on the total score, the wetland is categorized as a Category I, II, III, or IV wetland. Table 1 below summarizes the wetland type, total score for functions, and category of wetlands identified within the study area.

**Table 1. Wetland Functional Rating**

Wetland	Wetland Type	Water Quality Functions	Hydrologic Functions	Habitat Functions	Total Score	Wetland Category
A-S	Depressional	5	4	5	14	IV
B-S	Slope	6	5	5	16	III
C-S	Depressional	5	4	5	14	IV
D-S	Slope	5	4	5	14	IV
E-S	Depressional	5	4	5	14	IV
D-N	Slope	5	4	5	14	IV
E-N	Slope	6	4	5	15	IV
F-N	Slope	6	5	5	16	III

### 4.3 NON-WETLANDS

The non-wetland portions of the property are primarily open grassland that appears to be used primarily as hay land. Vegetation in the upland areas is similar to the wetland vegetation and is more than likely a pasture seed mixture that has been sown for the pasture/hay uses. Vegetation in the grassland area is more than likely a pasture seed mixture that has been sown for the pasture/hay uses. This area consists tall sweet vernal grass, false rye grass, colonial bent grass, and spreading bent grass, velvet grass. In addition, there are two areas with mixed shrub and tree cover. Vegetation in the upland areas to the north along the roadside consists of black cottonwood, cascara (*Frangula pershiana* – FAC), Nootka rose, Himalayan blackberry, trailing blackberry (*R. ursinus* – FACU) and reed canary grass. A shrub row along the western property line is primarily Himalayan blackberry, with small patches of Oregon ash, bitter cherry (*Prunus emarginata*) and Nootka rose. No wetland hydrology or soil indicators were observed in these areas of the study site.

Photographs of the study area and wetlands are provided in Photo-Sheet 1.

### 5.0 REGULATORY ISSUES

Through the course of the wetland delineation and assessment eight (8) wetlands were identified on the property as shown in Figures 5 and 6. The wetland buffers are based on the guidelines of LMC 18.300.090(6). This section of the LMC provides for the protection of wetlands within the City’s jurisdiction. The ordinance establishes protective buffers associated with wetlands and specifies that certain permits or approvals be obtained for projects containing wetlands or their respective buffers.

As shown in Table 1, wetlands A-S, C-S, D-S, E-S D-N, E-N, and F-N are characterized as Category IV wetlands with a low habitat scores, and Wetland B-S is considered a Category III wetland with a low habitat score. According to LMC Table 18.300.090(h)(i)(1), Category III wetlands in a proposed high-intensity land use with a low habitat score are protected by an 80-foot buffer (Fig. 6) in effort to maintain hydrologic functions. Similarly, Category IV wetlands are protected by a 50-foot buffer (Fig. 6). Buffer areas that extend into the roadway to the north are considered functionally isolated, as the roadway does not maintain functions and provides no protection to the wetlands.

In addition to LMC 18.300.090(6), jurisdictional wetlands are also regulated at the federal and state levels by the USACE and Ecology under Sections 404 and 401 of the Clean Water Act, respectively. Impacts to the wetlands may require notification and approval from the USACE and Ecology. The wetland boundaries depicted in this report have been field verified by the USACE on January 11, 2019.

**The wetland boundaries and classifications shown in this report have been determined using the most appropriate field techniques and best professional judgment of the environmental scientist. It should be noted that USACE and City of**

**La Center have the final authority in determining the wetland boundaries and categories under their respective jurisdictions. It is recommended that this delineation report be submitted to these agencies for concurrence prior to starting any development or planning activities that would affect wetlands or buffers on this site.**

## **6.0 LITERATURE CITED**

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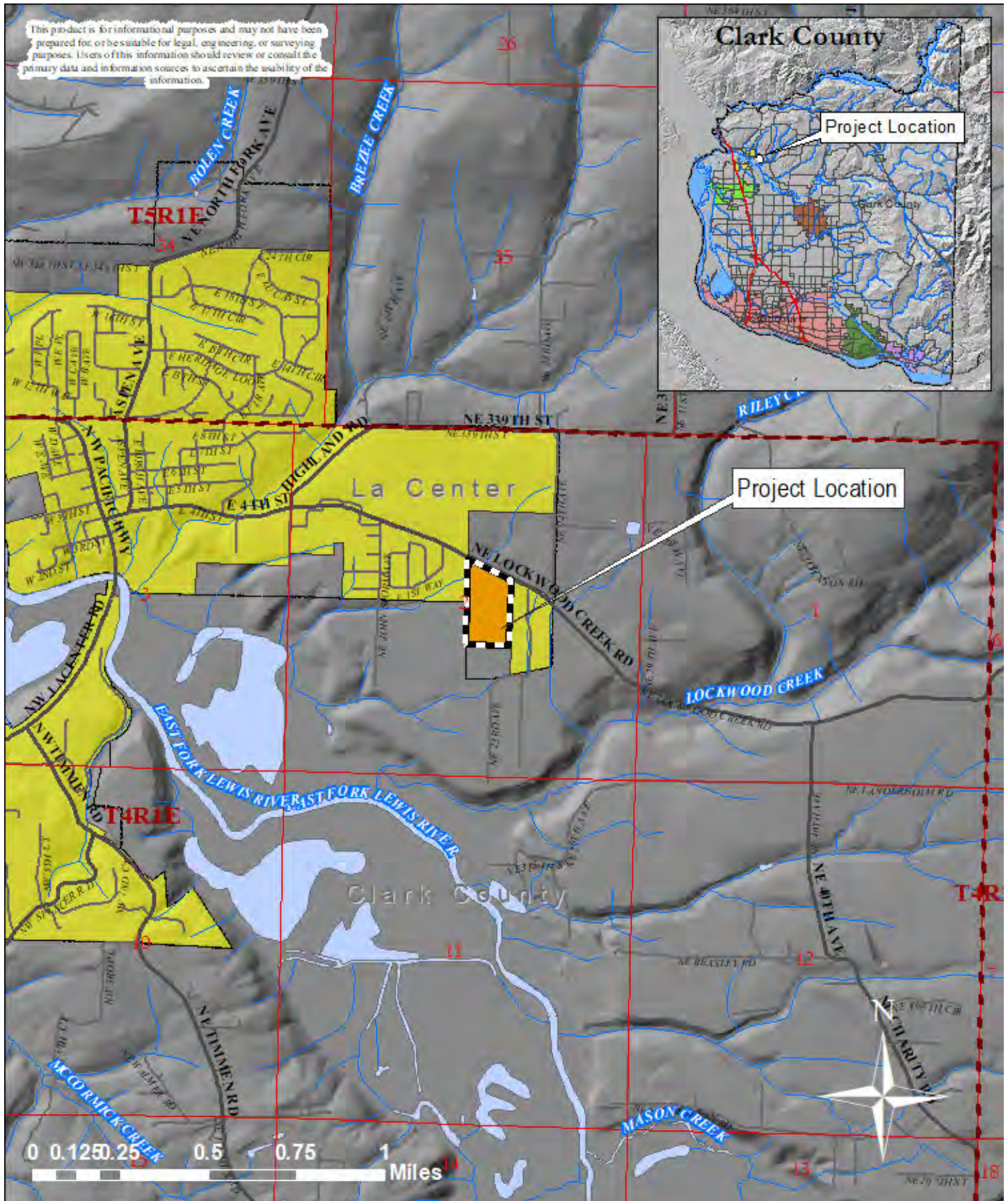
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**APPLICANT:**  
La Center School District  
725 Northeast Highland Avenue  
La Center, WA 98629

**PURPOSE:** Revised Wetland  
Delineation & Assessment

**Project Location Map**  
N.E. Lockwood Creek Road  
La Center, Washington




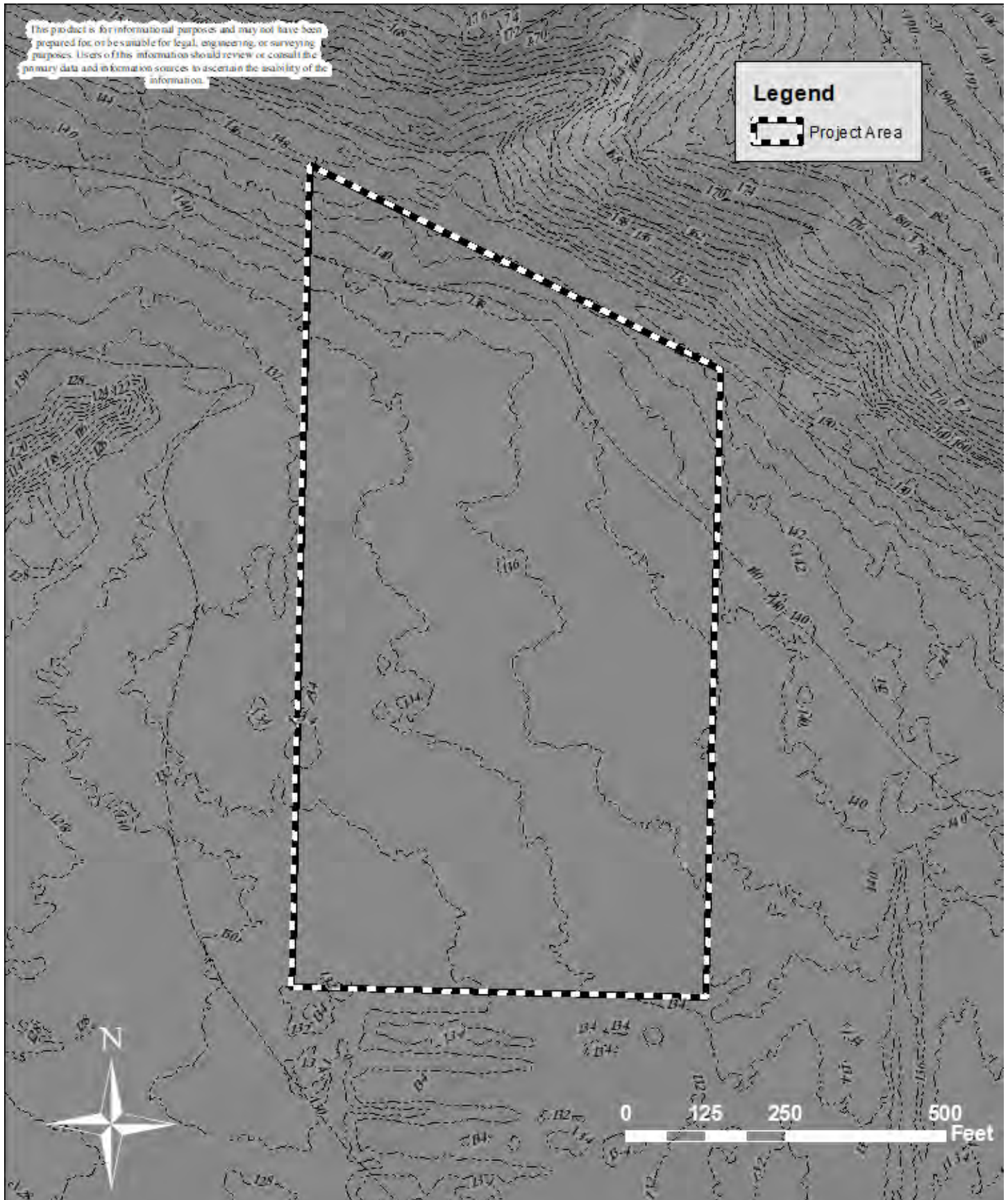
222 E. Evergreen Blvd., Vancouver, WA 98660 ph: 360-693-4555 fax: 360-699-6242

**PROPOSED ACTIVITIES IN:**  
East Fork of the Lewis River  
**LEGAL:** SE ¼ & NE ¼ of Section 02,  
T4N, R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019  
**Figure 1**

This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

### Legend

 Project Area



**APPLICANT:**  
La Center School District  
725 Northeast Highland Avenue  
La Center, WA 98629

**PURPOSE:** Revised Wetland  
Delineation & Assessment

### Clark County LiDAR Topographic Map N.E. Lockwood Creek Road La Center, Washington




222 E. Evergreen Blvd., Vancouver, WA 98660 ph: 360-693-4555 fax: 360-699-6242

**PROPOSED ACTIVITIES IN:**  
East Fork of the Lewis River  
**LEGAL:** SE ¼ & NE ¼ of Section 02,  
T4N, R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure 2**


This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.


**Legend**

 Project Area

**Local Wetland Inventory**


**Habitat Type:**


 Uplands


 Wetlands


**National Wetland Inventory**


**Cowardin Classification:**


 PEMA- Palustrine Emergent Temporarily Flooded


 PEMC- Palustrine Emergent Seasonally Flooded

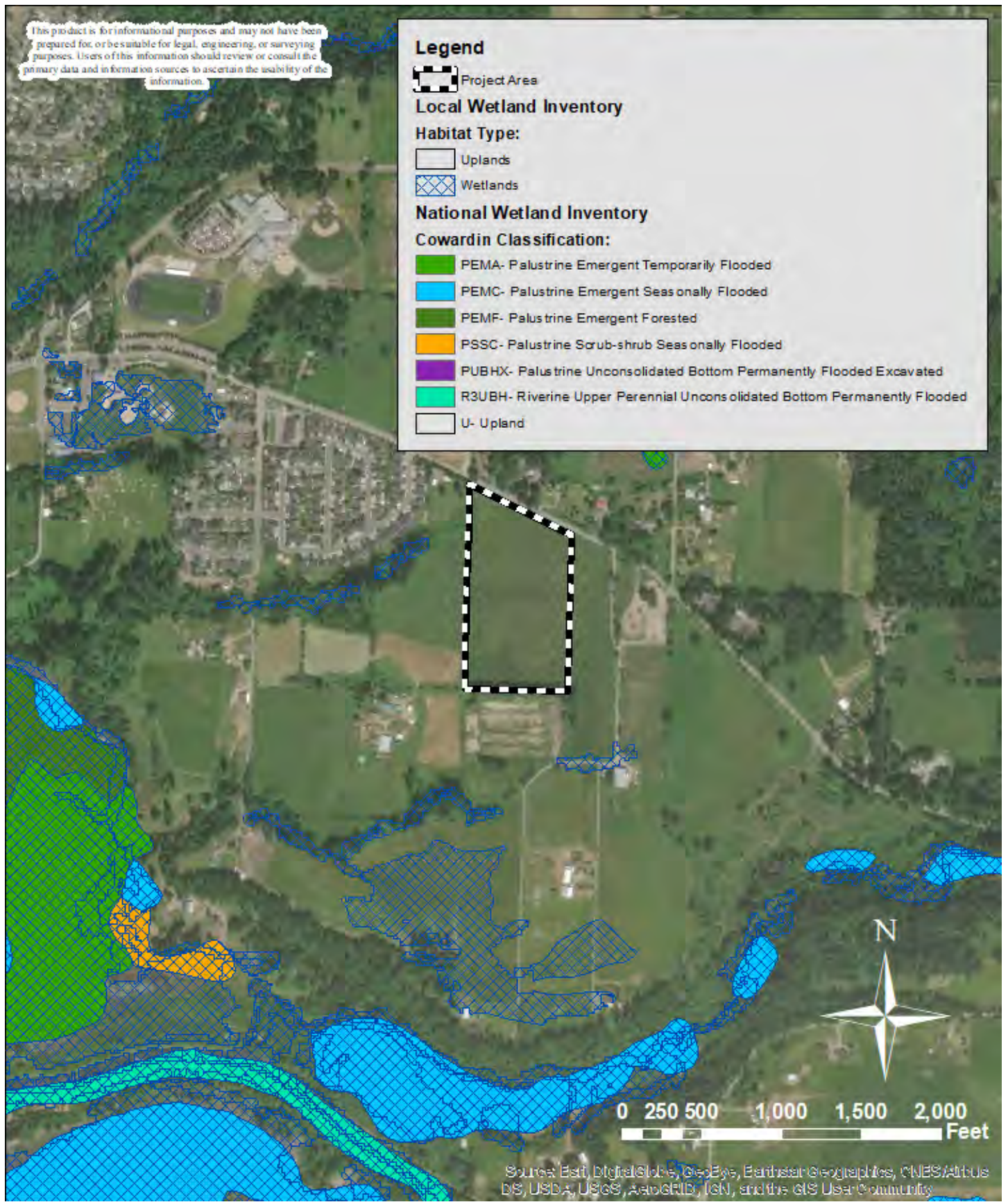
 PEMF- Palustrine Emergent Forested

 PSSC- Palustrine Scrub-shrub Seasonally Flooded

 PUBHX- Palustrine Unconsolidated Bottom Permanently Flooded Excavated

 R3UBH- Riverine Upper Perennial Unconsolidated Bottom Permanently Flooded

 U- Upland



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**APPLICANT:**  
La Center School District  
725 Northeast Highland Avenue  
La Center, WA 98629

**LWI/NWI Wetland Map**  
**N.E. Lockwood Creek Road**  
**La Center, Washington**

**PROPOSED ACTIVITIES IN:**  
East Fork of the Lewis River  
**LEGAL:** SE ¼ & NE ¼ of Section 02,  
T4N, R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019


**PURPOSE:** Revised Wetland  
Delineation & Assessment



**Figure 3**








This product is for informational purposes and may not have been prepared for, or be suitable for, legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

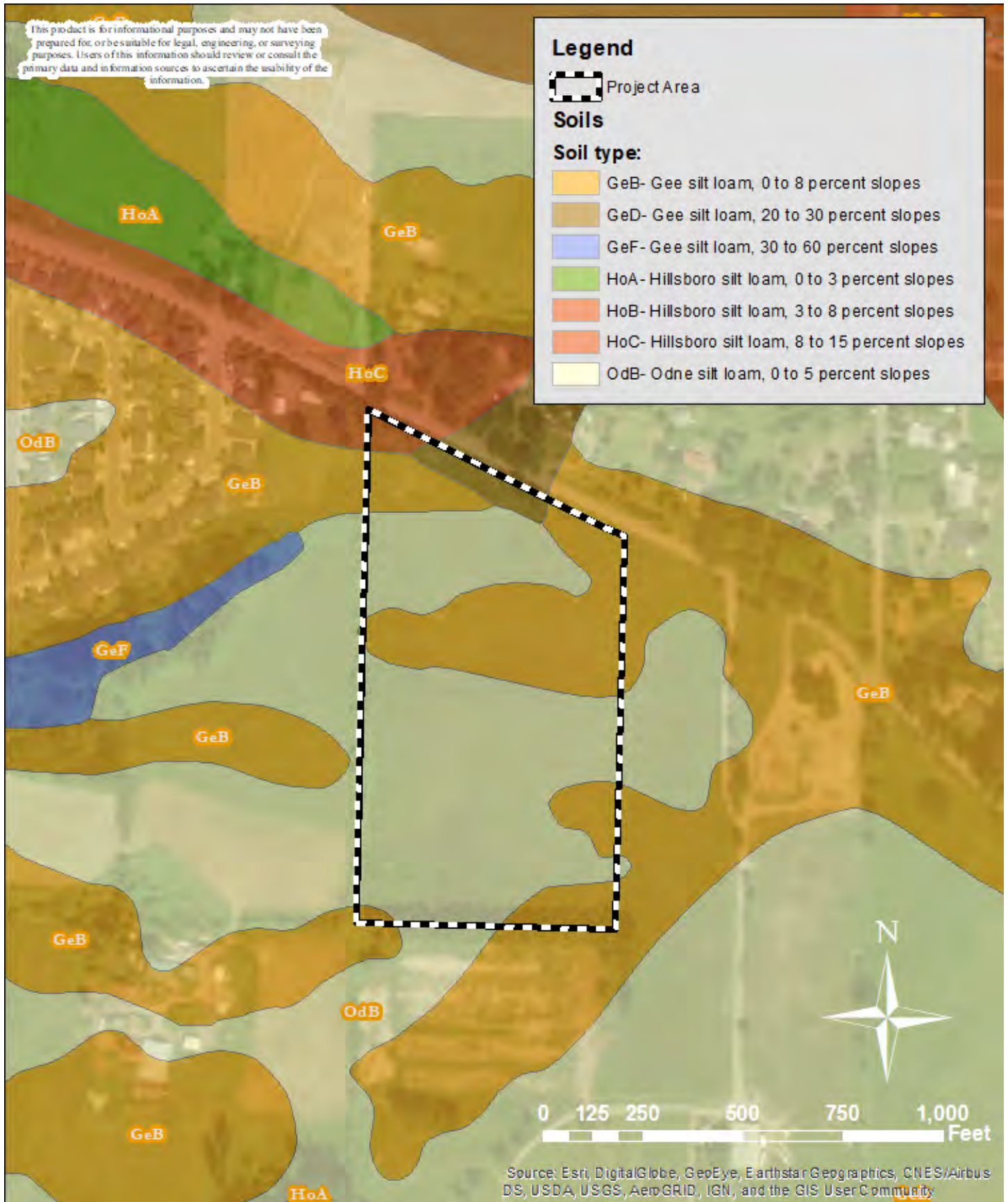
### Legend

 Project Area

### Soils

#### Soil type:

-  GeB- Gee silt loam, 0 to 8 percent slopes
-  GeD- Gee silt loam, 20 to 30 percent slopes
-  GeF- Gee silt loam, 30 to 60 percent slopes
-  HoA- Hillsboro silt loam, 0 to 3 percent slopes
-  HoB- Hillsboro silt loam, 3 to 8 percent slopes
-  HoC- Hillsboro silt loam, 8 to 15 percent slopes
-  OdB- Odne silt loam, 0 to 5 percent slopes



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**APPLICANT:**  
La Center School District  
725 Northeast Highland Avenue  
La Center, WA 98629

**PURPOSE:** Revised Wetland  
Delineation & Assessment

**NRCS Clark County Soil Survey Map**  
**N.E. Lockwood Creek Road**  
**La Center, Washington**



222 E. Evergreen Blvd., Vancouver, WA 98660 ph: 360-693-4555 fax: 360-699-6242

**PROPOSED ACTIVITIES IN:**  
East Fork of the Lewis River  
**LEGAL:** SE ¼ & NE ¼ of Section 02,  
T4N, R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure 4**



This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

### Legend

- Wetland A-S - 27,200 sq. ft.
- Wetland B-S - 3,770 sq. ft.
- Wetland C-S - 3,315 sq. ft.
- Wetland D-S - 74,740 sq. ft.
- Wetland E-S - 19,960 sq. ft.
- Wetland D-N - 290 sq. ft.
- Wetland E-N - 1,050 sq. ft.
- Wetland F-N - 2,650 sq. ft.
- La Center School District\_point
- Project Area



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**APPLICANT:**  
La Center School District  
725 Northeast Highland Avenue  
La Center, WA 98629

**PURPOSE:** Revised Wetland  
Delineation & Assessment

**Delineated Wetland Boundaries/Sample Plots**  
**N.E. Lockwood Creek Road**  
**La Center, Washington**









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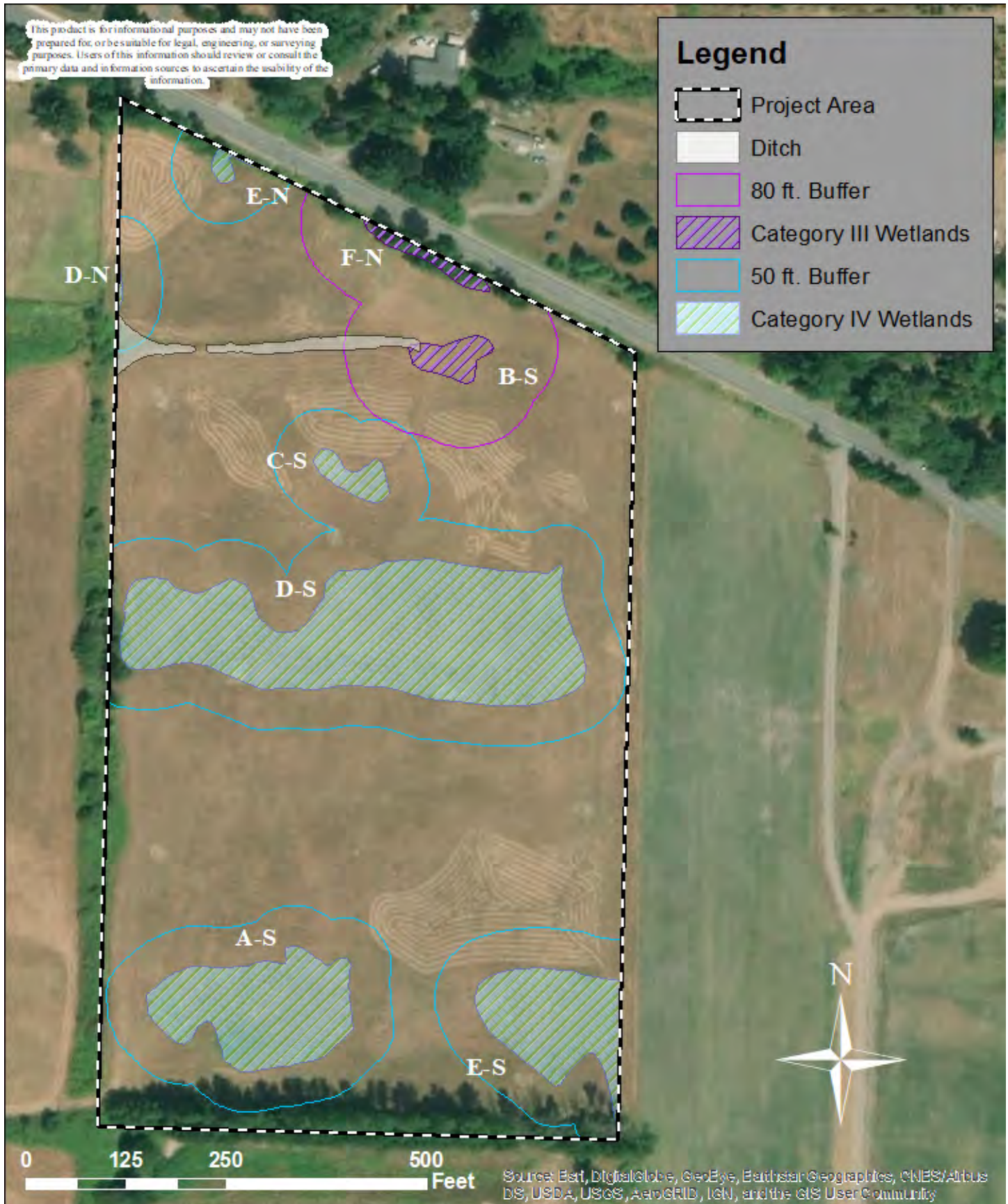
**PROPOSED ACTIVITIES IN:**  
East Fork of the Lewis River  
**LEGAL:** SE ¼ & NE ¼ of Section 02,  
T4N, R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure 5**

This product is for informational purposes and may not have been prepared for, or be suitable for, legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

### Legend

-  Project Area
-  Ditch
-  80 ft. Buffer
-  Category III Wetlands
-  50 ft. Buffer
-  Category IV Wetlands



**APPLICANT:**  
 La Center School District  
 725 Northeast Highland Avenue  
 La Center, WA 98629

**PURPOSE:** Revised Wetland  
 Delineation & Assessment

**Delineated Wetland Boundaries/Buffers**  
**N.E. Lockwood Creek Road**  
**La Center, Washington**



222 E. Evergreen Blvd., Vancouver, WA 98660 ph: 360-693-4555 fax: 360-699-6242

**PROPOSED ACTIVITIES IN:**  
 East Fork of the Lewis River  
**LEGAL:** SE ¼ & NE ¼ of Section 02,  
 T4N, R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure 6**



**APPLICANT:**  
 La Center School District  
 725 Northeast Highland Avenue  
 La Center, WA 98629

**PURPOSE:** Revised Wetland  
 Delineation & Assessment

**Study Area Photographs  
 N.E. Lockwood Creek Road  
 La Center, Washington**



**OLSON**  
 ENVIRONMENTAL  
 CONSULTANTS

222 E. Evergreen Blvd., Vancouver, WA 98660 ph: 360-693-4555 fax: 360-699-6242

**PROPOSED ACTIVITIES IN:**  
 East Fork of the Lewis River  
**LEGAL:** SE ¼ & NE ¼ of Section 02,  
 T4N, R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019  
**Photo-Sheet 1**

# **APPENDIX A**

## **WETLAND DETERMINATION DATA FORMS**

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

Project/Site: NE Lockwood Creek Road City/County: La Center/Clark Sampling Date: 11/20/2017  
 Applicant/Owner: La Center School District State: WA Sampling Point: 1  
 Investigator(s): Kevin Grosz Section, Township, Range: 02/4N1E  
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 2  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.85753780 Long: -122.65004960 Datum: WGS84  
 Soil Map Unit Name: Odne Silt Loam (OdB) NWI classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland? <u>No</u></b>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: __ )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>0</u> ) 1. 2. 3. 4. Total Cover = <u>0</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>0</u> ) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  <b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)
<u>Herb Stratum</u> (Plot size: <u>5M</u> ) 1. <u>Agrostis capillaris</u> 2. <u>Schedonorus arundinaceus</u> 3. <u>Ranunculus repens</u> 4. 5. 6. 7. 8. 9. 10. 11. Total Cover = <u>75</u>	<u>50</u> <u>15</u> <u>10</u>	<u>Yes</u> <u>No</u> <u>No</u>	<u>FAC</u> <u>FAC</u> <u>FAC</u>	Prevalence Index = B/A = <u>0</u>  <b>Hydrophytic Vegetation Indicators:</b> ___ 1 –Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test >50% ___ 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> ___ 4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woody Vine Stratum</u> (Plot size: <u>0</u> ) 1. 2. Total Cover = <u>0</u>  % Bare Ground in Herb Stratum: <u>0</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				<b>Hydrophytic Vegetation Present? <u>Yes</u></b>

**SOIL**

Sampling Point: 1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-16</u>	<u>10YR 3/2</u>	<u>0</u>		<u>0</u>				
<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								
<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)		
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>						<b>Hydric Soil Present? <u>No</u></b>		
Remarks:								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1,2,4A, and 4B</b> ) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1)( <b>LRR A</b> ) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>Yes</u> Depth (inches): <u>0</u> Water Table Present? <u>Yes</u> Depth (inches): Saturation Present? <u>Yes</u> Depth (inches): <u>4</u> (includes capillary fringe)		<b>Wetland Hydrology Present? <u>Yes</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**SOIL**

Sampling Point: New Point 2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	<u>10YR 3/2</u>	<u>100</u>		<u>0</u>				
5-16	<u>10YR 3/1</u>	<u>80</u>	<u>5YR 3/3</u>	<u>20</u>	<u>C</u>	<u>M</u>	<u>Clay Loam</u>	

<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 <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	
<p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>	
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>	<b>Hydric Soil Present? <u>Yes</u></b>
Remarks:	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)	
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>Yes</u> Water Table Present? <u>Yes</u> Saturation Present? <u>Yes</u> (includes capillary fringe)	Depth (inches): <u>1</u> Depth (inches): <u>3</u> Depth (inches): <u>0</u>
<b>Wetland Hydrology Present? <u>Yes</u></b>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



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

Project/Site: NE Lockwood Creek Road City/County: La Center/Clark Sampling Date: 11/20/2017  
 Applicant/Owner: La Center School District State: WA Sampling Point: 3  
 Investigator(s): Kevin Grosz Section, Township, Range: 02/4N/1E  
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 2  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.85770970 Long: -122.65074040 Datum: WGS84  
 Soil Map Unit Name: Odne Silt Loam (OdB) NWI classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland? <u>Yes</u></b>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: __ )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>0</u> ) 1. 2. 3. 4. Total Cover = <u>0</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>0</u> ) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  <b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
<u>Herb Stratum</u> (Plot size: <u>5M</u> ) 1. <u>Holcus lanatus</u> 2. <u>Agrostis stolonifera</u> 3. <u>Phalaris arundinacea</u> 4. 5. 6. 7. 8. 9. 10. 11. Total Cover = <u>85</u>	<u>20</u> <u>50</u> <u>15</u>	<u>Yes</u> <u>Yes</u> <u>No</u>	<u>FAC</u> <u>FAC</u> <u>FACW</u>	Prevalence Index = B/A = <u>0</u>  <b>Hydrophytic Vegetation Indicators:</b> ___ 1 –Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test >50% ___ 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> ___ 4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woody Vine Stratum</u> (Plot size: <u>0</u> ) 1. 2. Total Cover = <u>0</u>  % Bare Ground in Herb Stratum: <u>0</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				<b>Hydrophytic Vegetation Present? <u>Yes</u></b>

**SOIL**

Sampling Point: 3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-16</u>	<u>10YR 4/1</u>	<u>70</u>	<u>5YR 3/3</u>	<u>30</u>	<u>C</u>	<u>M</u>	<u>Clay Loam</u>	

<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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>		<b>Hydric Soil Present? <u>Yes</u></b>
Remarks:		

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

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)	
<b>Field Observations:</b> Surface Water Present? <u>No</u> Water Table Present? <u>Yes</u> Saturation Present? <u>Yes</u> (includes capillary fringe)	Depth (inches): Depth (inches): <u>4</u> Depth (inches): <u>0</u>	<b>Wetland Hydrology Present? <u>Yes</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Project/Site: NE Lockwood Creek Road City/County: La Center/Clark Sampling Date: 11/20/2017  
 Applicant/Owner: La Center School District State: WA Sampling Point: 4  
 Investigator(s): Kevin Grosz Section, Township, Range: 02/4N/1E  
 Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): None Slope (%): 3  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.85990740 Long: -122.64974100 Datum: WGS84  
 Soil Map Unit Name: Odne Silt Loam NWI classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland? <u>No</u></b>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Notes																					
<u>Tree Stratum</u> (Plot size: <u>0</u> ) 1. 2. 3. 4. Total Cover = <u>0</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  <b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;"><u>Total % Cover of:</u></td> <td style="text-align: right;"><u>Multiply by:</u></td> <td></td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 =</td> <td><u>00</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 =</td> <td><u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 =</td> <td><u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td></td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.65</u>	<u>Total % Cover of:</u>	<u>Multiply by:</u>		OBL species <u>0</u>	x 1 =	<u>0</u>	FACW species <u>0</u>	x 2 =	<u>00</u>	FAC species <u>0</u>	x 3 =	<u>0</u>	FACU species <u>0</u>	x 4 =	<u>0</u>	UPL species <u>0</u>	x 5 =	<u>0</u>	Column Totals: <u>0</u> (A)		<u>0</u> (B)
<u>Total % Cover of:</u>	<u>Multiply by:</u>																								
OBL species <u>0</u>	x 1 =	<u>0</u>																							
FACW species <u>0</u>	x 2 =	<u>00</u>																							
FAC species <u>0</u>	x 3 =	<u>0</u>																							
FACU species <u>0</u>	x 4 =	<u>0</u>																							
UPL species <u>0</u>	x 5 =	<u>0</u>																							
Column Totals: <u>0</u> (A)		<u>0</u> (B)																							
<u>Sapling/Shrub Stratum</u> (Plot size: <u>0</u> ) 1. 2. 3. 4. 5. Total Cover = <u>0</u>																									
<u>Herb Stratum</u> (Plot size: <u>5M</u> ) 1. <u>Phalaris arundinacea</u> <u>20</u> <u>Yes</u> <u>FACW</u> 2. <u>Agrostis stolonifera</u> <u>50</u> <u>Yes</u> <u>FAC</u> 3. <u>Holcus lanatus</u> <u>6</u> <u>No</u> <u>FAC</u> 4. <u>Juncus effusus</u> <u>10</u> <u>No</u> <u>FACW</u> 5. 6. 7. 8. 9. 10. 11. Total Cover = <u>86</u>																									
<u>Woody Vine Stratum</u> (Plot size: <u>0</u> ) 1. 2. Total Cover = <u>0</u>  % Bare Ground in Herb Stratum: <u>0</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
Remarks:				<b>Hydrophytic Vegetation Present? <u>Yes</u></b>																					

**SOIL**

Sampling Point: 4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-16</u>	<u>10YR 4/1</u>	<u>80</u>	<u>5YR 3/3</u>	<u>20</u>	<u>C</u>	<u>M</u>	<u>Silt Loam</u>	

<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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>		<b>Hydric Soil Present? <u>Yes</u></b>
Remarks:		

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

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1)( <b>LRR A</b> ) <input type="checkbox"/> Other (Explain in Remarks)	
		<input type="checkbox"/> Water-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>No</u> Water Table Present? <u>Yes</u> Saturation Present? <u>Yes</u> (includes capillary fringe)		Depth (inches): Depth (inches): <u>0</u> Depth (inches): <u>0</u>
		<b>Wetland Hydrology Present? <u>Yes</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Project/Site: NE Lockwood Creek Road City/County: La Center/Clark Sampling Date: 11/20/2017  
 Applicant/Owner: La Center School District State: WA Sampling Point: 5  
 Investigator(s): Kevin Grosz Section, Township, Range: 02/4N/1E  
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 3  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.85982750 Long: -122.64972910 Datum: WGS84  
 Soil Map Unit Name: Odne Silt Loam (OdB) NWI classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland? <u>No</u></b>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: <u>  </u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>0</u> ) 1. 2. 3. 4. Total Cover = <u>0</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>0</u> ) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  <b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
<u>Herb Stratum</u> (Plot size: <u>5M</u> ) 1. <u>Agrostis stolonifera</u> 2. <u>Phalaris arundinacea</u> 3. <u>Ranunculus repens</u> 4. <u>Holcus lanatus</u> 5. 6. 7. 8. 9. 10. 11. Total Cover = <u>85</u>	<u>70</u> <u>5</u> <u>5</u> <u>5</u>	<u>Yes</u> <u>No</u> <u>No</u> <u>No</u>	<u>FAC</u> <u>FACW</u> <u>FAC</u> <u>FAC</u>	Prevalence Index = B/A = <u>0</u>  <b>Hydrophytic Vegetation Indicators:</b> ___ 1 – Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test >50% ___ 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> ___ 4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woody Vine Stratum</u> (Plot size: <u>0</u> ) 1. 2. Total Cover = <u>0</u>  % Bare Ground in Herb Stratum: <u>0</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				<b>Hydrophytic Vegetation Present? <u>Yes</u></b>

**SOIL**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-16</u>	<u>10YR 3/2</u>	<u>0</u>		<u>0</u>				
<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								
<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)		
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>						<b>Hydric Soil Present? <u>No</u></b>		
Remarks:								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1,2,4A, and 4B</b> ) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1)( <b>LRR A</b> ) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): Water Table Present? <u>No</u> Depth (inches): Saturation Present? <u>No</u> Depth (inches): (includes capillary fringe)		<b>Wetland Hydrology Present? <u>No</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Project/Site: NE Lockwood Creek Road City/County: La Center/Clark Sampling Date: 12/07/2018  
 Applicant/Owner: La Center School District State: WA Sampling Point: 6  
 Investigator(s): Kevin Grosz, Ryan Thiele Section, Township, Range: S02, T4N, R1E  
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): concave Slope (%): 0-2%  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.85758670 Long: -122.65018650 Datum: WGS84  
 Soil Map Unit Name: Odne Silt Loam (OdB) NWI classification: none  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Hydric Soil Present? <u>Yes</u>	
Wetland Hydrology Present? <u>Yes</u>	
Remarks: Study area is regularly mowed.	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
<b>Tree Stratum</b> (Plot size: <u>10m</u> ) 1. 2. 3. 4. Total Cover = <u>0</u>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
<b>Sapling/Shrub Stratum</b> (Plot size: <u>10m</u> ) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				
<b>Herb Stratum</b> (Plot size: <u>5m</u> ) 1. <u>Agrostis stolonifera</u> <u>45</u> <u>Yes</u> <u>FAC</u> 2. <u>Agrostis capillaris</u> <u>25</u> <u>Yes</u> <u>FAC</u> 3. <u>Hypochaeris radicata</u> <u>15</u> <u>No</u> <u>FACU</u> 4. <u>Schedonorus arundinaceus</u> <u>5</u> <u>No</u> <u>FAC</u> 5. <u>Ranunculus repens</u> <u>5</u> <u>No</u> <u>FAC</u> 6. 7. 8. 9. 10. 11. Total Cover = <u>95</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>5m</u> ) 1. 2. Total Cover = <u>0</u>  % Bare Ground in Herb Stratum: <u>5%</u>				1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> <u>Yes</u>
Remarks: Study is regularly mowed.				

**SOIL**

Sampling Point: 6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	<u>10YR 4/2</u>	<u>100</u>		<u>0</u>			<u>silt loam</u>	<u>Oxidized rhizospheres</u>
5-10	<u>10YR 4/2</u>	<u>95</u>	<u>7.5YR 3/3</u>	<u>5</u>	<u>C</u>	<u>M</u>	<u>clayey silt loam</u>	
10-16	<u>7.5YR 4/1</u>	<u>50</u>	<u>10YR 4/6</u>	<u>3</u>	<u>C</u>	<u>M</u>	<u>clay loam</u>	<u>Small masses</u>
	<u>7.5YR 4/3</u>	<u>40</u>						
	<u>10YR 5/3</u>	<u>7</u>						

<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 <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
Remarks: Soil layer from 10-16 inches was matrix of three colors, with distinct/prominent redox features.	

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

**Hydric Soil Present?** Yes

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>No</u> Water Table Present? <u>No</u> Saturation Present? <u>No</u> (includes capillary fringe)	Depth (inches): <u>0</u> Depth (inches): <u>0</u> Depth (inches): <u>0</u> <b>Wetland Hydrology Present?</b> <u>Yes</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Field study was conducted at the beginning of the wet season, in a year of below-average rainfall.	



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

Project/Site: NE Lockwood Creek Road City/County: La Center/Clark Sampling Date: 12/06/2018  
 Applicant/Owner: La Center School District State: WA Sampling Point: 7  
 Investigator(s): Kevin Grosz, Ryan Thiele Section, Township, Range: S02, T4N, R1E  
 Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 0-5%  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.85758670 Long: -122.65018650 Datum: WGS84  
 Soil Map Unit Name: Gee Silt Loam (GeB) NWI classification: none  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Hydric Soil Present? <u>No</u>	
Wetland Hydrology Present? <u>No</u>	
Remarks: Study area is regularly mowed.	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
<u>Tree Stratum</u> (Plot size: <u>10m</u> ) 1. 2. 3. 4.  Total Cover = <u>0</u>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10m</u> ) 1. 2. 3. 4. 5.  Total Cover = <u>0</u>				
<u>Herb Stratum</u> (Plot size: <u>5m</u> ) 1. <u>Hypochaeris radicata</u> 2. <u>Agrostis capillaris</u> 3. <u>Agrostis stolonifera</u> 4. <u>Holcus lanatus</u> 5. <u>Schedonorus arundinaceus</u> 6. <u>Ranunculus repens</u> 7. 8. 9. 10. 11.  Total Cover = <u>92</u>	<u>35</u> <u>25</u> <u>15</u> <u>10</u> <u>5</u> <u>2</u>	<u>Yes</u> <u>Yes</u> <u>No</u> <u>No</u> <u>No</u> <u>No</u>	<u>FACU</u> <u>FAC</u> <u>FAC</u> <u>FAC</u> <u>FAC</u> <u>FAC</u>	
<u>Woody Vine Stratum</u> (Plot size: <u>5m</u> ) 1. 2.  Total Cover = <u>0</u>  % Bare Ground in Herb Stratum: <u>8%</u>				1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Indicators:</b> ___ 1 – Rapid Test for Hydrophytic Vegetation ___ 2 – Dominance Test >50% ___ 3 – Prevalence Index is ≤ 3.0 <sup>1</sup> ___ 4 – Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Remarks: Study is regularly mowed.				<b>Hydrophytic Vegetation Present?</b> <u>No</u>

**SOIL**

Sampling Point: 7

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	<u>10YR 4/2</u>	<u>100</u>		<u>0</u>			<u>clayey silt loam</u>	<u>redox features - Faint</u>
8-11	<u>7.5YR 4/2</u>	<u>85</u>	<u>7.5YR 3/3</u>	<u>15</u>	<u>C</u>	<u>M</u>	<u>clayey silt loam</u>	
11-16	<u>7.5YR 4/1</u>	<u>95</u>	<u>7.5YR 4/6</u>	<u>5</u>	<u>C</u>	<u>M</u>	<u>clayey silt loam</u>	

<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 <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>	<b>Hydric Soil Present? <u>No</u></b>
Remarks: Soils from 8-16 inches shows redox features, however layer is too thin (<4in.) with "faint" redox to qualify as Depleted Matrix (F3). Soil value is too high (>3) to qualify as dark surface (A11, A12, F6).	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)  <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <b>(except MLRA 1,2,4A, and 4B)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Stunted or Stressed Plants (D1)( <b>LRR A</b> ) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): <u>0</u> Water Table Present? <u>No</u> Depth (inches): <u>0</u> Saturation Present? <u>No</u> Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present? <u>No</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Field study was conducted at the beginning of the wet season, in a year of below-average rainfall.	

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

Project/Site: NE Lockwood Creek Road City/County: La Center/Clark Sampling Date: 12/06/2018  
 Applicant/Owner: La Center School District State: WA Sampling Point: 8  
 Investigator(s): Kevin Grosz, Ryan Thiele Section, Township, Range: S02, T4N, R1E  
 Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.85758670 Long: -122.65018650 Datum: WGS84  
 Soil Map Unit Name: Odne Silt Loam (OdB) NWI classification: none  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Hydric Soil Present? <u>Yes</u>	
Wetland Hydrology Present? <u>Yes</u>	
Remarks: Study area is regularly mowed.	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
<b>Tree Stratum</b> (Plot size: <u>10m</u> ) 1. 2. 3. 4. Total Cover = <u>0</u>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
<b>Sapling/Shrub Stratum</b> (Plot size: <u>10m</u> ) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				
<b>Herb Stratum</b> (Plot size: <u>5m</u> ) 1. <u>Agrostis stolonifera</u> <u>40</u> <u>Yes</u> <u>FAC</u> 2. <u>Schedonorus arundinaceus</u> <u>30</u> <u>Yes</u> <u>FAC</u> 3. <u>Holcus lanatus</u> <u>10</u> <u>No</u> <u>FAC</u> 4. <u>Ranunculus repens</u> <u>10</u> <u>No</u> <u>FAC</u> 5. <u>Hypochaeris radicata</u> <u>5</u> <u>No</u> <u>FACU</u> 6. 7. 8. 9. 10. 11. Total Cover = <u>95</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>5m</u> ) 1. 2. Total Cover = <u>0</u>  % Bare Ground in Herb Stratum: <u>5%</u>				1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks: Study is regularly mowed.				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>

**SOIL**

Sampling Point: 8

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	<u>7.5YR 4/2</u>	<u>100</u>		<u>0</u>			<u>silt loam</u>	<u>Oxidized rhizospheres</u>
6-9	<u>7.5YR 4/2</u>	<u>95</u>	<u>7.5YR 3/2</u>	<u>5</u>	<u>C</u>	<u>M</u>	<u>clayey silt loam</u>	
9-16	<u>7.5YR 4/2</u>	<u>88</u>	<u>7.5YR 3/3</u>	<u>10</u>	<u>C</u>	<u>M</u>	<u>clayey silt loam</u>	<u>Small masses</u>
			<u>7.5YR 4/6</u>	<u>2</u>	<u>C</u>	<u>M</u>	<u>clayey silt loam</u>	

<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 <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>	<b>Hydric Soil Present? <u>Yes</u></b>
Remarks: Soil layer from 9-16 inches had redox features with two colors.	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <b>(except MLRA 1,2,4A, and 4B)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Drift Deposits (B3) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Stunted or Stressed Plants (D1)( <b>LRR A</b> ) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): <u>0</u> Water Table Present? <u>No</u> Depth (inches): <u>0</u> Saturation Present? <u>No</u> Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present? <u>Yes</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Field study was conducted at the beginning of the wet season, in a year of below-average rainfall.	

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

Project/Site: NE Lockwood Creek Road City/County: La Center/Clark Sampling Date: 12/06/2018  
 Applicant/Owner: La Center School District State: WA Sampling Point: 9  
 Investigator(s): Kevin Grosz, Ryan Thiele Section, Township, Range: S02, T4N, R1E  
 Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 0-5%  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.85758670 Long: -122.65018650 Datum: WGS84  
 Soil Map Unit Name: Odne Silt Loam (OdB) NWI classification: none  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Hydric Soil Present? <u>No</u>	
Wetland Hydrology Present? <u>No</u>	
Remarks: Study area is regularly mowed.	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: __m __)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7</u> (A/B)
<u>Tree Stratum</u> (Plot size: <u>10m</u> ) 1. 2. 3. 4.  Total Cover = <u>0</u>				<b>Prevalence Index worksheet:</b> <u>Total % Cover of:</u> <u>Multiply by:</u> OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10m</u> ) 1. 2. 3. 4. 5.  Total Cover = <u>0</u>				
<u>Herb Stratum</u> (Plot size: <u>5m</u> ) 1. <u>Hypochaeris radicata</u> <u>35</u> <u>Yes</u> <u>FACU</u> 2. <u>Holcus lanatus</u> <u>25</u> <u>Yes</u> <u>FAC</u> 3. <u>Agrostis stolonifera</u> <u>20</u> <u>Yes</u> <u>FAC</u> 4. <u>Leucanthemum vulgare</u> <u>10</u> <u>No</u> <u>FACU</u> 5. <u>Schedonorus arundinaceus</u> <u>5</u> <u>No</u> <u>FAC</u> 6. 7. 8. 9. 10. 11.  Total Cover = <u>95</u>				
<u>Woody Vine Stratum</u> (Plot size: <u>5m</u> ) 1. 2.  Total Cover = <u>0</u>  % Bare Ground in Herb Stratum: <u>5%</u>				1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Indicators:</b> ___ 1 – Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test >50% ___ 3 – Prevalence Index is ≤ 3.0 <sup>1</sup> ___ 4 – Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Remarks: Study is regularly mowed.				<b>Hydrophytic Vegetation Present?</b> <u>No</u>

**SOIL**

Sampling Point: 9

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-10	7.5YR 4/2	100		0			silt loam	redox features - faint
10-13	7.5YR 4/2	90	7.5YR 3/3	10	C	M	clayey silt loam	
13-16	7.5YR 4/2	70	7.5YR 4/6	10	C	M	clayey silt loam	
	7.5YR 5/1	20					D	

<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 <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	
<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>	<b>Hydric Soil Present? <u>No</u></b>
Remarks: Soils from 10-13 inches shows redox features, however layer is too thin (<4in.) with "faint" redox to qualify as Depleted Matrix (F3). Soil value is too high (>3) to qualify as dark surface (A11, A12, F6).	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>No</u> Water Table Present? <u>No</u> Saturation Present? <u>No</u> (includes capillary fringe)	Depth (inches): <u>0</u> Depth (inches): <u>0</u> Depth (inches): <u>0</u> <b>Wetland Hydrology Present? <u>No</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Field study was conducted at the beginning of the wet season, in a year of below-average rainfall.	

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

Project/Site: NE Lockwood Creek Road City/County: La Center/Clark Sampling Date: 12/06/2018  
 Applicant/Owner: La Center School District State: WA Sampling Point: 10  
 Investigator(s): Kevin Grosz, Ryan Thiele Section, Township, Range: S02, T4N, R1E  
 Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 0-3%  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.85758670 Long: -122.65018650 Datum: WGS84  
 Soil Map Unit Name: Odne Silt Loam (OdB) NWI classification: none  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Hydric Soil Present? <u>Yes</u>	
Wetland Hydrology Present? <u>Yes</u>	
Remarks: Study area is regularly mowed.	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7</u> (A/B)
<b>Tree Stratum</b> (Plot size: <u>10m</u> ) 1. 2. 3. 4. Total Cover = <u>0</u>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = <u>0</u>
<b>Sapling/Shrub Stratum</b> (Plot size: <u>10m</u> ) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				
<b>Herb Stratum</b> (Plot size: <u>5m</u> ) 1. <u>Lolium perenne</u> <u>30</u> <u>Yes</u> <u>FAC</u> 2. <u>Agrostis stolonifera</u> <u>20</u> <u>Yes</u> <u>FAC</u> 3. <u>Hypochaeris radicata</u> <u>20</u> <u>Yes</u> <u>FACU</u> 4. <u>Juncus effusus</u> <u>15</u> <u>No</u> <u>FACW</u> 5. <u>Schedonorus arundinaceus</u> <u>10</u> <u>No</u> <u>FAC</u> 6. <u>Holcus lanatus</u> <u>5</u> <u>No</u> <u>FAC</u> 7. 8. 9. 10. 11. Total Cover = <u>95</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>5m</u> ) 1. 2. Total Cover = <u>0</u>  % Bare Ground in Herb Stratum: <u>5%</u>				1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Indicators:</b> ___ 1 –Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test >50% ___ 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> ___ 4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Remarks: Study is regularly mowed.				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>

**SOIL**

Sampling Point: 10

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	<u>10YR 4/2</u>	<u>100</u>		<u>0</u>			<u>silt loam</u>	
4-12	<u>10YR 4/1</u>	<u>90</u>	<u>7.5YR 3/3</u>	<u>10</u>	<u>C</u>	<u>M</u>	<u>clayey silt loam</u>	
12-16	<u>10YR 5/1</u>	<u>80</u>	<u>7.5YR 4/4</u>	<u>20</u>	<u>C</u>	<u>M</u>	<u>clayey silt loam</u>	

<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 <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>

<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>	<b>Hydric Soil Present? <u>Yes</u></b>
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Remarks: Soil layer from 4-12 inches had "distinct" redox features.

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> (except <b>MLRA 1,2,4A, and 4B</b> ) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1)( <b>LRR A</b> ) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Water Table Present? <u>No</u> Saturation Present? <u>No</u> (includes capillary fringe)	Depth (inches): <u>0</u> Depth (inches): <u>0</u> Depth (inches): <u>0</u>	<b>Wetland Hydrology Present? <u>Yes</u></b>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Field study was conducted at the beginning of the wet season, in a year of below-average rainfall.



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

Project/Site: NE Lockwood Creek Road City/County: La Center/Clark Sampling Date: 12/07/2018  
 Applicant/Owner: La Center School District State: WA Sampling Point: 11  
 Investigator(s): Kevin Grosz, Ryan Thiele Section, Township, Range: S02, T4N, R1E  
 Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 0-3%  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.85758670 Long: -122.65018650 Datum: WGS84  
 Soil Map Unit Name: Odne Silt Loam (OdB) NWI classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Hydric Soil Present? <u>No</u>	
Wetland Hydrology Present? <u>No</u>	
Remarks: Study area is regularly mowed.	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: __m __)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
<u>Tree Stratum</u> (Plot size: <u>10m</u> ) 1. 2. 3. 4. Total Cover = <u>0</u>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>0</u>	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10m</u> ) 1. 2. 3. 4. 5. Total Cover = <u>0</u>					
<u>Herb Stratum</u> (Plot size: <u>5m</u> ) 1. <u>Agrostis stolonifera</u> <u>60</u> <u>Yes</u> <u>FAC</u> 2. <u>Hypochaeris radicata</u> <u>10</u> <u>No</u> <u>FACU</u> 3. <u>Holcus lanatus</u> <u>10</u> <u>No</u> <u>FAC</u> 4. <u>Schedonorus arundinaceus</u> <u>5</u> <u>No</u> <u>FAC</u> 5. <u>Jacobaea vulgaris</u> <u>5</u> <u>No</u> <u>FACU</u> 6. 7. 8. 9. Total Cover = <u>90</u>					
<u>Woody Vine Stratum</u> (Plot size: <u>5m</u> ) 1. 2. Total Cover = <u>0</u>  % Bare Ground in Herb Stratum: <u>10%</u>					1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. <b>Hydrophytic Vegetation Present?</b> <u>Yes</u>
Remarks: Study is regularly mowed.					

**SOIL**

Sampling Point: 11

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-11</u>	<u>10YR 4/2</u>	<u>100</u>		<u>0</u>			<u>silt loam</u>	
<u>11-13</u>	<u>10YR 4/1</u>	<u>98</u>	<u>7.5YR 5/6</u>	<u>2</u>	<u>C</u>	<u>M</u>	<u>clayey silt loam</u>	
<u>13-16</u>	<u>10YR 5/1</u>	<u>85</u>	<u>7.5YR 5/8</u>	<u>15</u>	<u>C</u>	<u>M</u>	<u>clayey silt loam</u>	<u>small masses</u>

<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 <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	
<p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>	
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>	<b>Hydric Soil Present? <u>No</u></b>
Remarks: Soils from 11-13 inches shows redox features, however layer is too thin (<4in.) and too low (>10in.) to qualify as Depleted Matrix (F3). Soils value is too high (>3) to qualify as dark surface (A11, A12, F6).	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>No</u> Water Table Present? <u>No</u> Saturation Present? <u>No</u> (includes capillary fringe)	Depth (inches): <u>0</u> Depth (inches): <u>0</u> Depth (inches): <u>0</u> <b>Wetland Hydrology Present? <u>No</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Field study was conducted at the beginning of the wet season, in a year of below-average rainfall.	

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

Project/Site La Center School District/NE Lockwood Creek Rd City/County: La Center/Clark Sampling Date: 09/20/2018  
 Applicant/Owner: La Center School District State: WA Sampling Point: 12  
 Investigator(s): Kevin Grosz, Ryan Thiele Section, Township, Range: 02, T4N, R1E  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 0-8%  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.86016740 Long: -122.65118000 Datum: WGS84  
 Soil Map Unit Name: Gee silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland? <u>Yes</u></b>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: <u>10 meter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>10 meter</u> ) 1. 2. 3. 4. Total Cover = <u>0</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 meter</u> ) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  <b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>68</u> x 3 = <u>204</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>83</u> (A) <u>234</u> (B)  Prevalence Index = B/A = <u>2.82</u>
<u>Herb Stratum</u> (Plot size: <u>1 meter</u> ) 1. <u>Agrostis capillaris</u> 2. <u>Phalaris arundinacea</u> 3. <u>Lupinus polyphyllus</u> 4. <u>Holcus lanatus</u> 5. 6. 7. 8. 9. 10. 11. Total Cover = <u>81</u>	<u>60</u> <u>15</u> <u>1</u> <u>5</u>	<u>Yes</u> <u>No</u> <u>No</u> <u>No</u>	<u>FAC</u> <u>FACW</u> <u>FAC</u> <u>FAC</u>	Prevalence Index = B/A = <u>2.82</u>  <b>Hydrophytic Vegetation Indicators:</b> ___ 1 – Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test >50% <u>X</u> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> ___ 4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woody Vine Stratum</u> (Plot size: <u>1 meter</u> ) 1. <u>Rubus armeniacus</u> 2. Total Cover = <u>2</u>  % Bare Ground in Herb Stratum: <u>19</u>	<u>2</u>	<u>Yes</u>	<u>FAC</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				<b>Hydrophytic Vegetation Present? <u>Yes</u></b>

**SOIL**

Sampling Point: 12

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-12</u>	<u>10YR 3/2</u>	<u>90</u>	<u>7.5YR 4/4</u>	<u>10</u>	<u>C</u>	<u>M</u>	<u>Silt Loam</u>	
<u>12-16</u>	<u>10YR 3/1</u>	<u>80</u>	<u>7.5YR 4/4</u>	<u>20</u>	<u>C</u>	<u>M</u>	<u>Silt Loam</u>	

<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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>		<b>Hydric Soil Present? <u>Yes</u></b>
Remarks:		

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

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1)( <b>LRR A</b> ) <input type="checkbox"/> Other (Explain in Remarks)	
		<input type="checkbox"/> Water-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>No</u> Water Table Present? <u>No</u> Saturation Present? <u>No</u> (includes capillary fringe)		Depth (inches): Depth (inches): Depth (inches):
		<b>Wetland Hydrology Present? <u>Yes</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Project/Site: La Center School District/NE Lockwood Creek Rd City/County: La Center/Clark Sampling Date: 09/20/2018  
 Applicant/Owner: La Center School District State: WA Sampling Point: 13  
 Investigator(s): Kevin Grosz, Ryan Thiele Section, Township, Range: 02, T4N, R1E  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 0-8%  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.86012280 Long: -122.65110680 Datum: WGS84  
 Soil Map Unit Name: Gee silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland? <u>No</u></b>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: <u>10 meter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>10 meter</u> ) 1. 2. 3. 4. Total Cover = <u>0</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 meter</u> ) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66</u> (A/B)  <b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>90</u> (A) <u>280</u> (B)
<u>Herb Stratum</u> (Plot size: <u>1 meter</u> ) 1. <u>Phalaris arundinacea</u> <u>10</u> <u>No</u> <u>FACW</u> 2. <u>Agrostis capillaris</u> <u>40</u> <u>Yes</u> <u>FAC</u> 3. <u>Anthoxanthum odoratum</u> <u>20</u> <u>Yes</u> <u>FACU</u> 4. <u>Schedonorus arundinaceus</u> <u>20</u> <u>Yes</u> <u>FAC</u> 5. 6. 7. 8. 9. 10. 11. Total Cover = <u>90</u>				Prevalence Index = B/A = <u>3.11</u>  <b>Hydrophytic Vegetation Indicators:</b> ___ 1 –Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test >50% ___ 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> ___ 4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woody Vine Stratum</u> (Plot size: <u>10 meter</u> ) 1. 2. Total Cover = <u>0</u>  % Bare Ground in Herb Stratum: <u>10</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				<b>Hydrophytic Vegetation Present? <u>No</u></b>

**SOIL**

Sampling Point: 13

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-16</u>	<u>10YR 3/2</u>	<u>0</u>		<u>0</u>			<u>Silt Loam</u>	

<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 <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	
<p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>	
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>	<b>Hydric Soil Present? <u>No</u></b>
Remarks:	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> ) <input type="checkbox"/> Other (Explain in Remarks)	
<b>Field Observations:</b> Surface Water Present? <u>No</u> Water Table Present? <u>No</u> Saturation Present? <u>No</u> (includes capillary fringe)	Depth (inches): Depth (inches): Depth (inches): <b>Wetland Hydrology Present? <u>No</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Project/Site: La Center School District/NE Lockwood Creek Rd City/County: La Center/Clark Sampling Date: 09/20/2018  
 Applicant/Owner: La Center School District State: WA Sampling Point: 14  
 Investigator(s): Kevin Grosz, Ryan Thiele Section, Township, Range: 02, T4N, R1E  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 8-15%  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.86057640 Long: -122.65070310 Datum: WGS84  
 Soil Map Unit Name: Hillsboro silt loam NWI classification: N/A  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Hydric Soil Present? <u>Yes</u>	
Wetland Hydrology Present? <u>Yes</u>	
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: <u>10 meter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (A/B)
<u>Tree Stratum</u> (Plot size: <u>10 meter</u> ) 1. 2. 3. 4.  Total Cover = <u>0</u>				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>90</u> x 2 = <u>180</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>125</u> (A) <u>295</u> (B)  Prevalence Index = B/A = <u>2.36</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 meter</u> ) 1. <u>Symphoricarpos albus</u> 2. <u>Salix scouleriana</u> 3. <u>Spiraea douglasii</u> 4. 5.  Total Cover = <u>20</u>	<u>10</u> <u>5</u> <u>5</u>	<u>Yes</u> <u>Yes</u> <u>Yes</u>	<u>FACU</u> <u>FAC</u> <u>FACW</u>	
<u>Herb Stratum</u> (Plot size: <u>1 meter</u> ) 1. <u>Phalaris arundinacea</u> 2. <u>Juncus effusus</u> 3. <u>Schedonorus arundinaceus</u> 4. 5. 6. 7. 8. 9. 10. 11.  Total Cover = <u>90</u>	<u>75</u> <u>10</u> <u>5</u>	<u>Yes</u> <u>No</u> <u>No</u>	<u>FACW</u> <u>FACW</u> <u>FAC</u>	
<u>Woody Vine Stratum</u> (Plot size: <u>1 meter</u> ) 1. <u>Rubus armeniacus</u> 2.  Total Cover = <u>15</u>  % Bare Ground in Herb Stratum: <u>10</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> <u>Yes</u>
Remarks:				

**SOIL**

Sampling Point: 14

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-5</u>	<u>10YR 3/2</u>	<u>100</u>		<u>0</u>			<u>Silt Loam</u>	
<u>5-16</u>	<u>10YR 3/1</u>	<u>85</u>	<u>7.5YR 3/4</u>	<u>15</u>	<u>C</u>	<u>M</u>	<u>Clayey Silt Loam</u>	

<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 <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>	<b>Hydric Soil Present? <u>Yes</u></b>
Remarks:	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <b>(except MLRA 1,2,4A, and 4B)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Drift Deposits (B3) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Stunted or Stressed Plants (D1)( <b>LRR A</b> ) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): Water Table Present? <u>No</u> Depth (inches): Saturation Present? <u>No</u> Depth (inches): (includes capillary fringe)	<b>Wetland Hydrology Present? <u>Yes</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



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

Project/Site: La Center School District/NE Lockwood Creek Rd City/County: La Center/Clark Sampling Date: 09/20/2018  
 Applicant/Owner: La Center School District State: WA Sampling Point: 15  
 Investigator(s): Kevin Grosz, Ryan Thiele Section, Township, Range: 02, T4N, R1E  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 8-15%  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.86019240 Long: -122.64966090 Datum: WGS84  
 Soil Map Unit Name: Hillsboro silt loam NWI classification: N/A  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland? <u>No</u></b>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: <u>10 meter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>10 meter</u> ) 1. 2. 3. 4. Total Cover = <u>0</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 meter</u> ) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  <b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>55</u> x 3 = <u>165</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>75</u> (A) <u>275</u> (B)
<u>Herb Stratum</u> (Plot size: <u>1 meter</u> ) 1. <u>Agrostis capillaris</u> 2. <u>Schedonorus arundinaceus</u> 3. <u>Anthoxanthum odoratum</u> 5. <u>Holcus lanatus</u> 6. 7. 8. 9. 10. 11. Total Cover = <u>75</u>	<u>25</u> <u>20</u> <u>20</u> <u>10</u>	<u>Yes</u> <u>Yes</u> <u>Yes</u> <u>No</u>	<u>FAC</u> <u>FAC</u> <u>FACU</u> <u>FAC</u>	Prevalence Index = B/A = <u>3.26</u>  <b>Hydrophytic Vegetation Indicators:</b> ___ 1 – Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test >50% ___ 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> ___ 4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woody Vine Stratum</u> (Plot size: <u>1 meter</u> ) 1. 2. Total Cover = <u>0</u>  % Bare Ground in Herb Stratum: <u>25</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				<b>Hydrophytic Vegetation Present? <u>Yes</u></b>

**SOIL**

Sampling Point: 15

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-16</u>	<u>10YR 3/2</u>	<u>0</u>		<u>0</u>			<u>Silt Loam</u>	
<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								
<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)		
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>						<b>Hydric Soil Present? <u>No</u></b>		
Remarks:								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <b>(except MLRA 1,2,4A, and 4B)</b> <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1)( <b>LRR A</b> ) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): Water Table Present? <u>No</u> Depth (inches): Saturation Present? <u>No</u> Depth (inches): (includes capillary fringe)		<b>Wetland Hydrology Present? <u>No</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Project/Site: La Center School District/NE Lockwood Creek Rd

City/County: La Center/Clark

Sampling Date: 09/20/2018

Applicant/Owner: La Center School District State: WA

Sampling Point: 16

Investigator(s): Kevin Grosz Section, Township, Range: 02, T4N, R1E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 8-20%

Subregion (LRR): Northwest Forests & Coast (LRR A)

Lat: 45.86022250 Long: -122.64963640

Datum: WGS84

Soil Map Unit Name: Gee silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)

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? <u>Yes</u>	<b>Is the Sampled Area within a Wetland? <u>Yes</u></b>
Hydric Soil Present? <u>Yes</u>	
Wetland Hydrology Present? <u>Yes</u>	
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: <u>10 meter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>10 meter</u> ) 1. <u>Populus balsamifera</u> 2. 3. 4. Total Cover = <u>40</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 meter</u> ) 1. <u>Rosa nutkana</u> 2. <u>Corylus cornuta</u> 3. 4. 5. Total Cover = <u>22</u>	<u>20</u> <u>2</u>	<u>Yes</u> <u>No</u>	<u>FAC</u> <u>FACU</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  <b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>35</u> x 2 = <u>70</u> FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>19</u> x 4 = <u>76</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>144</u> (A) <u>416</u> (B)
<u>Herb Stratum</u> (Plot size: <u>1 meter</u> ) 1. <u>Juncus effusus</u> 2. <u>Rubus ursinus</u> 3. <u>Phalaris arundinacea</u> 4. <u>Schedonorus arundinaceus</u> 5. <u>Anthoxanthum odoratum</u> 6. <u>Phleum pratense</u> 7. <u>Agrostis capillaris</u> 8. 9. 10. 11. Total Cover = <u>82</u>	<u>20</u> <u>15</u> <u>15</u> <u>5</u> <u>2</u> <u>5</u> <u>20</u>	<u>Yes</u> <u>No</u> <u>No</u> <u>No</u> <u>No</u> <u>No</u> <u>Yes</u>	<u>FACW</u> <u>FACU</u> <u>FACW</u> <u>FAC</u> <u>FACU</u> <u>FAC</u> <u>FAC</u>	Prevalence Index = B/A = <u>2.89</u>  <b>Hydrophytic Vegetation Indicators:</b> ___ 1 –Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test >50% <u>X</u> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> ___ 4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woody Vine Stratum</u> (Plot size: <u>1 meter</u> ) 1. 2. Total Cover = <u>0</u>  % Bare Ground in Herb Stratum: <u>18</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present? <u>Yes</u></b>
Remarks:				

**SOIL**

Sampling Point: 16

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-16</u>	<u>10YR 3/2</u>	<u>80</u>	<u>7.5YR 4/4</u>	<u>20</u>	<u>C</u>	<u>M</u>	<u>Clayey Silt Loam</u>	

<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 <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>	<b>Hydric Soil Present? <u>Yes</u></b>
Remarks:	

**HYDROLOGY**

Wetland Hydrology Indicators:	Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (two or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> (except MLRA 1,2,4A, and 4B) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Drift Deposits (B3) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Stunted or Stressed Plants (D1)(LRR A) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)(LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)	
<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): Water Table Present? <u>No</u> Depth (inches): Saturation Present? <u>No</u> Depth (inches): (includes capillary fringe)	<b>Wetland Hydrology Present? <u>Yes</u></b>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Project/Site: La Center School District/NE Lockwood Creek Rd City/County: La Center/Clark Sampling Date: 09/20/2018  
 Applicant/Owner: La Center School District State: WA Sampling Point: 17  
 Investigator(s): Kevin Grosz, Ryan Thiele Section, Township, Range: 02, T4N, R1E  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 8-20%  
 Subregion (LRR): Northwest Forests & Coast (LRR A) Lat: 45.86019240 Long: -122.64966090 Datum: WGS84  
 Soil Map Unit Name: Gee silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes (if no, explain in Remarks.)  
 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? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland? <u>No</u></b>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: <u>10 meter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>10 meter</u> ) 1. 2. 3. 4. Total Cover = <u>0</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 meter</u> ) 1. 2. 3. 4. 5. Total Cover = <u>0</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)  <b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>35</u> x 4 = <u>140</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>80</u> (A) <u>275</u> (B)
<u>Herb Stratum</u> (Plot size: <u>1 meter</u> ) 1. <u>Anthoxanthum odoratum</u> 2. <u>Agrostis capillaris</u> 3. <u>Schedonorus arundinaceus</u> 5. <u>Holcus lanatus</u> 6. 7. 8. 9. 10. 11. Total Cover = <u>65</u>	<u>20</u> <u>20</u> <u>15</u> <u>10</u>	<u>Yes</u> <u>Yes</u> <u>Yes</u> <u>No</u>	<u>FACU</u> <u>FAC</u> <u>FAC</u> <u>FAC</u>	Prevalence Index = B/A = <u>3.44</u>  <b>Hydrophytic Vegetation Indicators:</b> ___ 1 – Rapid Test for Hydrophytic Vegetation ___ 2 – Dominance Test >50% ___ 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> ___ 4 - Morphological Adaptions <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woody Vine Stratum</u> (Plot size: <u>1 meter</u> ) 1. <u>Rubus ursinus</u> 2. Total Cover = <u>15</u>  % Bare Ground in Herb Stratum: <u>35</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				<b>Hydrophytic Vegetation Present? <u>No</u></b>

**SOIL**

Sampling Point: 17

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-16</u>	<u>10YR 3/2</u>	<u>0</u>		<u>0</u>			<u>Silt Loam</u>	

<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 <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>	<b>Hydric Soil Present? <u>No</u></b>
Remarks:	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (two or more required)
Primary Indicators (minimum of one required; check all that apply)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <b>(except MLRA 1,2,4A, and 4B)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Stunted or Stressed Plants (D1)( <b>LRR A</b> ) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): Water Table Present? <u>No</u> Depth (inches): Saturation Present? <u>No</u> Depth (inches): (includes capillary fringe)	<b>Wetland Hydrology Present? <u>No</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**SOIL**

Sampling Point: 18

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-16</u>	<u>10YR 3/2</u>	<u>100</u>		<u>0</u>			<u>Silt Loam</u>	

<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 <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	
<p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>	
<b>Restrictive Layer (if present):</b> Type: Depth (inches): <u>0</u>	<b>Hydric Soil Present? <u>No</u></b>
Remarks:	

**HYDROLOGY**

Wetland Hydrology Indicators:	Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (two or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1,2,4A, and 4B</b> ) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1)( <b>LRR A</b> ) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9)( <b>MLRA 1,2,4A,4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6)( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)
<b>Field Observations:</b> Surface Water Present? <u>No</u> Water Table Present? <u>No</u> Saturation Present? <u>No</u> (includes capillary fringe)	Depth (inches): Depth (inches): Depth (inches):	<b>Wetland Hydrology Present? <u>No</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



# **APPENDIX B1**

## **WETLAND RATING FORMS**

Wetland name or number A-S

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): N.E. Lockwood Creek Road Date of site visit: 11/20/17

Rated by Kevin Grosz Trained by Ecology?  Yes  No Date of training 12/22/15

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

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

Source of base aerial photo/map \_\_\_\_\_

**OVERALL WETLAND CATEGORY IV** (based on functions  or special characteristics )

### 1. Category of wetland based on FUNCTIONS

\_\_\_\_\_ Category I – Total score = 23 - 27

\_\_\_\_\_ Category II – Total score = 20 - 22

\_\_\_\_\_ Category III – Total score = 16 - 19

Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H M <u>L</u>	H M <u>L</u>	H M <u>L</u>	
Landscape Potential	H M <u>L</u>	H <b>M</b> <u>L</u>	<u>H</u> M L	
Value	<u>H</u> M L	H <u>M</u> L	H M <u>L</u>	<b>TOTAL</b>
Score Based on Ratings	5	4	5	14

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

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

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

Wetland name or number A-S

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	Figure B1
Hydroperiods	D 1.4, H 1.2	Figure B2
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	Figure B2
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	Figure B1
Map of the contributing basin	D 4.3, D 5.3	Figure B4
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	Figure B5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	Figure B13
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	Figure B14

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

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

## HGM Classification of Wetlands in Western Washington

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

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

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

**NO** – go to 2

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

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

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

**YES – Freshwater Tidal Fringe**

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

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

**NO** – go to 3

**YES** – The wetland class is **Flats**

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

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

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

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

**NO** – go to 4

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

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

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

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

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

**NO** – go to 5

**YES** – The wetland class is **Slope**

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

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

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

The overbank flooding occurs at least once every 2 years.

Wetland name or number A-S

**NO** – go to 6

**YES** – The wetland class is **Riverine**

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

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

**NO** – go to 7

**YES** – The wetland class is **Depressional**

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

**NO** – go to 8

**YES** – The wetland class is **Depressional**

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

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

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

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

Wetland name or number A-S

<b>DEPRESSIONAL AND FLATS WETLANDS</b>	
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>	
<b>D 1.0. Does the site have the potential to improve water quality?</b>	
D 1.1. <u>Characteristics of surface water outflows from the wetland:</u> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	points = 3 points = 2 points = 1 points = 1 <b>2</b>
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 No = 0	<b>0</b>
D 1.3. <u>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</u> Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > 1/10 of area Wetland has persistent, ungrazed plants < 1/10 of area	points = 5 points = 3 points = 1 points = 0 <b>0</b>
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ¼ total area of wetland Area seasonally ponded is < ¼ total area of wetland	points = 4 points = 2 points = 0 <b>2</b>
<b>Total for D 1</b>	Add the points in the boxes above <b>4</b>

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

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

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

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0 <b>1</b>
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0 <b>1</b>
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	Yes = 2 No = 0 <b>2</b>
<b>Total for D 3</b>	Add the points in the boxes above <b>4</b>

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

Wetland name or number A-S

**DEPRESSIONAL AND FLATS WETLANDS**

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

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	2
<b>D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.</b>		
Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
The wetland is a "headwater" wetland	points = 3	
Wetland is flat but has small depressions on the surface that trap water	points = 1	
Marks of ponding less than 0.5 ft (6 in)	points = 0	1
<b>D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</b>		
The area of the basin is less than 10 times the area of the unit	points = 5	
The area of the basin is 10 to 100 times the area of the unit	points = 3	
The area of the basin is more than 100 times the area of the unit	points = 0	
Entire wetland is in the Flats class	points = 5	0
<b>Total for D 4</b>	<b>Add the points in the boxes above</b>	<b>3</b>

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

<b>D 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>		
<b>D 5.1. Does the wetland receive stormwater discharges?</b>	Yes = 1 No = 0	0
<b>D 5.2. Is &gt;10% of the area within 150 ft of the wetland in land uses that generate excess runoff?</b>	Yes = 1 No = 0	0
<b>D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at &gt;1 residence/ac, urban, commercial, agriculture, etc.)?</b>	Yes = 1 No = 0	0
<b>Total for D 5</b>	<b>Add the points in the boxes above</b>	<b>0</b>

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

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

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

Wetland name or number A-S

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

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

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

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

H 1.2. Hydroperiods

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

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- Saturated only 1 type present: points = 0
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** **2 points**
- Freshwater tidal wetland** **2 points**

H 1.3. Richness of plant species

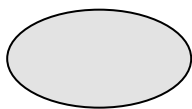
Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

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

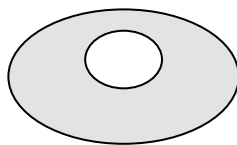
- If you counted: > 19 species points = 2
- 5 - 19 species points = 1
- < 5 species points = 0

H 1.4. Interspersion of habitats

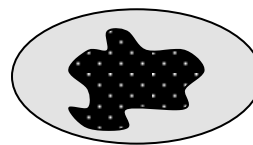
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



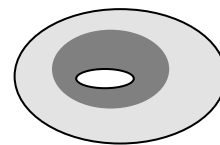
None = 0 points



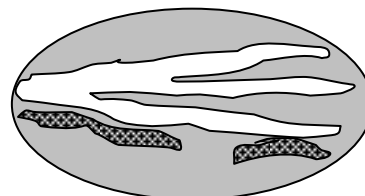
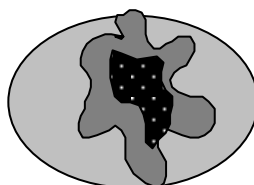
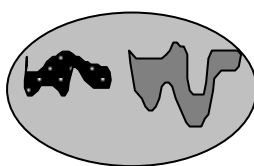
Low = 1 point



Moderate = 2 points



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



0



Wetland name or number A-S

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		0
Total for H 1	Add the points in the boxes above	2

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

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p><i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>13</u> = <u>13</u>%</p> <p>If total accessible habitat is:</p> <p>&gt; 1/3 (33.3%) of 1 km Polygon <span style="float: right;">points = 3</span></p> <p>20-33% of 1 km Polygon <span style="float: right;">points = 2</span></p> <p>10-19% of 1 km Polygon <span style="float: right;">points = 1</span></p> <p>&lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>		1
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p><i>Calculate:</i> % undisturbed habitat <u>26</u> + [(% moderate and low intensity land uses)/2] <u>32</u> = <u>58</u> %</p> <p>Undisturbed habitat &gt; 50% of Polygon <span style="float: right;">points = 3</span></p> <p>Undisturbed habitat 10-50% and in 1-3 patches <span style="float: right;">points = 2</span></p> <p>Undisturbed habitat 10-50% and &gt; 3 patches <span style="float: right;">points = 1</span></p> <p>Undisturbed habitat &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>		3
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>&gt; 50% of 1 km Polygon is high intensity land use <span style="float: right;">points = (- 2)</span></p> <p>≤ 50% of 1 km Polygon is high intensity <span style="float: right;">points = 0</span></p>		0
Total for H 2	Add the points in the boxes above	4

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

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: <span style="float: right;">points = 2</span></p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m <span style="float: right;">points = 1</span></p> <p>Site does not meet any of the criteria above <span style="float: right;">points = 0</span></p>		0

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

## WDFW Priority Habitats

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

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

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

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

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p><b>SC 1.0. Estuarine wetlands</b></p> <p>Does the wetland meet the following criteria for Estuarine wetlands?</p> <ul style="list-style-type: none"> <li>— The dominant water regime is tidal,</li> <li>— Vegetated, and</li> <li>— With a salinity greater than 0.5 ppt</li> </ul> <p style="text-align: right;">Yes –Go to <b>SC 1.1</b>    No= <b>Not an estuarine wetland</b></p>	
<p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?</p> <p style="text-align: right;">Yes = <b>Category I</b>    No - Go to <b>SC 1.2</b></p>	<b>Cat. I</b>
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</p> <ul style="list-style-type: none"> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25)</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>— The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b></p> <p>SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?</p> <p style="text-align: right;">Yes – Go to <b>SC 2.2</b>    No – Go to <b>SC 2.3</b></p> <p>SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?</p> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Not a WHCV</b></p> <p>SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a></p> <p style="text-align: right;">Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b>    No = <b>Not a WHCV</b></p> <p>SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?</p> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Not a WHCV</b></p>	<b>Cat. I</b>
<p><b>SC 3.0. Bogs</b></p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i></p> <p>SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile?</p> <p style="text-align: right;">Yes – Go to <b>SC 3.3</b>    No – Go to <b>SC 3.2</b></p> <p>SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?</p> <p style="text-align: right;">Yes – Go to <b>SC 3.3</b>    No = <b>Is not a bog</b></p> <p>SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4?</p> <p style="text-align: right;">Yes = <b>Is a Category I bog</b>    No – Go to <b>SC 3.4</b></p> <p><b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</p> <p>SC 3.4. Is an area with peats or mucks forested (&gt; 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?</p> <p style="text-align: right;">Yes = <b>Is a Category I bog</b>    No = <b>Is not a bog</b></p>	<b>Cat. I</b>

Wetland name or number A-S

<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife’s forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <ul style="list-style-type: none"> <li>— <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>— <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Not a forested wetland for this section</b></p>	<p><b>Cat. I</b></p>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> <li>— The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</li> <li>— The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>    No = <b>Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>— At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</li> <li>— The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b>    No = <b>Category II</b></p>	<p style="text-align: center;">Cat. I</p> <p style="text-align: center;">Cat. II</p>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <li>— Long Beach Peninsula: Lands west of SR 103</li> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>    No = <b>not an interdunal wetland for rating</b></p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?</p> <p style="text-align: right;">Yes = <b>Category I</b>    No – Go to <b>SC 6.2</b></p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?</p> <p style="text-align: right;">Yes = <b>Category II</b>    No – Go to <b>SC 6.3</b></p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?</p> <p style="text-align: right;">Yes = <b>Category III</b>    No = <b>Category IV</b></p>	<p style="text-align: center;">Cat I</p> <p style="text-align: center;">Cat. II</p> <p style="text-align: center;">Cat. III</p> <p style="text-align: center;">Cat. IV</p>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	

Wetland name or number A-S

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Wetland name or number B-S

# RATING SUMMARY – Western Washington

Name of wetland (or ID #): N.E. Lockwood Creek Road Date of site visit: 11/20/17

Rated by Kevin Grosz Trained by Ecology?  Yes  No Date of training 12/22/17

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

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

Source of base aerial photo/map \_\_\_\_\_

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

## 1. Category of wetland based on FUNCTIONS

\_\_\_\_\_ Category I – Total score = 23 - 27

\_\_\_\_\_ Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

\_\_\_\_\_ Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H M <u>L</u>	H M <u>L</u>	H M <u>L</u>	
Landscape Potential	H <u>M</u> L	H <u>M</u> L	<u>H</u> M L	
Value	<u>H</u> M L	H <u>M</u> L	H M <u>L</u>	<b>TOTAL</b>
<b>Score Based on Ratings</b>	6	5	5	16

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

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

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	Figure B1
Hydroperiods	H 1.2	Figure B2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	Figure B3
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	Figure B3
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	Figure B1
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	Figure B6
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	Figure B13
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	Figure B14

## HGM Classification of Wetlands in Western Washington

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

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

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

**NO** – go to 2

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

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

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

**YES – Freshwater Tidal Fringe**

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

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

**NO** – go to 3

**YES** – The wetland class is **Flats**

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

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

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

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

**NO** – go to 4

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

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

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

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

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

**NO** – go to 5

**YES** – The wetland class is **Slope**

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

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

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

The overbank flooding occurs at least once every 2 years.



Wetland name or number B-S

**NO** – go to 6

**YES** – The wetland class is **Riverine**

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

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

**NO** – go to 7

**YES** – The wetland class is **Depressional**

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

**NO** – go to 8

**YES** – The wetland class is **Depressional**

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

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

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

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

Wetland name or number B-S

### SLOPE WETLANDS

#### 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 the average slope of the wetland: <i>(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)</i>			
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		1
S 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic <i>(use NRCS definitions)</i> : Yes = 3 No = 0			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 have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</i>			
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		0
Total for S 1		Add the points in the boxes above	1

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

*Record the rating on the first page*

S 2.0. Does the landscape have the potential to support the water quality function of the site?			
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?			
		Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?			
Other sources _____		Yes = 1 No = 0	0
Total for S 2		Add the points in the boxes above	1

**Rating of Landscape Potential** If score is: X 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 society?			
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?			
		Yes = 1 No = 0	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? <i>At least one aquatic resource in the basin is on the 303(d) list.</i>			
		Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the basin in which unit is found.</i>			
		Yes = 2 No = 0	2
Total for S 3		Add the points in the boxes above	4

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

*Record the rating on the first page*

Wetland name or number B-S

**SLOPE WETLANDS**

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

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

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually &gt; 1/8 in), or dense enough, to remain erect during surface flows.</i>	
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	points = 1
All other conditions	points = 0
	0

**Rating of Site Potential** If score is:    1 = M   X   0 = L

*Record the rating 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 or cover that generate excess surface runoff?	Yes = 1 No = 0	1
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**Rating of Landscape Potential** If score is:   X   1 = M    0 = L

*Record the rating on the first page*

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

S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	1

S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
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Total for S 6	Add the points in the boxes above	1
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**Rating of Value** If score is:    2-4 = H   X   1 = M    0 = L

*Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number B-S

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

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

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

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

0

H 1.2. Hydroperiods

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

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- Saturated only 1 type present: points = 0
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** **2 points**
- Freshwater tidal wetland** **2 points**

0

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

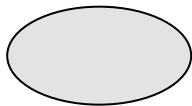
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

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

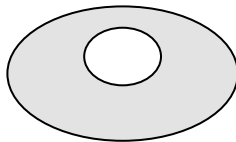
1

H 1.4. Interspersion of habitats

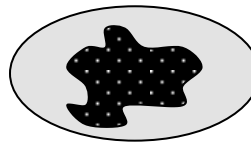
Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



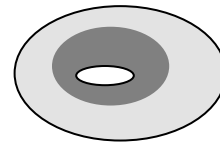
None = 0 points



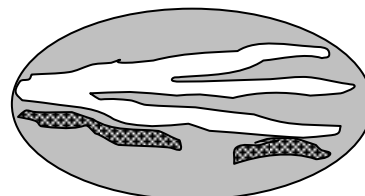
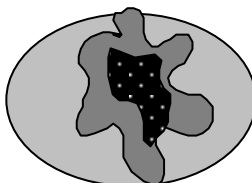
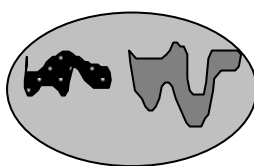
Low = 1 point



Moderate = 2 points



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



0

Wetland name or number B-S

<p>H 1.5. Special habitat features:                  Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i>  <input type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).  <input type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland  <input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)  <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)  <input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)  <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		0
Total for H 1	Add the points in the boxes above	1

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

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).  <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>30</u> = <u>30</u> %                  If total accessible habitat is:                  &gt; 1/3 (33.3%) of 1 km Polygon <span style="float: right;">points = 3</span>                  20-33% of 1 km Polygon <span style="float: right;">points = 2</span>                  10-19% of 1 km Polygon <span style="float: right;">points = 1</span>                  &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>		2
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  <i>Calculate:</i> % undisturbed habitat <u>27</u> + [(% moderate and low intensity land uses)/2] <u>30</u> = <u>57</u> %                  Undisturbed habitat &gt; 50% of Polygon <span style="float: right;">points = 3</span>                  Undisturbed habitat 10-50% and in 1-3 patches <span style="float: right;">points = 2</span>                  Undisturbed habitat 10-50% and &gt; 3 patches <span style="float: right;">points = 1</span>                  Undisturbed habitat &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>		3
<p>H 2.3. Land use intensity in 1 km Polygon: If                  &gt; 50% of 1 km Polygon is high intensity land use <span style="float: right;">points = (- 2)</span>                  ≤ 50% of 1 km Polygon is high intensity <span style="float: right;">points = 0</span></p>		0
Total for H 2	Add the points in the boxes above	5

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

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i>                  Site meets ANY of the following criteria: <span style="float: right;">points = 2</span>  <input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)  <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)  <input type="checkbox"/> It is mapped as a location for an individual WDFW priority species  <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources  <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan                  Site has 1 or 2 priority habitats (listed on next page) within 100 m <span style="float: right;">points = 1</span>                  Site does not meet any of the criteria above <span style="float: right;">points = 0</span></p>		0

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

## WDFW Priority Habitats

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

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

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

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

Wetland name or number B-S

### CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p><b>SC 1.0. Estuarine wetlands</b></p> <p>Does the wetland meet the following criteria for Estuarine wetlands?</p> <ul style="list-style-type: none"> <li>— The dominant water regime is tidal,</li> <li>— Vegetated, and</li> <li>— With a salinity greater than 0.5 ppt</li> </ul> <p style="text-align: right;">Yes –Go to <b>SC 1.1</b> <b>No= Not an estuarine wetland</b></p>	
<p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?</p> <p style="text-align: right;">Yes = <b>Category I</b> No - Go to <b>SC 1.2</b></p>	<b>Cat. I</b>
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</p> <ul style="list-style-type: none"> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25)</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>— The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b> No = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b></p> <p>SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?</p> <p style="text-align: right;">Yes – Go to <b>SC 2.2</b> <b>No – Go to SC 2.3</b></p> <p>SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?</p> <p style="text-align: right;">Yes = <b>Category I</b> <b>No = Not a WHCV</b></p> <p>SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?</p> <p style="text-align: center;"><a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a></p> <p style="text-align: right;">Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b> <b>No = Not a WHCV</b></p> <p>SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?</p> <p style="text-align: right;">Yes = <b>Category I</b> <b>No = Not a WHCV</b></p>	<b>Cat. I</b>
<p><b>SC 3.0. Bogs</b></p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i></p> <p>SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile?</p> <p style="text-align: right;">Yes – Go to <b>SC 3.3</b> No – Go to <b>SC 3.2</b></p> <p>SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?</p> <p style="text-align: right;">Yes – Go to <b>SC 3.3</b> <b>No = Is not a bog</b></p> <p>SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4?</p> <p style="text-align: right;">Yes = <b>Is a Category I bog</b> No – Go to <b>SC 3.4</b></p> <p><b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</p> <p>SC 3.4. Is an area with peats or mucks forested (&gt; 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?</p> <p style="text-align: right;">Yes = <b>Is a Category I bog</b> <b>No = Is not a bog</b></p>	<b>Cat. I</b>





Wetland name or number B-S

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Wetland name or number C-S

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): N.E. Lockwood Creek Road Date of site visit: 12/07/2018

Rated by Ryan Thiele Trained by Ecology?  Yes  No Date of training 10/31/2018

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

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

Source of base aerial photo/map \_\_\_\_\_

**OVERALL WETLAND CATEGORY IV** (based on functions  or special characteristics )

### 1. Category of wetland based on FUNCTIONS

\_\_\_\_\_ Category I – Total score = 23 - 27

\_\_\_\_\_ Category II – Total score = 20 - 22

\_\_\_\_\_ Category III – Total score = 16 - 19

Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H M <u>L</u>	H M <u>L</u>	H M <u>L</u>	
Landscape Potential	H M <u>L</u>	H <u>M</u> <u>L</u>	<u>H</u> M L	
Value	<u>H</u> M L	H <u>M</u> L	H M <u>L</u>	<b>TOTAL</b>
Score Based on Ratings	<b>5</b>	<b>4</b>	<b>5</b>	<b>14</b>

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

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

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

Wetland name or number C-S

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	Figure B1
Hydroperiods	D 1.4, H 1.2	Figure B2
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	Figure B2
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	Figure B1
Map of the contributing basin	D 4.3, D 5.3	Figure B4
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	Figure B7
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	Figure B13
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	Figure B14

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

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

## HGM Classification of Wetlands in Western Washington

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

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

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

NO – go to 2

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

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

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

**YES – Freshwater Tidal Fringe**

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

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

NO – go to 3

**YES** – The wetland class is **Flats**

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

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

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

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

NO – go to 4

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

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

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

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

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

NO – go to 5

**YES** – The wetland class is **Slope**

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

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

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

The overbank flooding occurs at least once every 2 years.

Wetland name or number C-5

NO – go to 6

**YES** – The wetland class is **Riverine**

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

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

NO – go to 7

**YES** – The wetland class is **Depressional**

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

NO – go to 8

**YES** – The wetland class is **Depressional**

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

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

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

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

Wetland name or number C-S

<b>DEPRESSIONAL AND FLATS WETLANDS</b>		
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>		
<b>D 1.0. Does the site have the potential to improve water quality?</b>		
D 1.1. <u>Characteristics of surface water outflows from the wetland:</u> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	points = 3 points = 2 points = 1 points = 1	2
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 No = 0		0
D 1.3. <u>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</u> Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > 1/10 of area Wetland has persistent, ungrazed plants < 1/10 of area	points = 5 points = 3 points = 1 points = 0	0
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ¼ total area of wetland Area seasonally ponded is < ¼ total area of wetland	points = 4 points = 2 points = 0	2
Total for D 1		4

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

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	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		0

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

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	Yes = 2 No = 0	2
Total for D 3		4

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

Wetland name or number C-S

**DEPRESSIONAL AND FLATS WETLANDS**

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

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	2
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	
<b>D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.</b>		
Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	1
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
The wetland is a "headwater" wetland	points = 3	
Wetland is flat but has small depressions on the surface that trap water	points = 1	
Marks of ponding less than 0.5 ft (6 in)	points = 0	
<b>D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</b>		
The area of the basin is less than 10 times the area of the unit	points = 5	0
The area of the basin is 10 to 100 times the area of the unit	points = 3	
The area of the basin is more than 100 times the area of the unit	points = 0	
Entire wetland is in the Flats class	points = 5	
<b>Total for D 4</b>	<b>Add the points in the boxes above</b>	<b>3</b>

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

<b>D 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>		
<b>D 5.1. Does the wetland receive stormwater discharges?</b>	Yes = 1 No = 0	0
<b>D 5.2. Is &gt;10% of the area within 150 ft of the wetland in land uses that generate excess runoff?</b>	Yes = 1 No = 0	0
<b>D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at &gt;1 residence/ac, urban, commercial, agriculture, etc.)?</b>	Yes = 1 No = 0	0
<b>Total for D 5</b>	<b>Add the points in the boxes above</b>	<b>0</b>

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

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.</b>		
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):		1
• Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	
• Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
Flooding from groundwater is an issue in the sub-basin.	points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____	points = 0	
There are no problems with flooding downstream of the wetland.	points = 0	
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>	Yes = 2 No = 0	0
<b>Total for D 6</b>	<b>Add the points in the boxes above</b>	<b>1</b>

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

Wetland name or number C-S

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

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

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

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

0

H 1.2. Hydroperiods

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

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- Saturated only 1 type present: points = 0
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** **2 points**
- Freshwater tidal wetland** **2 points**

0

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

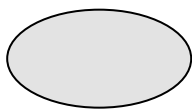
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

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

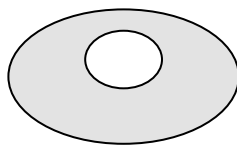
1

H 1.4. Interspersion of habitats

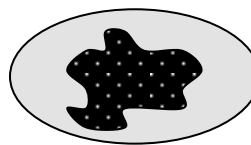
Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



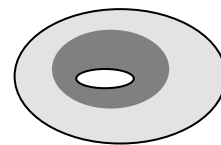
None = 0 points



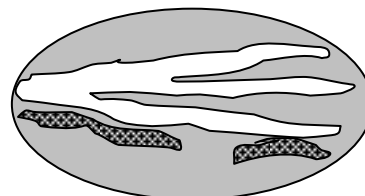
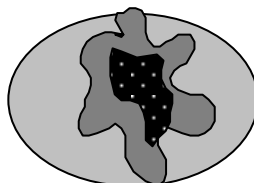
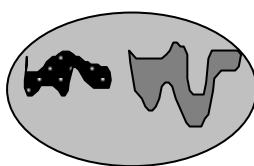
Low = 1 point



Moderate = 2 points



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



0



Wetland name or number C-S

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

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

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p><i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>30</u> = <u>30</u> %</p> <p>If total accessible habitat is:</p> <p>&gt; 1/3 (33.3%) of 1 km Polygon <span style="float: right;">points = 3</span></p> <p>20-33% of 1 km Polygon <span style="float: right;">points = 2</span></p> <p>10-19% of 1 km Polygon <span style="float: right;">points = 1</span></p> <p>&lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>		2
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p><i>Calculate:</i> % undisturbed habitat <u>27</u> + [(% moderate and low intensity land uses)/2] <u>30</u> = <u>57</u> %</p> <p>Undisturbed habitat &gt; 50% of Polygon <span style="float: right;">points = 3</span></p> <p>Undisturbed habitat 10-50% and in 1-3 patches <span style="float: right;">points = 2</span></p> <p>Undisturbed habitat 10-50% and &gt; 3 patches <span style="float: right;">points = 1</span></p> <p>Undisturbed habitat &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>		3
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>&gt; 50% of 1 km Polygon is high intensity land use <span style="float: right;">points = (- 2)</span></p> <p>≤ 50% of 1 km Polygon is high intensity <span style="float: right;">points = 0</span></p>		0
Total for H 2	Add the points in the boxes above	5

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

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: <span style="float: right;">points = 2</span></p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m <span style="float: right;">points = 1</span></p> <p>Site does not meet any of the criteria above <span style="float: right;">points = 0</span></p>		0

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

## WDFW Priority Habitats

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

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

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

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

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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

Wetland name or number C-S

<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife’s forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <ul style="list-style-type: none"> <li>— <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>— <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b>   <b>No</b> = <b>Not a forested wetland for this section</b></p>	<p><b>Cat. I</b></p>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> <li>— The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</li> <li>— The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>   <b>No</b> = <b>Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</li> <li>— The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b>   No = <b>Category II</b></p>	<p style="text-align: center; vertical-align: middle;"><b>Cat. I</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. II</b></p>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <li>— Long Beach Peninsula: Lands west of SR 103</li> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>   <b>No</b> = <b>not an interdunal wetland for rating</b></p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  <span style="float: right;">Yes = <b>Category I</b>   <b>No</b> – Go to <b>SC 6.2</b></span></p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  <span style="float: right;">Yes = <b>Category II</b>   <b>No</b> – Go to <b>SC 6.3</b></span></p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  <span style="float: right;">Yes = <b>Category III</b>   <b>No</b> = <b>Category IV</b></span></p>	<p style="text-align: center; vertical-align: middle;"><b>Cat I</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. II</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. III</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. IV</b></p>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p><b>N/A</b></p>

Wetland name or number C-S

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Wetland name or number D-S

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): N.E. Lockwood Creek Road Date of site visit: 12/06/18

Rated by Ryan Thiele Trained by Ecology?  Yes  No Date of training 10/31/18

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

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

Source of base aerial photo/map \_\_\_\_\_

**OVERALL WETLAND CATEGORY IV** (based on functions X or special characteristics \_\_\_\_\_)

### 1. Category of wetland based on FUNCTIONS

\_\_\_\_\_ Category I – Total score = 23 - 27

\_\_\_\_\_ Category II – Total score = 20 - 22

\_\_\_\_\_ Category III – Total score = 16 - 19

**X** \_\_\_\_\_ Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H M <u>L</u>	H M <u>L</u>	H M <u>L</u>	
Landscape Potential	H M <u>L</u>	H <b>M</b> <u>L</u>	<u>H</u> M L	
Value	<u>H</u> M L	H <u>M</u> L	H M <u>L</u>	<b>TOTAL</b>
Score Based on Ratings	5	4	5	14

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

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

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

Wetland name or number D-S

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	Figure B1
Hydroperiods	H 1.2	Figure B2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	Figure B3
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	Figure B3
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	Figure B1
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	Figure B8
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	Figure B13
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	Figure B14

## HGM Classification of Wetlands in Western Washington

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

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

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

**NO** – go to 2

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

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

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

**YES – Freshwater Tidal Fringe**

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

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

**NO** – go to 3

**YES** – The wetland class is **Flats**

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

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

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

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

**NO** – go to 4

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

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

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

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

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

**NO** – go to 5

**YES** – The wetland class is **Slope**

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

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

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

The overbank flooding occurs at least once every 2 years.



Wetland name or number D-S

**NO** – go to 6

**YES** – The wetland class is **Riverine**

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

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

**NO** – go to 7

**YES** – The wetland class is **Depressional**

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

**NO** – go to 8

**YES** – The wetland class is **Depressional**

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

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

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

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

Wetland name or number D-S

### **SLOPE WETLANDS**

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

<b>S 1.0. Does the site have the potential to improve water quality?</b>		
S 1.1. Characteristics of the average slope of the wetland: <i>(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)</i> Slope is 1% or less <span style="float: right;">points = 3</span> Slope is > 1%-2% <span style="float: right;">points = 2</span> Slope is > 2%-5% <span style="float: right;">points = 1</span> Slope is greater than 5% <span style="float: right;">points = 0</span>		3
S 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic <i>(use NRCS definitions)</i> : Yes = 3 No = 0		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 have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</i> Dense, uncut, herbaceous plants > 90% of the wetland area <span style="float: right;">points = 6</span> Dense, uncut, herbaceous plants > ½ of area <span style="float: right;">points = 3</span> Dense, woody, plants > ½ of area <span style="float: right;">points = 2</span> Dense, uncut, herbaceous plants > ¼ of area <span style="float: right;">points = 1</span> Does not meet any of the criteria above for plants <span style="float: right;">points = 0</span>		0
Total for S 1 <span style="float: right;">Add the points in the boxes above</span>		3

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

*Record the rating on the first page*

<b>S 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? <span style="float: right;">Yes = 1 No = 0</span>		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 _____ <span style="float: right;">Yes = 1 No = 0</span>		0
Total for S 2 <span style="float: right;">Add the points in the boxes above</span>		0

**Rating of Landscape Potential** If score is: 1-2 = M X 0 = L

*Record the rating on the first page*

<b>S 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? <span style="float: right;">Yes = 1 No = 0</span>		1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? <i>At least one aquatic resource in the basin is on the 303(d) list.</i> <span style="float: right;">Yes = 1 No = 0</span>		1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the basin in which unit is found.</i> <span style="float: right;">Yes = 2 No = 0</span>		2
Total for S 3 <span style="float: right;">Add the points in the boxes above</span>		4

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

*Record the rating on the first page*

Wetland name or number D-S

**SLOPE WETLANDS**

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

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

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually &gt; 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland All other conditions	points = 1 points = 0	0
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**Rating of Site Potential** If score is:    1 = M   X   0 = L

*Record the rating 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 or cover that generate excess surface runoff?	Yes = 1 No = 0	0
---	----------------	---

**Rating of Landscape Potential** If score is:    1 = M   X   0 = L

*Record the rating on the first page*

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

S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., 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	1
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
Total for S 6	Add the points in the boxes above	1

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

*Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

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

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

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

H 1.2. Hydroperiods

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

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- Saturated only 1 type present: points = 0
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** **2 points**
- Freshwater tidal wetland** **2 points**

H 1.3. Richness of plant species

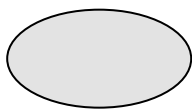
Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

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

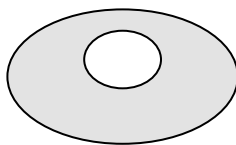
- If you counted: > 19 species points = 2
- 5 - 19 species points = 1
- < 5 species points = 0

H 1.4. Interspersion of habitats

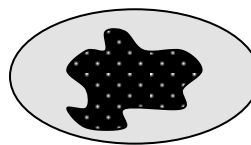
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



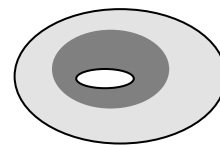
None = 0 points



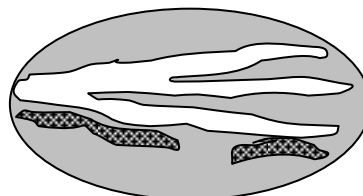
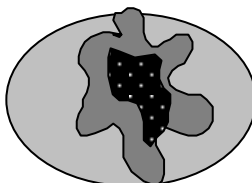
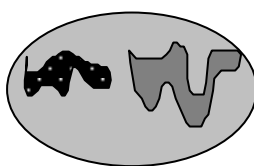
Low = 1 point



Moderate = 2 points



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



0

Wetland name or number D-S

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

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

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).  <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>28</u> = <u>28</u> %                  If total accessible habitat is:                  &gt; 1/3 (33.3%) of 1 km Polygon <span style="float: right;">points = 3</span>                  20-33% of 1 km Polygon <span style="float: right;">points = 2</span>                  10-19% of 1 km Polygon <span style="float: right;">points = 1</span>                  &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>		2
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  <i>Calculate:</i> % undisturbed habitat <u>32</u> + [(% moderate and low intensity land uses)/2] <u>28</u> = <u>60</u> %                  Undisturbed habitat &gt; 50% of Polygon <span style="float: right;">points = 3</span>                  Undisturbed habitat 10-50% and in 1-3 patches <span style="float: right;">points = 2</span>                  Undisturbed habitat 10-50% and &gt; 3 patches <span style="float: right;">points = 1</span>                  Undisturbed habitat &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>		3
<p>H 2.3. Land use intensity in 1 km Polygon: If                  &gt; 50% of 1 km Polygon is high intensity land use <span style="float: right;">points = (- 2)</span>                  ≤ 50% of 1 km Polygon is high intensity <span style="float: right;">points = 0</span></p>		0
Total for H 2	Add the points in the boxes above	5

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

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i>                  Site meets ANY of the following criteria: <span style="float: right;">points = 2</span>  <input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)  <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)  <input type="checkbox"/> It is mapped as a location for an individual WDFW priority species  <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources  <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan                  Site has 1 or 2 priority habitats (listed on next page) within 100 m <span style="float: right;">points = 1</span>                  Site does not meet any of the criteria above <span style="float: right;">points = 0</span></p>		0

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

## WDFW Priority Habitats

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

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

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

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

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p><b>SC 1.0. Estuarine wetlands</b></p> <p>Does the wetland meet the following criteria for Estuarine wetlands?</p> <ul style="list-style-type: none"> <li>— The dominant water regime is tidal,</li> <li>— Vegetated, and</li> <li>— With a salinity greater than 0.5 ppt</li> </ul> <p style="text-align: right;">Yes –Go to <b>SC 1.1</b> <b>No= Not an estuarine wetland</b></p>	
<p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?</p> <p style="text-align: right;">Yes = <b>Category I</b> <b>No</b> - Go to <b>SC 1.2</b></p>	<b>Cat. I</b>
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</p> <ul style="list-style-type: none"> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25)</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>— The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b> <b>No</b> = <b>Category II</b></p>	<b>Cat. I</b>  <b>Cat. II</b>
<p><b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b></p> <p>SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?</p> <p style="text-align: right;">Yes – Go to <b>SC 2.2</b> <b>No</b> – Go to <b>SC 2.3</b></p> <p>SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?</p> <p style="text-align: right;">Yes = <b>Category I</b> <b>No</b> = <b>Not a WHCV</b></p> <p>SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?</p> <p style="text-align: center;"><a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a></p> <p style="text-align: right;">Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b> <b>No</b> = <b>Not a WHCV</b></p> <p>SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?</p> <p style="text-align: right;">Yes = <b>Category I</b> <b>No</b> = <b>Not a WHCV</b></p>	<b>Cat. I</b>
<p><b>SC 3.0. Bogs</b></p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i></p> <p>SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile?</p> <p style="text-align: right;">Yes – Go to <b>SC 3.3</b> <b>No</b> – Go to <b>SC 3.2</b></p> <p>SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?</p> <p style="text-align: right;">Yes – Go to <b>SC 3.3</b> <b>No</b> = <b>Is not a bog</b></p> <p>SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4?</p> <p style="text-align: right;">Yes = <b>Is a Category I bog</b> <b>No</b> – Go to <b>SC 3.4</b></p> <p><b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</p> <p>SC 3.4. Is an area with peats or mucks forested (&gt; 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?</p> <p style="text-align: right;">Yes = <b>Is a Category I bog</b> <b>No</b> = <b>Is not a bog</b></p>	<b>Cat. I</b>

Wetland name or number D-S

<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <ul style="list-style-type: none"> <li>— <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>— <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b> <b>No = Not a forested wetland for this section</b></p>	<b>Cat. I</b>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> <li>— The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</li> <li>— The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b> <b>No = Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>— The wetland is larger than <math>\frac{1}{10}</math> ac (4350 ft<sup>2</sup>)</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b> <b>No = Category II</b></p>	<p style="text-align: center; vertical-align: middle;"><b>Cat. I</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. II</b></p>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <li>— Long Beach Peninsula: Lands west of SR 103</li> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b> <b>No = not an interdunal wetland for rating</b></p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?</p> <p style="text-align: right;">Yes = <b>Category I</b> <b>No – Go to SC 6.2</b></p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?</p> <p style="text-align: right;">Yes = <b>Category II</b> <b>No – Go to SC 6.3</b></p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?</p> <p style="text-align: right;">Yes = <b>Category III</b> <b>No = Category IV</b></p>	<p style="text-align: center; vertical-align: middle;"><b>Cat I</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. II</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. III</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. IV</b></p>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p>N/A</p>



Wetland name or number D-S

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Wetland name or number E-S

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): N.E. Lockwood Creek Road Date of site visit: 12/07/2018

Rated by Ryan Thiele Trained by Ecology?  Yes  No Date of training 10/31/2018

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

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

Source of base aerial photo/map \_\_\_\_\_

**OVERALL WETLAND CATEGORY IV** (based on functions  or special characteristics )

### 1. Category of wetland based on FUNCTIONS

\_\_\_\_\_ Category I – Total score = 23 - 27

\_\_\_\_\_ Category II – Total score = 20 - 22

\_\_\_\_\_ Category III – Total score = 16 - 19

Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H M <u>L</u>	H M <u>L</u>	H M <u>L</u>	
Landscape Potential	H M <u>L</u>	H M <u>L</u>	<u>H</u> M L	
Value	<u>H</u> M L	H <u>M</u> L	H M <u>L</u>	<b>TOTAL</b>
Score Based on Ratings	<b>5</b>	<b>4</b>	<b>5</b>	<b>14</b>

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

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

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

Wetland name or number E-S

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	Figure B1
Hydroperiods	D 1.4, H 1.2	Figure B2
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	Figure B2
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	Figure B1
Map of the contributing basin	D 4.3, D 5.3	Figure B4
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	Figure B9
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	Figure B13
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	Figure B14

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

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

## HGM Classification of Wetlands in Western Washington

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

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

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

NO – go to 2

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

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

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

**YES – Freshwater Tidal Fringe**

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

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

NO – go to 3

**YES** – The wetland class is **Flats**

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

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

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

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

NO – go to 4

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

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

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

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

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

NO – go to 5

**YES** – The wetland class is **Slope**

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

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

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

The overbank flooding occurs at least once every 2 years.

Wetland name or number E-S

NO – go to 6

**YES** – The wetland class is **Riverine**

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

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

NO – go to 7

**YES** – The wetland class is **Depressional**

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

NO – go to 8

**YES** – The wetland class is **Depressional**

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

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

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

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

Wetland name or number E-S

<b>DEPRESSIONAL AND FLATS WETLANDS</b>		
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>		
<b>D 1.0. Does the site have the potential to improve water quality?</b>		
D 1.1. <u>Characteristics of surface water outflows from the wetland:</u> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	points = 3 points = 2 points = 1 points = 1	2
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 No = 0		0
D 1.3. <u>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</u> Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > 1/10 of area Wetland has persistent, ungrazed plants < 1/10 of area	points = 5 points = 3 points = 1 points = 0	0
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ¼ total area of wetland Area seasonally ponded is < ¼ total area of wetland	points = 4 points = 2 points = 0	2
Total for D 1		4

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

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	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		0

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

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	Yes = 2 No = 0	2
Total for D 3		4

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

Wetland name or number E-S

**DEPRESSIONAL AND FLATS WETLANDS**

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

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	2
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	
<b>D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.</b>		
Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	1
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
The wetland is a "headwater" wetland	points = 3	
Wetland is flat but has small depressions on the surface that trap water	points = 1	
Marks of ponding less than 0.5 ft (6 in)	points = 0	
<b>D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</b>		
The area of the basin is less than 10 times the area of the unit	points = 5	0
The area of the basin is 10 to 100 times the area of the unit	points = 3	
The area of the basin is more than 100 times the area of the unit	points = 0	
Entire wetland is in the Flats class	points = 5	
<b>Total for D 4</b>	<b>Add the points in the boxes above</b>	<b>3</b>

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

<b>D 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>		
<b>D 5.1. Does the wetland receive stormwater discharges?</b>	Yes = 1 No = 0	0
<b>D 5.2. Is &gt;10% of the area within 150 ft of the wetland in land uses that generate excess runoff?</b>	Yes = 1 No = 0	0
<b>D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at &gt;1 residence/ac, urban, commercial, agriculture, etc.)?</b>	Yes = 1 No = 0	0
<b>Total for D 5</b>	<b>Add the points in the boxes above</b>	<b>0</b>

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

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.</b>		
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):		1
• Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	
• Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
Flooding from groundwater is an issue in the sub-basin.	points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____	points = 0	
There are no problems with flooding downstream of the wetland.	points = 0	
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>	Yes = 2 No = 0	0
<b>Total for D 6</b>	<b>Add the points in the boxes above</b>	<b>1</b>

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

Wetland name or number E-S

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

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

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

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

0

H 1.2. Hydroperiods

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

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- Saturated only 1 type present: points = 0
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** **2 points**
- Freshwater tidal wetland** **2 points**

0

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

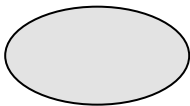
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

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

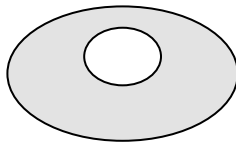
1

H 1.4. Interspersion of habitats

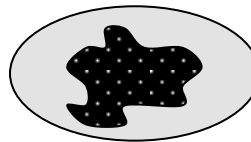
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



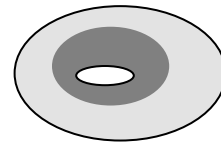
None = 0 points



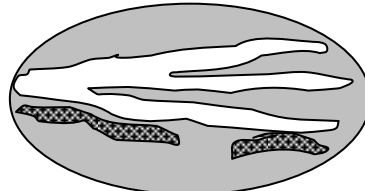
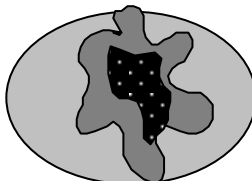
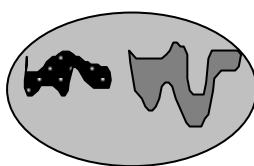
Low = 1 point



Moderate = 2 points



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



0



Wetland name or number E-S

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

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

H 2.0. Does the landscape have the potential to support the habitat functions of the site?			
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p><i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>29.5</u> = <u>29.5</u> %</p> <p>If total accessible habitat is:</p> <p>&gt; 1/3 (33.3%) of 1 km Polygon <span style="float: right;">points = 3</span></p> <p>20-33% of 1 km Polygon <span style="float: right;">points = 2</span></p> <p>10-19% of 1 km Polygon <span style="float: right;">points = 1</span></p> <p>&lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>			2
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p><i>Calculate:</i> % undisturbed habitat <u>31</u> + [(% moderate and low intensity land uses)/2] <u>29.5</u> = <u>60.5</u> %</p> <p>Undisturbed habitat &gt; 50% of Polygon <span style="float: right;">points = 3</span></p> <p>Undisturbed habitat 10-50% and in 1-3 patches <span style="float: right;">points = 2</span></p> <p>Undisturbed habitat 10-50% and &gt; 3 patches <span style="float: right;">points = 1</span></p> <p>Undisturbed habitat &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>			3
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>&gt; 50% of 1 km Polygon is high intensity land use <span style="float: right;">points = (- 2)</span></p> <p>≤ 50% of 1 km Polygon is high intensity <span style="float: right;">points = 0</span></p>			0
Total for H 2	Add the points in the boxes above	5	

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

H 3.0. Is the habitat provided by the site valuable to society?			
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: <span style="float: right;">points = 2</span></p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m <span style="float: right;">points = 1</span></p> <p>Site does not meet any of the criteria above <span style="float: right;">points = 0</span></p>			0

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

## WDFW Priority Habitats

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

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

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

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

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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

Wetland name or number E-S

<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife’s forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <ul style="list-style-type: none"> <li>— <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>— <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b>   <b>No</b> = <b>Not a forested wetland for this section</b></p>	<p><b>Cat. I</b></p>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> <li>— The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</li> <li>— The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>   <b>No</b> = <b>Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</li> <li>— The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b>   No = <b>Category II</b></p>	<p style="text-align: center; vertical-align: middle;"><b>Cat. I</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. II</b></p>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <li>— Long Beach Peninsula: Lands west of SR 103</li> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>   <b>No</b> = <b>not an interdunal wetland for rating</b></p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  <span style="float: right;">Yes = <b>Category I</b>   <b>No</b> – Go to <b>SC 6.2</b></span></p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  <span style="float: right;">Yes = <b>Category II</b>   <b>No</b> – Go to <b>SC 6.3</b></span></p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  <span style="float: right;">Yes = <b>Category III</b>   <b>No</b> = <b>Category IV</b></span></p>	<p style="text-align: center; vertical-align: middle;"><b>Cat I</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. II</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. III</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. IV</b></p>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p><b>N/A</b></p>

Wetland name or number E-S

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Wetland name or number D-N

# RATING SUMMARY – Western Washington

Name of wetland (or ID #): NE Lockwood Creek Rd. - Wetland D-N Date of site visit: 9/20/18  
 Rated by Alex Sherman Trained by Ecology?<sup>x</sup> Yes \_\_\_ No \_\_\_ Date of training 9/18/17  
 HGM Class used for rating Slope Wetland has multiple HGM classes? \_\_\_Y \_\_\_x\_\_\_N

**NOTE: Form is not complete without the figures requested (figures can be combined).**  
 Source of base aerial photo/map ArcGIS World Imagery Basemap

**OVERALL WETLAND CATEGORY IV** (based on functions X or special characteristics \_\_\_)

## 1. Category of wetland based on FUNCTIONS

- \_\_\_\_\_ Category I – Total score = 23 - 27
- \_\_\_\_\_ Category II – Total score = 20 - 22
- \_\_\_\_\_ Category III – Total score = 16 - 19
- X Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H M <u>L</u>	H M <u>L</u>	H M <u>L</u>	
Landscape Potential	H <u>M</u> L	H M <u>L</u>	<u>H</u> M L	
Value	<u>H</u> M L	H <u>M</u> L	H M <u>L</u>	<b>TOTAL</b>
Score Based on Ratings	<b>5</b>	<b>4</b>	<b>5</b>	<b>14</b>

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

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

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	Not Applicable

Wetland name or number D-N

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	B1
Hydroperiods	H 1.2	B2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	B3
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	B3
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	B1
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	B10
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	B13
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	B14

## HGM Classification of Wetlands in Western Washington

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

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

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

**NO – go to 2**

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

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

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

**YES – Freshwater Tidal Fringe**

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

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

**NO – go to 3**

**YES – The wetland class is Flats**

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

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

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

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

**NO – go to 4**

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

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

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

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

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

**NO – go to 5**

**YES – The wetland class is Slope**

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

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

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

The overbank flooding occurs at least once every 2 years.



Wetland name or number \_D-N\_

### SLOPE WETLANDS

#### 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 the average slope of the wetland: <i>(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)</i>			
Slope is 1% or less	points = 3		3
Slope is > 1%-2%	points = 2		
Slope is > 2%-5%	points = 1		
Slope is greater than 5%	points = 0		
S 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic <i>(use NRCS definitions)</i> : Yes = 3 No = 0			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 have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</i>			
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6		0
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	3

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

*Record the rating on the first page*

S 2.0. Does the landscape have the potential to support the water quality function of the site?			
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?			
	Yes = 1 No = 0		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		0
Total for S 2		Add the points in the boxes above	0

**Rating of Landscape Potential** If score is: 1-2 = M X 0 = L

*Record the rating on the first page*

S 3.0. Is the water quality improvement provided by the site valuable to society?			
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?			
	Yes = 1 No = 0		1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? <i>At least one aquatic resource in the basin is on the 303(d) list.</i>			
	Yes = 1 No = 0		1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the basin in which unit is found.</i>			
	Yes = 2 No = 0		2
Total for S 3		Add the points in the boxes above	4

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

*Record the rating on the first page*

Wetland name or number   D-N  

**SLOPE WETLANDS**

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

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

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually &gt; 1/8 in), or dense enough, to remain erect during surface flows.</i>		
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	points = 1	0
All other conditions	points = 0	

**Rating of Site Potential** If score is:    1 = M    0 = L

*Record the rating 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 or cover that generate excess surface runoff?	Yes = 1 No = 0	
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**Rating of Landscape Potential** If score is:    1 = M    0 = L

*Record the rating on the first page*

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

S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	points = 2	1
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
Total for S 6	Add the points in the boxes above	1

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

*Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number \_D-N\_

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

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

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

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

H 1.2. Hydroperiods

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

- Permanently flooded or inundated 4 or more types present: points = 3
  - Seasonally flooded or inundated 3 types present: points = 2
  - Occasionally flooded or inundated 2 types present: points = 1
  - Saturated only 1 type present: points = 0
  - Permanently flowing stream or river in, or adjacent to, the wetland
  - Seasonally flowing stream in, or adjacent to, the wetland
  - Lake Fringe wetland** **2 points**
  - Freshwater tidal wetland** **2 points**
- 0

H 1.3. Richness of plant species

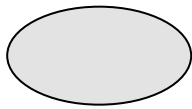
Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

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

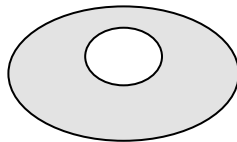
- If you counted: > 19 species points = 2
  - 5 - 19 species points = 1
  - < 5 species points = 0
- 0

H 1.4. Interspersion of habitats

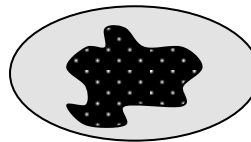
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



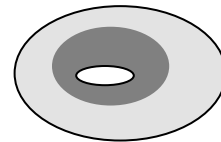
None = 0 points



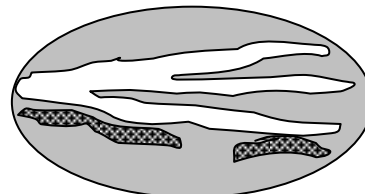
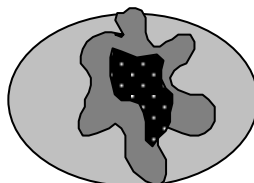
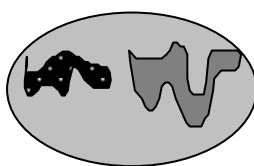
Low = 1 point



Moderate = 2 points



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



0

Wetland name or number   D-N  

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input checked="" type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		1
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   X  0-6   = L *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p><i>Calculate:</i>           % undisturbed habitat <u>  13  </u> + [(% moderate and low intensity land uses)/2] <u>  13  </u> = <u>  26  </u> %</p> <p>If total accessible habitat is:</p> <p>&gt; 1/3 (33.3%) of 1 km Polygon <span style="float: right;">points = 3</span></p> <p>20-33% of 1 km Polygon <span style="float: right;">points = 2</span></p> <p>10-19% of 1 km Polygon <span style="float: right;">points = 1</span></p> <p>&lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>		2
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p><i>Calculate:</i>           % undisturbed habitat <u>  27  </u> + [(% moderate and low intensity land uses)/2] <u>  24  </u> = <u>  51  </u> %</p> <p>Undisturbed habitat &gt; 50% of Polygon <span style="float: right;">points = 3</span></p> <p>Undisturbed habitat 10-50% and in 1-3 patches <span style="float: right;">points = 2</span></p> <p>Undisturbed habitat 10-50% and &gt; 3 patches <span style="float: right;">points = 1</span></p> <p>Undisturbed habitat &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>		3
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>&gt; 50% of 1 km Polygon is high intensity land use <span style="float: right;">points = (- 2)</span></p> <p>≤ 50% of 1 km Polygon is high intensity <span style="float: right;">points = 0</span></p>		0
Total for H 2	Add the points in the boxes above	5

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

H 3.0. Is the habitat provided by the site valuable to society?		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: <span style="float: right;">points = 2</span></p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m <span style="float: right;">points = 1</span></p> <p>Site does not meet any of the criteria above <span style="float: right;">points = 0</span></p>		0

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

Wetland name or number \_D-N\_

## WDFW Priority Habitats

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

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

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

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

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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

Wetland name or number D-N\_\_

<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <ul style="list-style-type: none"> <li>— <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>— <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b> No = <b>Not a forested wetland for this section</b></p>	<p><b>Cat. I</b></p>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> <li>— The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</li> <li>— The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b> No = <b>Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>— The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b> No = <b>Category II</b></p>	<p style="text-align: center; vertical-align: middle;"><b>Cat. I</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. II</b></p>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <li>— Long Beach Peninsula: Lands west of SR 103</li> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b> No = <b>not an interdunal wetland for rating</b></p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  <span style="float: right;">Yes = <b>Category I</b> No – Go to <b>SC 6.2</b></span></p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  <span style="float: right;">Yes = <b>Category II</b> No – Go to <b>SC 6.3</b></span></p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  <span style="float: right;">Yes = <b>Category III</b> No = <b>Category IV</b></span></p>	<p style="text-align: center; vertical-align: middle;"><b>Cat I</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. II</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. III</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. IV</b></p>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p><b>NA</b></p>

Wetland name or number E-N

# RATING SUMMARY – Western Washington

Name of wetland (or ID #): NE Lockwood Creek Rd/North - Wetland E-N Date of site visit: 9/20/18  
 Rated by Alex Sherman Trained by Ecology?  Yes  No Date of training 9/18/17  
 HGM Class used for rating Slope Wetland has multiple HGM classes?  Y  N

**NOTE: Form is not complete without the figures requested (figures can be combined).**  
 Source of base aerial photo/map ArcGIS World Imagery

**OVERALL WETLAND CATEGORY IV** (based on functions  or special characteristics )

## 1. Category of wetland based on FUNCTIONS

- Category I – Total score = 23 - 27
- Category II – Total score = 20 - 22
- Category III – Total score = 16 - 19
- Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H M <u>L</u>	H M <u>L</u>	H M <u>L</u>	
Landscape Potential	H <u>M</u> L	H M <u>L</u>	<u>H</u> M L	
Value	<u>H</u> M L	H <u>M</u> L	H M <u>L</u>	<b>TOTAL</b>
<b>Score Based on Ratings</b>	<b>6</b>	<b>4</b>	<b>5</b>	<b>15</b>

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

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

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	Not Applicable



Wetland name or number   E-N  

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet <i>(can be added to map of hydroperiods)</i>	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland <i>(can be added to another figure)</i>	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	B1
Hydroperiods	H 1.2	B2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	B3
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants <i>(can be added to figure above)</i>	S 4.1	B3
Boundary of 150 ft buffer <i>(can be added to another figure)</i>	S 2.1, S 5.1	B1
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	B11
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	B13
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	B14

## HGM Classification of Wetlands in Western Washington

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

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

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

**NO – go to 2**

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

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

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

**YES – Freshwater Tidal Fringe**

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

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

**NO – go to 3**

**YES – The wetland class is Flats**

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

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

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

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

**NO – go to 4**

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

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

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

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

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

**NO – go to 5**

**YES – The wetland class is Slope**

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

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

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

The overbank flooding occurs at least once every 2 years.

Wetland name or number E-N

### **SLOPE WETLANDS**

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

<b>S 1.0. Does the site have the potential to improve water quality?</b>		
<b>S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)</b> Slope is 1% or less <span style="float: right;">points = 3</span> Slope is > 1%-2% <span style="float: right;">points = 2</span> Slope is > 2%-5% <span style="float: right;">points = 1</span> Slope is greater than 5% <span style="float: right;">points = 0</span>		<b>3</b>
<b>S 1.2. The soil <u>2</u> in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):</b> Yes = 3 No = 0		<b>0</b>
<b>S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:</b> Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</i> Dense, uncut, herbaceous plants > 90% of the wetland area <span style="float: right;">points = 6</span> Dense, uncut, herbaceous plants > ½ of area <span style="float: right;">points = 3</span> Dense, woody, plants > ½ of area <span style="float: right;">points = 2</span> Dense, uncut, herbaceous plants > ¼ of area <span style="float: right;">points = 1</span> Does not meet any of the criteria above for plants <span style="float: right;">points = 0</span>		<b>0</b>
Total for S 1 <span style="float: right;">Add the points in the boxes above</span>		<b>3</b>

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

*Record the rating on the first page*

<b>S 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
<b>S 2.1. Is &gt; 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?</b> <span style="float: right;">Yes = 1 No = 0</span>		<b>1</b>
<b>S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?</b> Other sources <u>oil, heavy metals</u> <span style="float: right;">Yes = 1 No = 0</span>		<b>1</b>
Total for S 2 <span style="float: right;">Add the points in the boxes above</span>		<b>2</b>

**Rating of Landscape Potential** If score is: X 1-2 = M 0 = L

*Record the rating on the first page*

<b>S 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
<b>S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?</b> <span style="float: right;">Yes = 1 No = 0</span>		<b>1</b>
<b>S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? <i>At least one aquatic resource in the basin is on the 303(d) list.</i></b> <span style="float: right;">Yes = 1 No = 0</span>		<b>1</b>
<b>S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the basin in which unit is found.</i></b> <span style="float: right;">Yes = 2 No = 0</span>		<b>2</b>
Total for S 3 <span style="float: right;">Add the points in the boxes above</span>		<b>4</b>

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

*Record the rating on the first page*

Wetland name or number \_E-N\_\_

**SLOPE WETLANDS**

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

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

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually &gt; 1/8 in), or dense enough, to remain erect during surface flows.</i>	
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	points = 1
All other conditions	points = 0
	0

**Rating of Site Potential** If score is:    1 = M    0 = L

*Record the rating 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 or cover that generate excess surface runoff?	Yes = 1 No = 0	1
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**Rating of Landscape Potential** If score is:    1 = M    0 = L

*Record the rating on the first page*

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

S 6.1. Distance to the nearest areas downstream that have flooding problems:		
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	points = 2	1
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	

S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
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Total for S 6	Add the points in the boxes above	1
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**Rating of Value** If score is:    2-4 = H    1 = M    0 = L

*Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number E-N

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

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

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

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

1

**H 1.2. Hydroperiods**

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

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

0

**H 1.3. Richness of plant species**

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

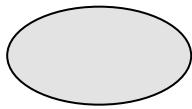
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

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

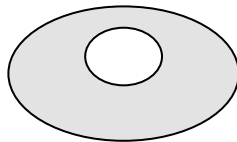
1

**H 1.4. Interspersion of habitats**

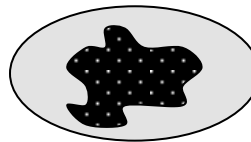
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



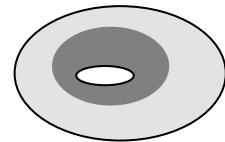
None = 0 points



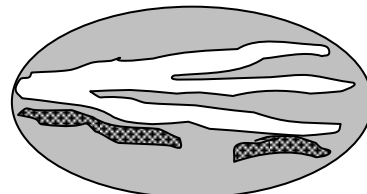
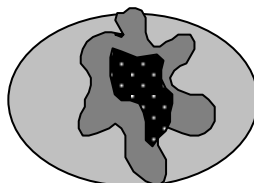
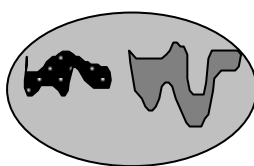
Low = 1 point



Moderate = 2 points



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



1

Wetland name or number E-N \_\_

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

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

H 2.0. Does the landscape have the potential to support the habitat functions of the site?			
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p><i>Calculate:</i> % undisturbed habitat <u>12</u> + [(% moderate and low intensity land uses)/2] <u>13</u> = <u>25</u> %</p> <p>If total accessible habitat is:</p> <p>&gt; 1/3 (33.3%) of 1 km Polygon <span style="float: right;">points = 3</span></p> <p>20-33% of 1 km Polygon <span style="float: right;">points = 2</span></p> <p>10-19% of 1 km Polygon <span style="float: right;">points = 1</span></p> <p>&lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>			2
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p><i>Calculate:</i> % undisturbed habitat <u>25</u> + [(% moderate and low intensity land uses)/2] <u>25</u> = <u>50</u> %</p> <p>Undisturbed habitat &gt; 50% of Polygon <span style="float: right;">points = 3</span></p> <p>Undisturbed habitat 10-50% and in 1-3 patches <span style="float: right;">points = 2</span></p> <p>Undisturbed habitat 10-50% and &gt; 3 patches <span style="float: right;">points = 1</span></p> <p>Undisturbed habitat &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>			3
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>&gt; 50% of 1 km Polygon is high intensity land use <span style="float: right;">points = (- 2)</span></p> <p>≤ 50% of 1 km Polygon is high intensity <span style="float: right;">points = 0</span></p>			0
Total for H 2	Add the points in the boxes above	5	

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

H 3.0. Is the habitat provided by the site valuable to society?			
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: <span style="float: right;">points = 2</span></p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m <span style="float: right;">points = 1</span></p> <p>Site does not meet any of the criteria above <span style="float: right;">points = 0</span></p>			0

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

Wetland name or number <sup>E-N</sup> \_ \_

## WDFW Priority Habitats

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

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

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

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

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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



Wetland name or number <sup>E-N</sup> \_\_

<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <ul style="list-style-type: none"> <li>— <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>— <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b>   No = <b>Not a forested wetland for this section</b></p>	<p><b>Cat. I</b></p>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> <li>— The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</li> <li>— The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>   No = <b>Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</li> <li>— The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b>   No = <b>Category II</b></p>	<p style="text-align: center; vertical-align: middle;"><b>Cat. I</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. II</b></p>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <li>— Long Beach Peninsula: Lands west of SR 103</li> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>   No = <b>not an interdunal wetland for rating</b></p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  <span style="float: right;">Yes = <b>Category I</b>   No – Go to <b>SC 6.2</b></span></p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  <span style="float: right;">Yes = <b>Category II</b>   No – Go to <b>SC 6.3</b></span></p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  <span style="float: right;">Yes = <b>Category III</b>   No = <b>Category IV</b></span></p>	<p style="text-align: center; vertical-align: middle;"><b>Cat I</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. II</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. III</b></p> <p style="text-align: center; vertical-align: middle;"><b>Cat. IV</b></p>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p><b>NA</b></p>

Wetland name or number F-N

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): NE Lockwood Creek Rd/North - Wetland F-N Date of site visit: 9/20/18

Rated by Alex Sherman Trained by Ecology?  Yes  No Date of training 9/18/17

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

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

Source of base aerial photo/map ArcMap World Imagery

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

### 1. Category of wetland based on FUNCTIONS

         Category I – Total score = 23 - 27

         Category II – Total score = 20 - 22

Category III – Total score = 16 - 19

         Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H M <u>L</u>	H M <u>L</u>	H M <u>L</u>	
Landscape Potential	H <u>M</u> L	H <u>M</u> L	<u>H</u> M L	
Value	<u>H</u> M L	H <u>M</u> L	H M <u>L</u>	<b>TOTAL</b>
Score Based on Ratings	<b>6</b>	<b>5</b>	<b>5</b>	<b>16</b>

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

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

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	Not Applicable

Wetland name or number F-N

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	B1
Hydroperiods	H 1.2	B2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	B3
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	B3
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	B1
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	B12
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	B13
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	B14

## HGM Classification of Wetlands in Western Washington

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

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

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

**NO – go to 2**

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

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

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

**YES – Freshwater Tidal Fringe**

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

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

**NO – go to 3**

**YES – The wetland class is Flats**

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

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

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

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

**NO – go to 4**

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

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

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

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

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

**NO – go to 5**

**YES – The wetland class is Slope**

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

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

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

The overbank flooding occurs at least once every 2 years.

Wetland name or number F-N

### SLOPE WETLANDS

#### 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 the average slope of the wetland: <i>(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)</i>		
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	3
S 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic <i>(use NRCS definitions)</i> : Yes = 3 No = 0		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 have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</i>		
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	1
Does not meet any of the criteria above for plants	points = 0	
Total for S 1	Add the points in the boxes above	4

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

*Record the rating on the first page*

S 2.0. Does the landscape have the potential to support the water quality function of the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources <u>oil, heavy metals</u>	Yes = 1 No = 0	1
Total for S 2	Add the points in the boxes above	2

**Rating of Landscape Potential** If score is: X 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 society?		
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? <i>At least one aquatic resource in the basin is on the 303(d) list.</i>	Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the basin in which unit is found.</i>	Yes = 2 No = 0	2
Total for S 3	Add the points in the boxes above	4

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

*Record the rating on the first page*

Wetland name or number  E-N

**SLOPE WETLANDS**

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

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

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually &gt; 1/8 in), or dense enough, to remain erect during surface flows.</i>		
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	points = 1	0
All other conditions	points = 0	

**Rating of Site Potential** If score is:  1 = M   X 0 = L

*Record the rating 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 or cover that generate excess surface runoff?	Yes = 1 No = 0	1
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**Rating of Landscape Potential** If score is:  X 1 = M   0 = L

*Record the rating on the first page*

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

S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	points = 2	1
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
Total for S 6	Add the points in the boxes above	1

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

*Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number \_\_ F-N \_\_

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

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

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

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

H 1.2. Hydroperiods

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

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- Saturated only 1 type present: points = 0
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** **2 points**
- Freshwater tidal wetland** **2 points**

H 1.3. Richness of plant species

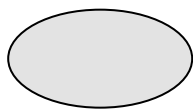
Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

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

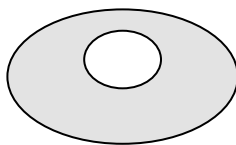
- If you counted: > 19 species points = 2
- 5 - 19 species points = 1
- < 5 species points = 0

H 1.4. Interspersion of habitats

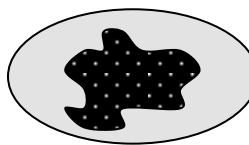
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



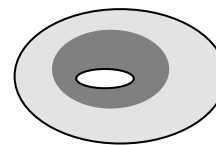
None = 0 points



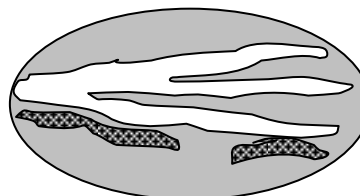
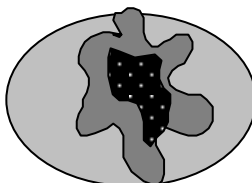
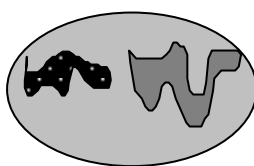
Low = 1 point



Moderate = 2 points



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



1

Wetland name or number   F-N

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

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

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p><i>Calculate:</i>           % undisturbed habitat <u>  13  </u> + [(% moderate and low intensity land uses)/2] <u>  13  </u> = <u>  26  </u> %</p> <p>If total accessible habitat is:</p> <p>&gt; 1/3 (33.3%) of 1 km Polygon <span style="float: right;">points = 3</span></p> <p>20-33% of 1 km Polygon <span style="float: right;">points = 2</span></p> <p>10-19% of 1 km Polygon <span style="float: right;">points = 1</span></p> <p>&lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>		2
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p><i>Calculate:</i>           % undisturbed habitat <u>  26  </u> + [(% moderate and low intensity land uses)/2] <u>  24  </u> = <u>  50  </u> %</p> <p>Undisturbed habitat &gt; 50% of Polygon <span style="float: right;">points = 3</span></p> <p>Undisturbed habitat 10-50% and in 1-3 patches <span style="float: right;">points = 2</span></p> <p>Undisturbed habitat 10-50% and &gt; 3 patches <span style="float: right;">points = 1</span></p> <p>Undisturbed habitat &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>		3
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>&gt; 50% of 1 km Polygon is high intensity land use <span style="float: right;">points = (- 2)</span></p> <p>≤ 50% of 1 km Polygon is high intensity <span style="float: right;">points = 0</span></p>		0
Total for H 2	Add the points in the boxes above	5

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

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: <span style="float: right;">points = 2</span></p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m <span style="float: right;">points = 1</span></p> <p>Site does not meet any of the criteria above <span style="float: right;">points = 0</span></p>		0

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



Wetland name or number <sup>F-N</sup> \_\_\_\_\_

## WDFW Priority Habitats

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

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

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

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

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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



## **APPENDIX B2**

### **WETLAND RATING FIGURES**

**FIGURE B1 – COWARDIN VEGETATION & BOUNDARY AREA**

**FIGURE B2 – HYDROPERIOD & OUTLETS**

**FIGURE B3 – PLANT COVER**

**FIGURE B4 – CONTRIBUTING BASINS**

**FIGURE B5 – LAND USE INTENSITY MAP: WETLAND A-S**

**FIGURE B6 – LAND USE INTENSITY MAP: WETLAND B-S**

**FIGURE B7 – LAND USE INTENSITY MAP: WETLAND C-S**

**FIGURE B8 – LAND USE INTENSITY MAP: WETLAND D-S**

**FIGURE B9 – LAND USE INTENSITY MAP: WETLAND E-S**

**FIGURE B10 – LAND USE INTENSITY MAP: WETLAND D-N**

**FIGURE B11 – LAND USE INTENSITY MAP: WETLAND E-N**



**FIGURE B12 – LAND USE INTENSITY MAP: WETLAND F-N**

**FIGURE B13 – 303(d) WATER QUALITY ASSESSMENT**

**FIGURE B14 – LIST OF TMDLs IN PROJECT WATERSHED**

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

### Legend

-  Boundary of Area Within 150 ft.
-  Palustrine Emergent Persistent (PEM1)



**APPLICANT:**  
 La Center School District  
 725 Northeast Highland Avenue  
 La Center, WA 98629

**PURPOSE:** Revised Wetland  
 Delineation & Assessment

### Cowardin Vegetation Map La Center Middle School La Center, Washington



**OLSON**  
 ENVIRONMENTAL  
INCORPORATED

222 E. Evergreen Blvd., Vancouver, WA 98660 ph: 360-693-4555 fax: 360-699-6242

**PROPOSED ACTIVITIES IN:**  
 East Fork of the Lewis River  
**LEGAL:** SE & NE ¼s of Section 02, T4N,  
 R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019




**Figure B1**

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0 125 250 500 Feet



**Legend**

-  Outlet
-  Seasonally Flooded
-  Occasionally Flooded

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**APPLICANT:**  
La Center School District  
725 Northeast Highland Avenue  
La Center, WA 98629

**PURPOSE:** Revised Wetland  
Delineation & Assessment

**Hydroperiod Map**  
**La Center Middle School**  
**La Center, Washington**



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**PROPOSED ACTIVITIES IN:**  
East Fork of the Lewis River  
**LEGAL:** SE & NE ¼s of Section 02, T4N,  
R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure B2**

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**APPLICANT:**  
 La Center School District  
 725 Northeast Highland Avenue  
 La Center, WA 98629

**PURPOSE:** Revised Wetland  
 Delineation & Assessment

**Plant Cover**  
**La Center Middle School**  
**La Center, Washington**



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**PROPOSED ACTIVITIES IN:**  
 East Fork of the Lewis River  
**LEGAL:** SE & NE ¼s of Section 02, T4N,  
 R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure B3**

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**APPLICANT:**  
 La Center School District  
 725 Northeast Highland Avenue  
 La Center, WA 98629

**PURPOSE:** Revised Wetland  
 Delineation & Assessment

**Contributing Basins**  
 La Center Middle School  
 La Center, Washington



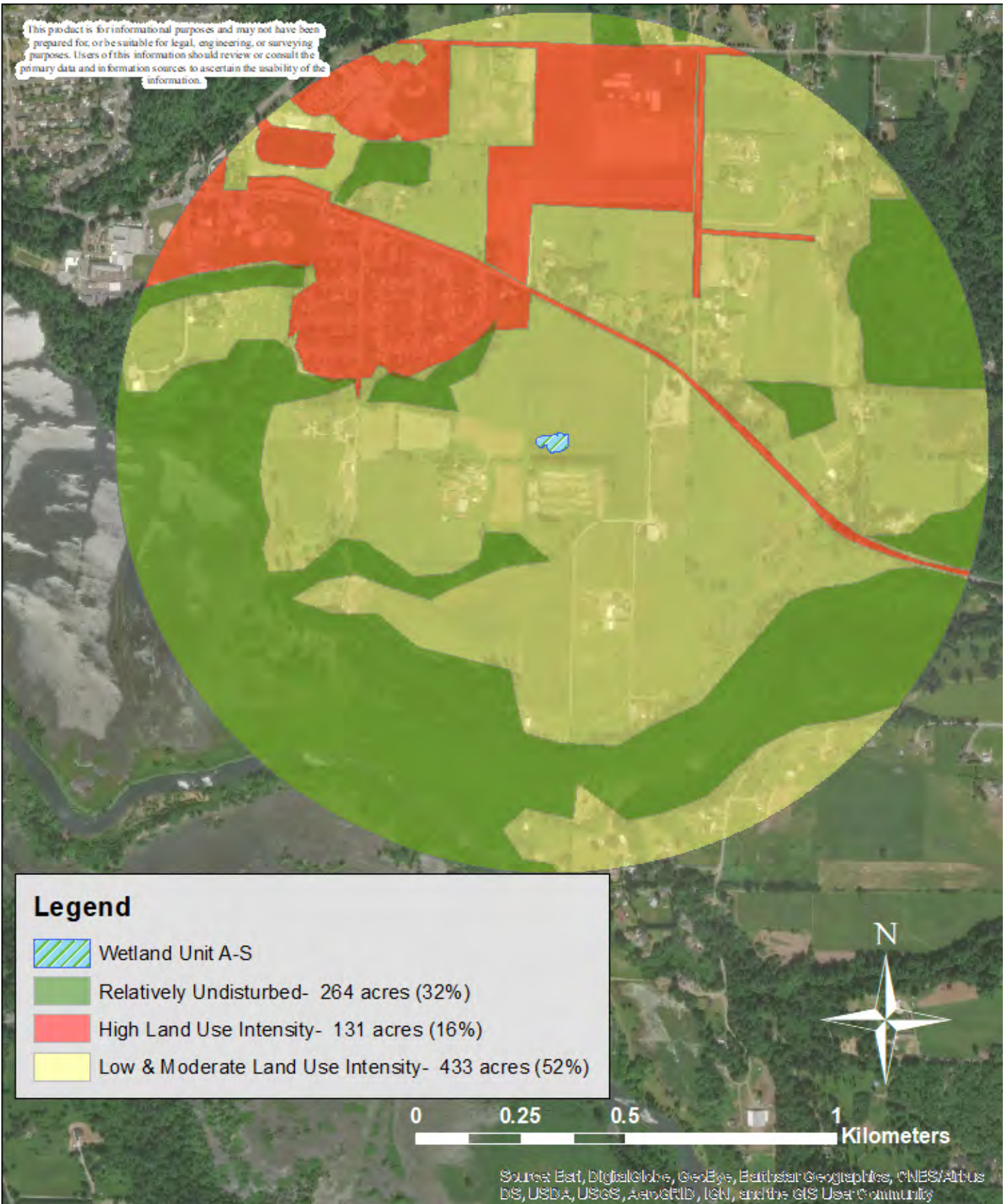
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**PROPOSED ACTIVITIES IN:**  
 East Fork of the Lewis River  
**LEGAL:** SE & NE ¼s of Section 02, T4N,  
 R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019





**Figure B4**



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**Legend**

-  Wetland Unit A-S
-  Relatively Undisturbed- 264 acres (32%)
-  High Land Use Intensity- 131 acres (16%)
-  Low & Moderate Land Use Intensity- 433 acres (52%)

0 0.25 0.5 1 Kilometers

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**APPLICANT:**  
La Center School District  
725 Northeast Highland Avenue  
La Center, WA 98629

**PURPOSE:** Revised Wetland  
Delineation & Assessment

**Wetland A-S Land-Use Intensity**  
**La Center Middle School**  
**La Center, Washington**

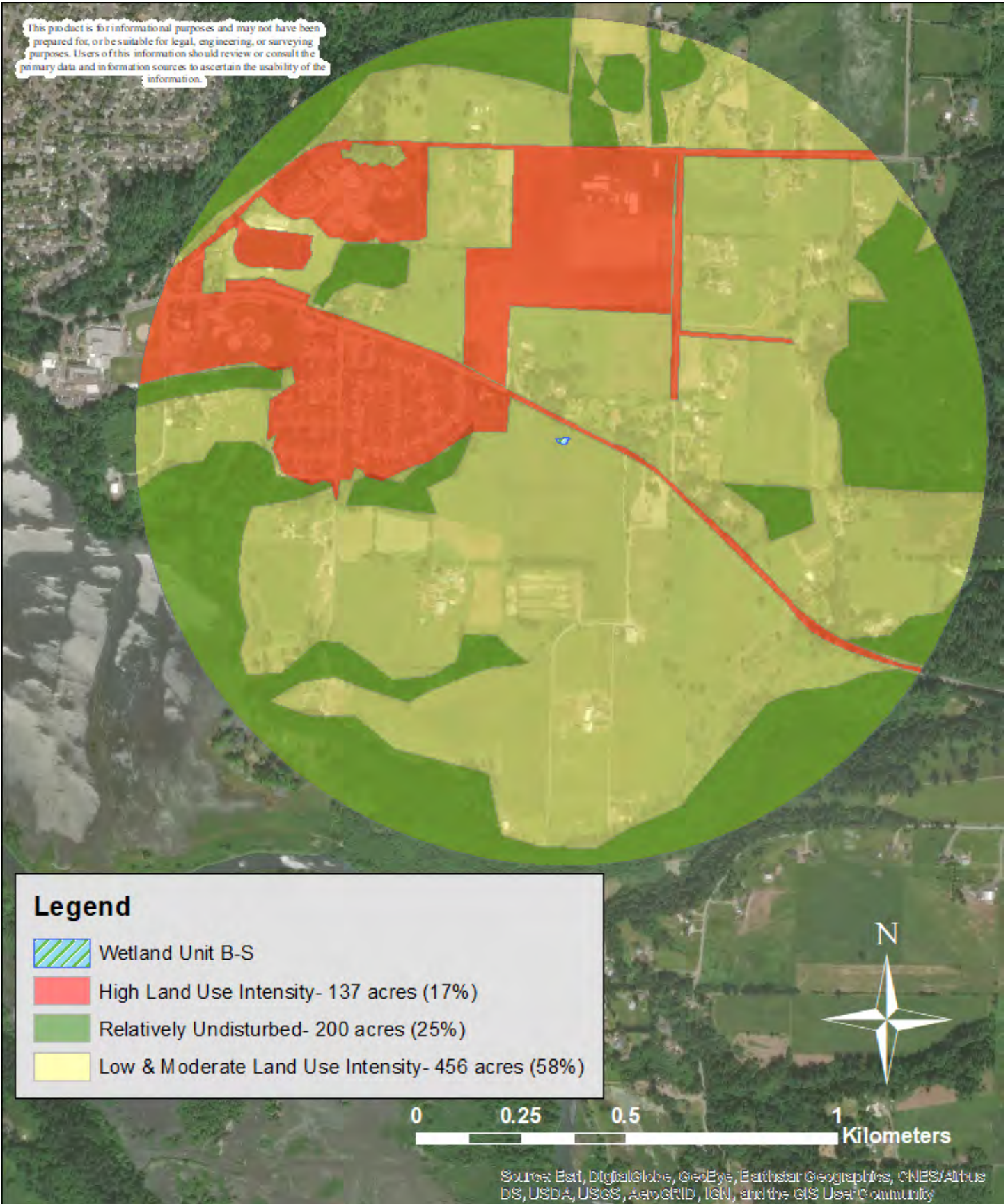


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

**PROPOSED ACTIVITIES IN:**  
East Fork of the Lewis River  
**LEGAL:** SE & NE ¼s of Section 02, T4N,  
R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure B5**

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



**Legend**

-  Wetland Unit B-S
-  High Land Use Intensity- 137 acres (17%)
-  Relatively Undisturbed- 200 acres (25%)
-  Low & Moderate Land Use Intensity- 456 acres (58%)

0 0.25 0.5 1 Kilometers

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**APPLICANT:**  
La Center School District  
725 Northeast Highland Avenue  
La Center, WA 98629

**PURPOSE:** Revised Wetland  
Delineation & Assessment

**Wetland B-S Land-Use Intensity**  
**La Center Middle School**  
**La Center, Washington**

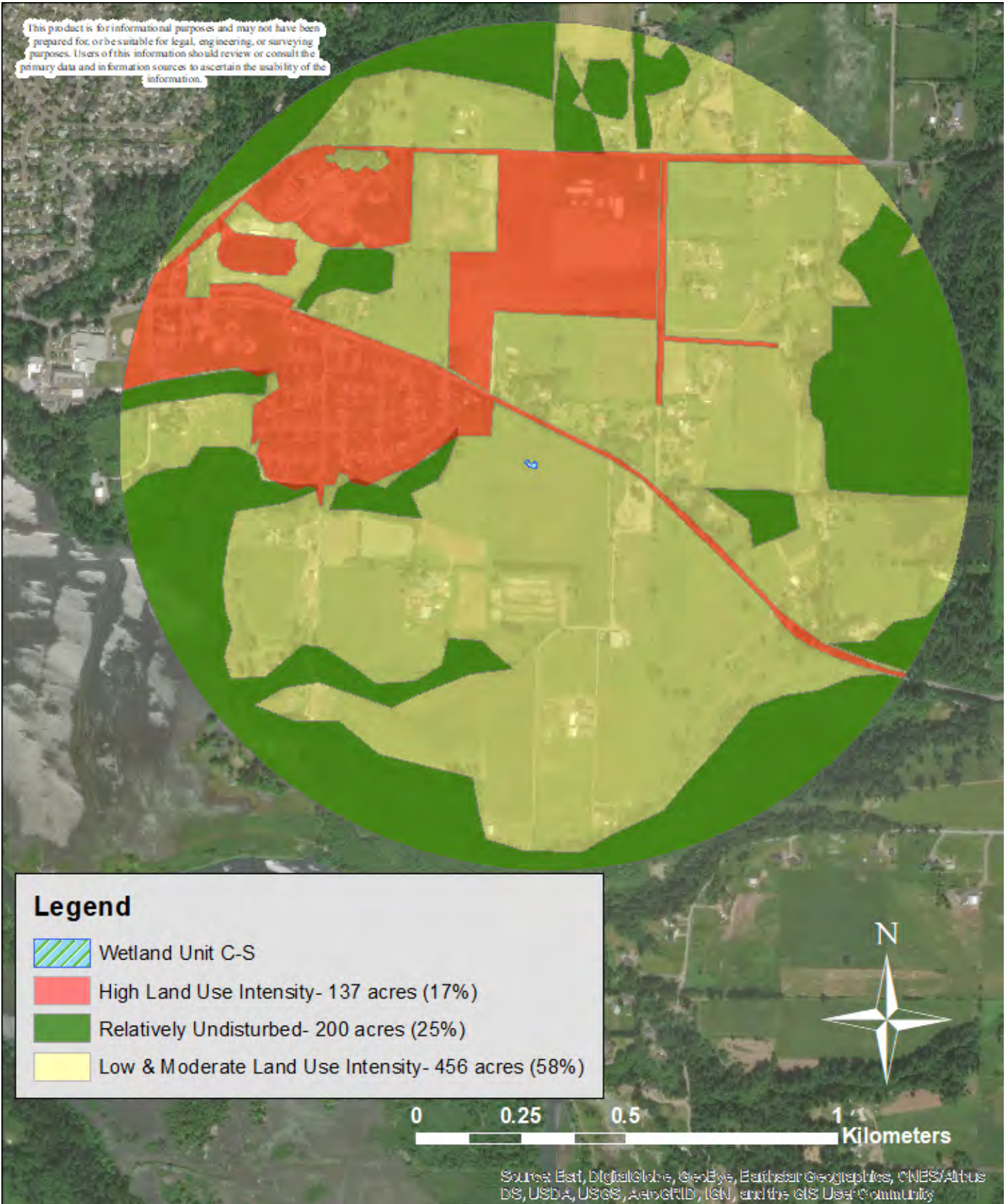


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**PROPOSED ACTIVITIES IN:**  
East Fork of the Lewis River  
**LEGAL:** SE & NE ¼s of Section 02, T4N,  
R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure B6**

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**Legend**

-  Wetland Unit C-S
-  High Land Use Intensity- 137 acres (17%)
-  Relatively Undisturbed- 200 acres (25%)
-  Low & Moderate Land Use Intensity- 456 acres (58%)

0 0.25 0.5 1 Kilometers

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**APPLICANT:**  
La Center School District  
725 Northeast Highland Avenue  
La Center, WA 98629

**PURPOSE:** Revised Wetland  
Delineation & Assessment

**Wetland C-S Land-Use Intensity**  
**La Center Middle School**  
**La Center, Washington**

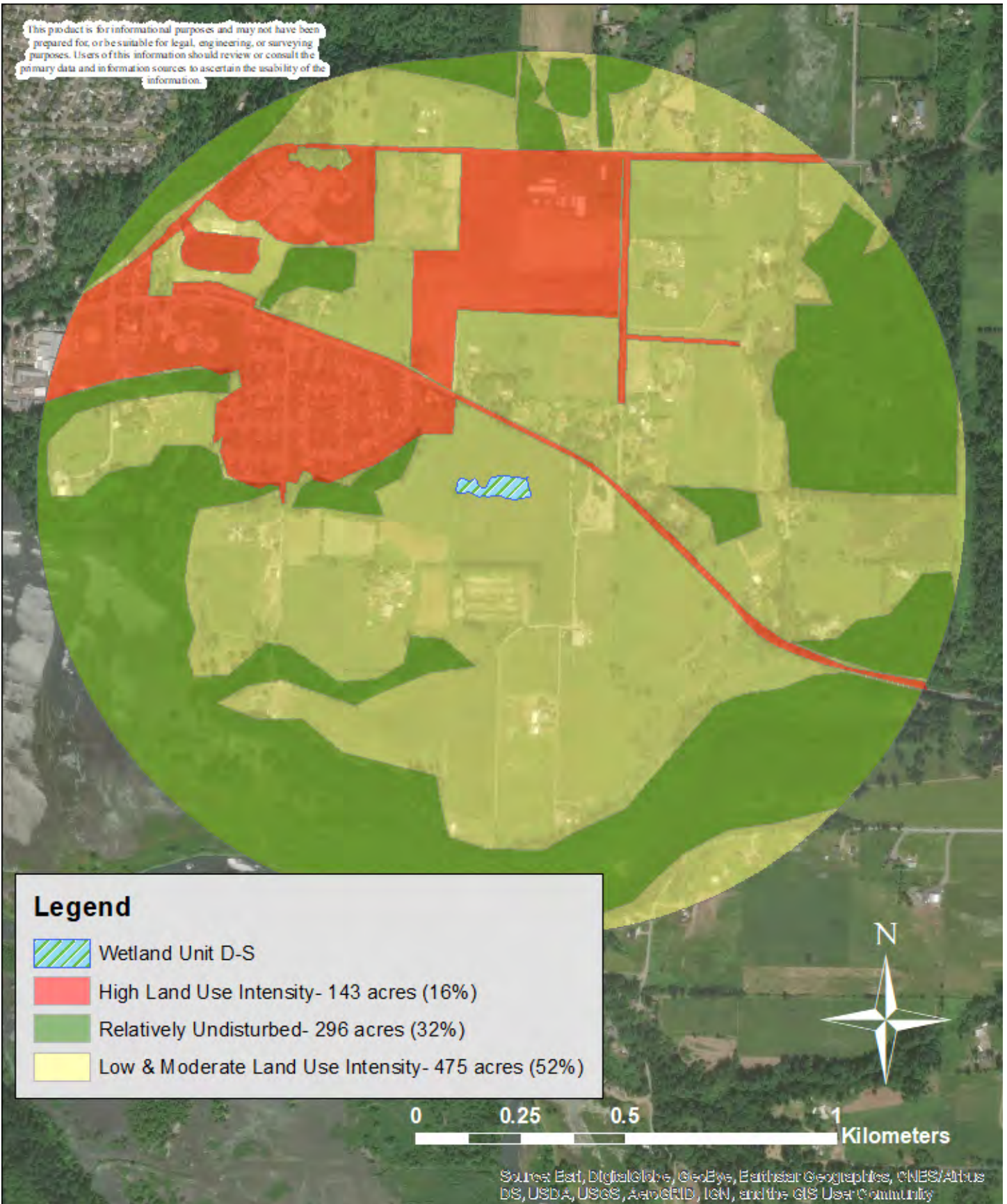


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

**PROPOSED ACTIVITIES IN:**  
East Fork of the Lewis River  
**LEGAL:** SE & NE ¼s of Section 02, T4N,  
R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure B7**

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**Legend**

-  Wetland Unit D-S
-  High Land Use Intensity- 143 acres (16%)
-  Relatively Undisturbed- 296 acres (32%)
-  Low & Moderate Land Use Intensity- 475 acres (52%)

0 0.25 0.5 1 Kilometers

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**APPLICANT:**  
La Center School District  
725 Northeast Highland Avenue  
La Center, WA 98629

**PURPOSE:** Revised Wetland  
Delineation & Assessment

**Wetland D-S Land-Use Intensity**  
**La Center Middle School**  
**La Center, Washington**

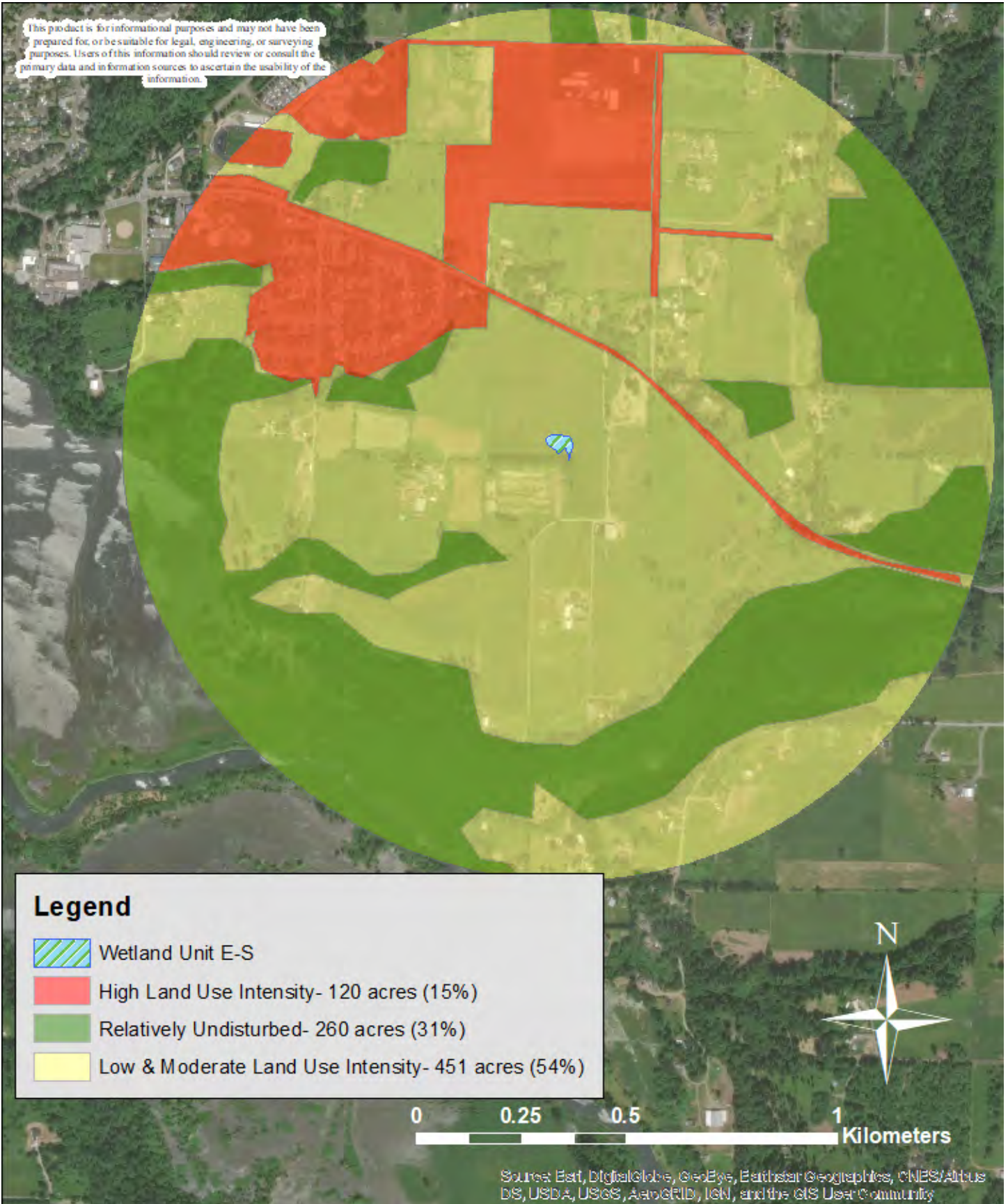


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**PROPOSED ACTIVITIES IN:**  
East Fork of the Lewis River  
**LEGAL:** SE & NE ¼s of Section 02, T4N,  
R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure B8**

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



**Legend**

-  Wetland Unit E-S
-  High Land Use Intensity- 120 acres (15%)
-  Relatively Undisturbed- 260 acres (31%)
-  Low & Moderate Land Use Intensity- 451 acres (54%)

0 0.25 0.5 1 Kilometers

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**APPLICANT:**  
 La Center School District  
 725 Northeast Highland Avenue  
 La Center, WA 98629

**PURPOSE:** Revised Wetland  
 Delineation & Assessment

**Wetland E-S Land-Use Intensity**  
**La Center Middle School**  
**La Center, Washington**

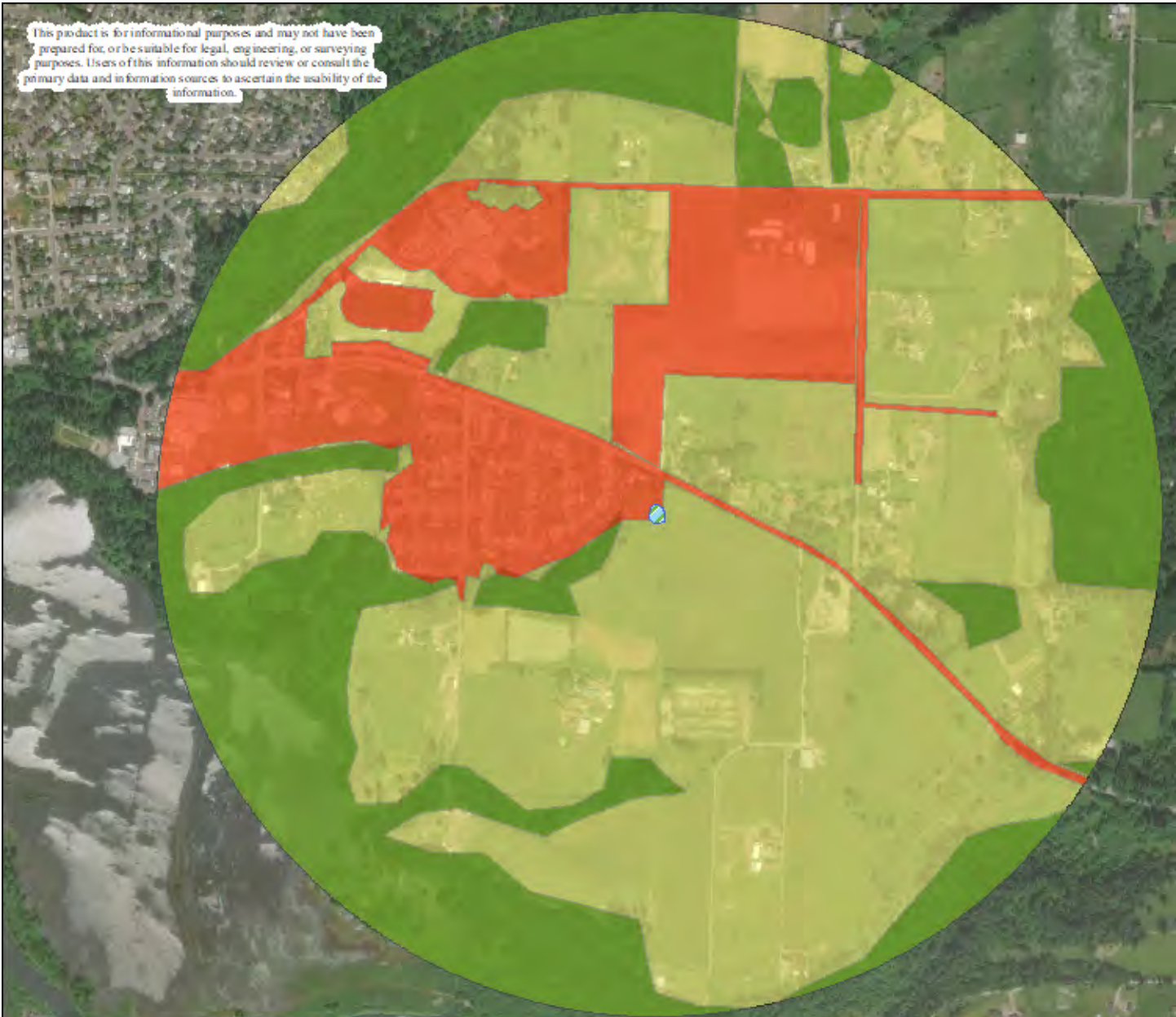


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

**PROPOSED ACTIVITIES IN:**  
 East Fork of the Lewis River  
**LEGAL:** SE & NE ¼s of Section 02, T4N,  
 R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure B9**

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



### Legend

-  Wetland Unit D-N
-  High Land Use Intensity- 145 acres (18%)
-  Relatively Undisturbed- 217 acres (27%)
-  Low & Moderate Land Use Intensity- 445 acres (55%)

0 0.25 0.5 1 Kilometers

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**APPLICANT:**  
La Center School District  
725 Northeast Highland Avenue  
La Center, WA 98629

**PURPOSE:** Revised Wetland  
Delineation & Assessment

**Wetland D-N Land-Use Intensity**  
**La Center Middle School**  
**La Center, Washington**

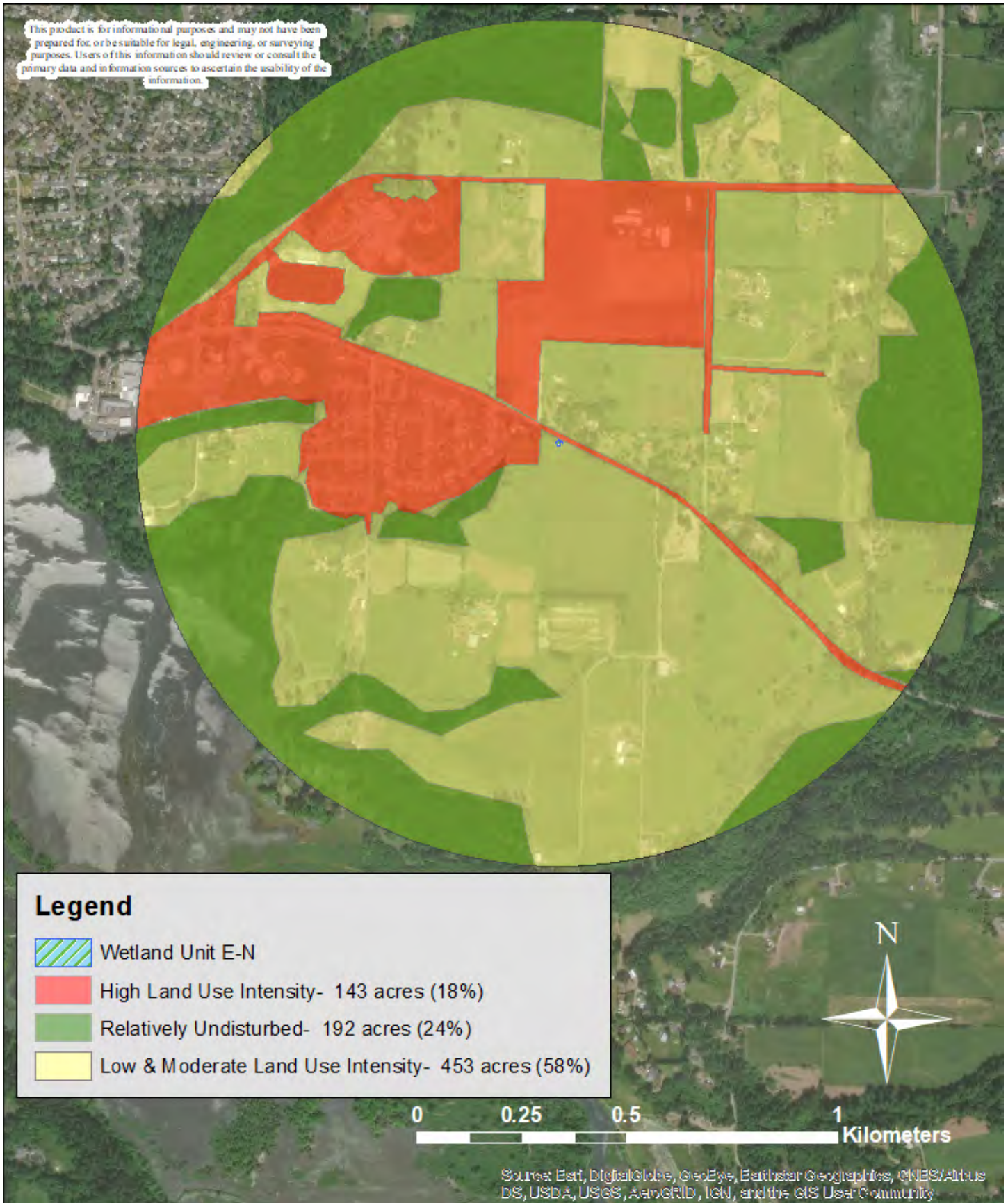


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**PROPOSED ACTIVITIES IN:**  
East Fork of the Lewis River  
**LEGAL:** SE & NE ¼s of Section 02, T4N,  
R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure B10**

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



**Legend**

-  Wetland Unit E-N
-  High Land Use Intensity- 143 acres (18%)
-  Relatively Undisturbed- 192 acres (24%)
-  Low & Moderate Land Use Intensity- 453 acres (58%)

0 0.25 0.5 1 Kilometers

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**APPLICANT:**  
 La Center School District  
 725 Northeast Highland Avenue  
 La Center, WA 98629

**PURPOSE:** Revised Wetland  
 Delineation & Assessment

**Wetland E-N Land-Use Intensity**  
**La Center Middle School**  
**La Center, Washington**

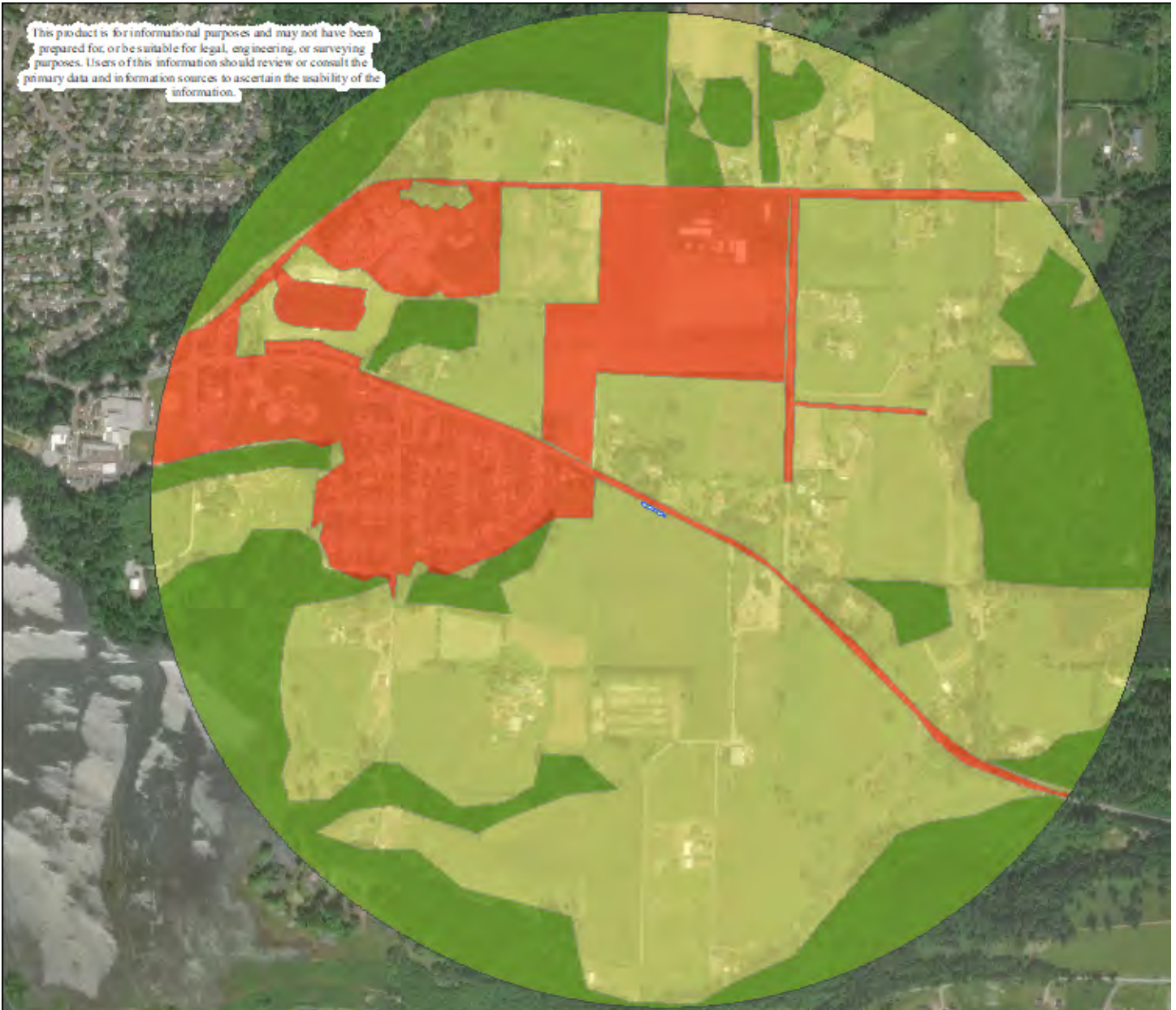


222 E. Evergreen Blvd., Vancouver, WA 98660 ph: 360-693-4555 fax: 360-699-6242





**PROPOSED ACTIVITIES IN:**  
 East Fork of the Lewis River  
**LEGAL:** SE & NE ¼s of Section 02, T4N,  
 R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure B11**

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



### Legend

-  Wetland Unit F-N
-  High Land Use Intensity- 139 acres (17%)
-  Relatively Undisturbed- 201 acres (25%)
-  Low & Moderate Land Use Intensity- 464 acres (58%)

0 0.25 0.5 1 Kilometers

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**APPLICANT:**  
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La Center, WA 98629

**PURPOSE:** Revised Wetland  
Delineation & Assessment

**Wetland F-N Land-Use Intensity**  
**La Center Middle School**  
**La Center, Washington**



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**PROPOSED ACTIVITIES IN:**  
East Fork of the Lewis River  
**LEGAL:** SE & NE ¼s of Section 02, T4N,  
R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure B12**





**APPLICANT:**  
 La Center School District  
 725 Northeast Highland Avenue  
 La Center, WA 98629

**PURPOSE:** Revised Wetland  
 Delineation & Assessment

**Ecology 303(d) Listed Waters**  
**La Center Middle School**  
**La Center, Washington**



**OLSON**  
 ENVIRONMENTAL, INC.  
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**PROPOSED ACTIVITIES IN:**  
 East Fork of the Lewis River  
**LEGAL:** SE & NE ¼s of Section 02, T4N,  
 R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure B13**

# Water Quality Improvement Projects (TMDLs)

[Water Quality Improvement](#) > [Water Quality Improvement Projects by WRIA](#) > [WRIA 27: Lewis](#)

## WRIA 27: Lewis

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



### Counties

- [Clark](#)
- [Cowlitz](#)

Waterbody Name	Pollutant(s)	Status**	TMDL Lead
<a href="#">Lewis River, E. Fork</a>	Fecal Coliform Temperature	Under Development	<a href="#">Andrew Kolosseus</a> 360-407-7543

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

**APPLICANT:**  
La Center School District  
725 Northeast Highland Avenue  
La Center, WA 98629

**PURPOSE:** Revised Wetland  
Delineation & Assessment

**TMDLs For Project Watershed**  
**La Center Middle School**  
**La Center, Washington**



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**PROPOSED ACTIVITIES IN:**  
East Fork of the Lewis River  
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R1E, W. M.  
**NEAR:** La Center, Washington  
**COUNTY:** Clark County  
**DATE:** October 29, 2019

**Figure B14**