

February 13, 2023

Mr. Mike Pruett
Segale Properties
P.O. Box 88028
Tukwila WA 98138

RE: Segale Properties Cumberland Ownership – Critical Areas Investigation
R.A.I. Project #2019-105-002

Per your request, Raedeke Associates, Inc. staff visited the 16 separate boring sites on the Segale Properties Cumberland project site on December 3 and December 10, 2019. We also visited the site on April 22 and May 14, 2021, and again on June 21, 2022, to evaluate the property for environmentally sensitive areas and review the proposed road alignment for potential conflict with wetlands, streams or their buffers. This report provides a summary of our findings regarding critical areas and is intended for project planning purposes.

PROPERTY LOCATION

The Segale Properties Cumberland project site consists of an approximately 1,000-acre assemblage located north of Cumberland and south of the Green River in unincorporated King County, Washington. The project site consists of 8 different parcels spread across Sections 9, 15, 17, and 21 of Township 21 North, Range 7 East. The project site includes King County Tax Parcel Nos. 1721079001, 0921079001, 1521079008, 1521079009, 2121079006, 2121079029, 2121079009, and 2121079005. Parcel maps retrieved on-line from King County depict the property boundaries. Figure 1 depicts the study area discussed in this report.

Nearby land uses include King County Department of Natural Resources (KCDNR) forestland to the west and north of the site, single-family residences and small businesses to the south of the site, and Cumberland-Kanaskat Rd SE to the east. Any offsite critical areas or their preliminary buffers do not extend onto the project site or are interrupted by developed roads.

METHODOLOGY

Wetlands and streams are protected by federal law as well as by state and local regulations. Federal law (Section 404 of the Clean Water Act) prohibits the discharge of

dredged or fill material into “Waters of the United States,” including certain wetlands, without a permit from the U.S. Army Corps of Engineers (COE 2022). The COE makes the final determination whether an area meets the definition of a wetland and whether the wetland is under their jurisdiction.

The COE wetland definition was used to determine if any portions of the project area could be classified as wetland. A wetland is defined as an area “inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (Federal Register 1986:41251).

We based our investigation upon the guidelines of the U. S. Army Corps of Engineers (COE) Wetlands Delineation Manual (Environmental Laboratory 1987) and subsequent amendments and clarifications provided by the COE (1991a, 1991b, 1992, 1994), as updated for this area by the regional supplement to the COE wetland delineation manual for the Western Mountains, Valleys, and Coast Region (COE 2010). The COE wetlands manual is required by state law (WAC 173-22-035, as revised) for all local jurisdictions, including unincorporated King County.

During the December 2019 field investigations, we surveyed the areas within 200 feet of all proposed geological test pit locations. During our April and May 2021 field investigations, field staff conducted transects approximately 50 feet apart throughout the project area to investigate for the presence of wetlands, streams, or fish and wildlife habitat. Due to the large and generally homogeneous nature of the site, formal sample plots were limited to the areas identified for test pits and areas where conditions differed noticeably from the typical vegetation community. General descriptions of site conditions were made during each transect to document the site conditions. During our June 2022 field visit, we surveyed a 300 foot radius within proximity of the proposed road alignment in the eastern portion of the project site.

BACKGROUND REVIEW

Prior to conducting our site visit, we reviewed existing background maps and information for the project site from the U.S.D.A. Natural Resource Conservation Service (NRCS 2019) Web Soil Survey, the U.S. Fish and Wildlife (USFWS 2019) National Wetland Inventory (NWI), King County (2023a) iMap, Washington Department of Fish and Wildlife (2019) PHS database, and the WDFW Salmonscape (2019) in order to assist in our determination of whether wetlands were present within the property or its vicinity. We also reviewed current and historical aerial photographs (Google Earth 2019) to assist in the definition of existing plant communities, drainage patterns, and land use.

The USDA NRCS (2019) Web Soil Survey identifies Barneston soil series in most of the study area. Barneston soils derive from a volcanic ash mixed with loess over sandy or gravelly glacial outwash and are classified as somewhat excessively drained. Although the Barneston soil series is not listed as a hydric soil on either the state or national hydric soils list, it may contain the following potential hydric soil inclusions: Norma soils (NRCS 2019; U.S.D.A. Soil Conservation Service 1991, Federal Register 1995). Additionally, the Web Soil Survey identifies Arents soil series in a small portion of the southwest corner of the project site. Arents soils derive from volcanic ash and glacial drift and are classified as well drained. The Arents soil series is not listed as a hydric soil on either the state or national hydric soils list, though it may contain the following potential hydric soil inclusions: Norma, undrained (NRCS 2019; U.S.D.A. Soil Conservation Service 1991, Federal Register 1995). In the eastern portion of the project site, the Web Soil Series identifies the presence of Beausite soil series. Beausite soils are well drained and have a parent material of glacial till and colluvium derived from sandstone. Soil boundaries or mapping units are mapped from aerial photographs with limited field verification. Thus, the location and extent of boundaries between mapping units may not be accurate for a given parcel of land within the survey area.

The USFWS (2019) NWI depicts an unnamed stream originating from the northwest slopes of the offsite portion of the 1,474-foot-high summit on the DNR parcel in Section 16, also known as Lizard Mountain. This wetland is classified as an unknown perennial, unconsolidated bottom, permanently flooded riverine system. This feature is mapped as flowing southwest through the DNR parcel and crossing the project area on parcel 2121079006 (Figure 2). While the Washington Department of Fish and Wildlife (WDFW 2019) Salmonscape map also depicts this stream, the King County (2023a) iMap does not identify this stream.

The Green River, which lies outside the project site to the north and west, is identified by the NWI as a riverine wetland. The NWI also depicts several small tributaries to the Green River, including two on the western edge of the project area. Wetlands shown on the NWI are general in terms of location and extent, as they are determined primarily from aerial photograph interpretation. Thus, the number and extent of existing wetlands within the project area may differ from those marked on an NWI map. The King County (2023a) iMap does not depict any other streams or wetlands on or within the vicinity of the project site.

EXISTING CONDITIONS

During our December 3 and December 10, 2019, site visits, we did not identify any wetlands or streams on or within 200 feet of the 16 proposed drilling sites throughout the project site. During our April and May 2021 field visits, we surveyed the remainder of the project site and did not identify any wetlands. We identified one stream (Stream 1)

on the northern portion of Section 21, in the central portion of the study area. During our June 21, 2022 site visit, we did not identify any wetlands or streams on or within 300 feet of the proposed road access from Cumberland-Kanaskat Rd SE (Figure 3). The site contains upland second-growth Douglas Fir - Hemlock forest, former logging roads, and one observed outbuilding on the southwestern edge.

Vegetation throughout the site is dominated by a second-growth upland forest community. The canopy is dominated by Douglas fir (*Pseudotsuga menziesii*, FACU) and western hemlock (*Tsuga heterophylla*, FACU), with some areas of western arborvitae (*Thuja plicata*, FAC). The understory primarily consists of vine maple (*Acer circinatum*, FAC), salal (*Gaultheria shallon* FACU), dull Oregon grape (*Mahonia nervosa*, FACU), and sword fern (*Polystichum munitum*, FACU) (See Sample Plots 1-21, Appendix A). Vegetation throughout the site is very homogeneous and consists primarily of second-growth forest with minor changes in topography and vegetation communities. Point 1,474 in the southeast portion of the site contains slopes ranging from 10-20% grade, with a similar Douglas Fir – Hemlock forest community.

Soils throughout the project site consist of up to 2 to 4 inches of black or very dark brown (10YR 2/1 and 10YR 2/2) sandy loams over up to 14 inches of brown, dark brown, or dark yellowish brown (10YR 3/3, 10YR 4/3, 10YR 4/4) gravelly sandy loams (see Sample Plots 1-9, 12, 13, 19, Appendix A).

During our site investigation, we noted a deep topographic depression immediately east of the proposed boring location 21B. It appears the site was excavated and possibly used as a former gravel borrow pit. The first 6 inches of soil consisted of a grayish brown (10YR 5/2) gravelly sandy loam. We encountered a restrictive layer and refusal of compacted gravel soils below a depth of 6 inches. No indicators of wetland hydrology or hydric soils were observed. Vegetation consisted of red alder (*Alnus rubra* FAC), Douglas fir, Douglas spiraea (*Spiraea douglasii* FACW), and Himalayan blackberry (*Rubus armeniacus* FAC) (Sample Plot 3, Figure 4).

We identified one stream (Stream 1) within the study area, in the northern portion of Section 21, approximately 400 feet northwest of the proposed location of boring 21C (Figure 5). Stream 1 is an ephemeral stream that flows off the northwest side of Lizard Mountain. Stream 1 is primarily fed by groundwater discharge and was dry at the time of our visit in May 2021. Stream 1 is characterized by a gravel bed and bank and infiltrates into permeable glacial outwash soils at the base of Lizard Mountain where the slope lessens. Stream 1 was not physically connected to any other aquatic areas or wetlands. Per King County (2023b) Code, the stream would likely be considered a Type O aquatic area. Type O aquatic areas outside of an Urban Growth Area are afforded a 25-foot buffer.

A draft hydrogeologic report prepared by Associated Earth Sciences, Inc (AESI, 2022) identified several additional ephemeral, groundwater-fed streams that originate on the slopes of Lizard Mountain. Due to the limited seasonal flow of these small stream segments and the porous nature of the glacial outwash soils, the streams do not have a well-defined bed or bank, which limited the ability to identify an ordinary high-water mark. During the 13-month period of hydrology monitoring conducted by AESI, flows ranged from 0.07 to 0.01 cubic feet per second (CFS), with measurable flow only occurring four times throughout the monitoring period.

The AESI (2022) draft report also identifies a small stream (Stream A) in the northwest portion of King County Parcel No. 0921079001. Stream A appears to be a spring-fed seasonal stream located at the northern edge of the project site, below a steep scarp. Our site visit to this portion of the site occurred in December 2019, when groundwater levels are typically low. Based on the absence of hydrology at Stream A during our site visit, it is likely ephemeral in nature. In addition, the onsite portion of Stream A also lacked a well-defined bed and bank, scouring, or other indicators of regular flow which limited the ability to identify an ordinary high-water mark of the channel during periods of low or no flow, such as during our investigation. Please refer to the AESI (2022) draft hydrogeologic report for complete mapping of all identified surface waters and water flow monitoring data.

During our December 3, 2019, December 10, 2019, April 22, 2021, May 14, 2021, and June 21, 2022 site investigations, we did not identify any wetlands on the properties. We did identify one Type O stream (Stream 1) in the northern portion of Section 21, approximately 400 feet northwest of the proposed location of boring 21C. AESI (2022) also identified several similar ephemeral streams on the flanks of Lizard Mountain that meet the criteria of Type O aquatic areas. Type O aquatic areas are afforded a 25-foot buffer per King County (2023b) Code. AESI (2022) identified a spring-fed stream (Stream A) in the northern portion of the project site. Because Stream A discharges to the Green River, it is classified as a Type N water, per King County (2023b) code. Type N waters outside the Urban Growth Area are provided a 65-foot buffer, per King County (2023b) code. As such, we do not anticipate any impacts to critical areas or associated buffers.

OFFSITE CRITICAL AREAS

During our April and May 2021 field visits, we investigated the KCDNR property to the north and west of the project site to search for any wetlands or streams. We identified seven wetlands on the KCDNR parcel (Figure 3). All wetlands were determined to consist of a depressional hydrogeomorphic (HGM) classification. The wetlands are

primarily forested with areas of scrub-shrub and emergent vegetation. Common species included red alder, Sitka spruce (*Picea sitchensis*, FACW), black cottonwood (*Populus trichocarpa*, FAC), salmonberry (*Rubus spectabilis*, FAC), Douglas spiraea, western lady fern (*Athyrium cylcosorum*, FAC), Pacific water parsley (*Oenanthe sarmentosa*, OBL) and slough sedge (*Carex obnupta*, OBL). Soils within the wetlands typically consisted of up to six inches of very dark silty and sandy loams underlain by depleted soil layers at least six inches deep with redoximorphic concentrations within the soil matrix.

The offsite wetlands consist primarily of palustrine forested (PFO) and palustrine scrub-shrub (PSS) vegetation classes according to the USFWS wetland classification system (Cowardin et al. 1992). Areas of palustrine emergent (PEM) vegetation classes were also identified. The wetlands experience seasonal or occasional ponding, with hydrologic input primarily derived from upland sheetflow, shallow groundwater input, and direct precipitation.

Preliminary analysis of all offsite wetlands was prepared using the WDOE Wetland Rating form (Hruby, 2014). All seven offsite wetlands meet the criteria of Category III wetlands, with total scores ranging from 17 to 19 points (7 to 8 points for habitat). King County critical area code provides wetland buffers based on proposed impact. Mining is considered a high-impact use. Category III wetlands with habitat scores of 8 receive a 300-foot buffer when high impact activities are proposed. Category III wetlands with a habitat score of 7 receive a 150-foot buffer when high impact activities are proposed.

CONCLUSIONS

During our site investigation, we identified one Type O stream in the northern portion of Section 21. We did not observe any other wetlands, streams, or other sensitive areas, within the project site. In general, the project site contains second-growth forest dominated by 30- to 50-year-old Douglas-fir and Hemlock trees. We did not observe any other critical areas or fish and wildlife habitats on the project site.

Offsite to the north and west of the stream, we identified seven offsite wetlands on the KCDNR parcel. These wetlands are generally forested, with patches of scrub-shrub and emergent vegetation. Using the WDOE Wetland Rating form (Hruby, 2014), it was determined that all offsite wetlands meet the criteria of Category III wetlands because they scored between 17 to 19 points overall (7 to 8 points for habitat).

LIMITATIONS

We have prepared this report for the exclusive use of Segale Properties, and their consultants. No other person or agency may rely upon the information, analysis, or conclusions contained herein without permission from Segale Properties.

The determination of ecological system classifications, functions, values, and boundaries is an inexact science, and different individuals and agencies may reach different conclusions. With regard to wetlands, the final determination of their boundaries for regulatory purposes is the responsibility of the various agencies that regulate development activities in wetlands. We cannot guarantee the outcome of such agency determinations. Therefore, the conclusions of this report should be reviewed by the appropriate regulatory agencies prior to any detailed site planning or construction activities.

We warrant that the work performed conforms to standards generally accepted in our field and has been prepared substantially in accordance with then-current technical guidelines and criteria. The conclusions of this report represent the results of our analysis of the information provided by the project proponent and their consultants, together with information gathered in the course of the study. No other warranty, expressed or implied, is made.

If you have any questions or comments, or wish to discuss this issue further, please contact us at (206) 525-8122 or at cwright@raedeke.com or wRussack@raedeke.com.

Respectfully submitted,

RAEDEKE ASSOCIATES, INC.



Christopher W. Wright
President/Soil and Wetland Scientist



Will Russack
Wetland Biologist

LITERATURE CITED

- Associated Earth Sciences, Inc. 2022. Existing Conditions Hydrogeologic Report for the Cumberland Property, King County, Washington. Dated September 2, 2022, report prepared for Segale Properties LLC. 705 pp.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, US Army Engineers Waterways Experiment Station, Vicksburg, Mississippi. 100 pp.
- Federal Register. 1986. 40 CFR Parts 320 through 330: Regulatory programs of the Corps of Engineers; final rule. Vol. 51. No. 219. pp. 41206-41260, U.S. Government Printing Office, Washington, D.C.
- Federal Register. 1995. U.S. Department of Agriculture, Soil Conservation Service: Changes in Hydric Soils of the United States. Volume 59, No 133, July 13, 1994. Revised September 15, 1995.
- Google Earth. 2019. Image for 47.175050° -121.553925° in King County, WA. © 2019 Google. Accessed December 2019.
- King County. 2023a. iMAP GIS Interactive map center, King County, Washington. <https://gismaps.kingcounty.gov/iMap/>. Accessed January 2023.
- King County. 2023b. Chapter 21A.24: Critical Areas. Title 21A Zoning, King County Code. Last updated January 4, 2023.
- U.S. Army Corps of Engineers. 1991a. Special notice. Subject: Use of the 1987 wetland delineation manual. U.S. Army Corps of Engineers, Seattle District. August 30, 1991.
- U.S. Army Corps of Engineers. 1991b. Memorandum. Subject: Questions and answers on the 1987 manual. U.S. Army Corps of Engineers, Washington D.C. October 7, 1991. 7 pp. including cover letter by John P. Studt, Chief, Regulatory Branch.
- U.S. Army Corps of Engineers. 1992. Memorandum. Subject: Clarification and interpretation of the 1987 methodology. U.S. Army Corps of Engineers, Washington D.C., March 26, 1992. 4 pp. Arthur E. Williams, Major General, U.S.A. Directorate of Civil Works.

U.S. Army Corps of Engineers. 1994. Public Notice. Subject: Washington regional guidance on the 1987 wetland delineation manual. May 23, 1994, Seattle District. 8 pp.

U.S. Army Corps of Engineers. 2010. Regional supplement to the Corps of Engineers wetland delineation manual: western mountains, valleys, and coast region (Version 2.0). Wakeley, J.S., R.W. Lichvar, and C.V. Noble, eds. May 2010. ERDC/EL TR-10-3. U.S. Army Engineer Research and Development Center, Vicksburg, MS.

U.S. Army Corps of Engineers. 2022. Special Public Notice. Regional Conditions for Seattle District – 2022 Nationwide Permits Final 41. U.S. Army Corps of Engineers, Seattle District Regulatory Branch. February 14, 2022.

U.S.D.A., Soil Conservation Service. 1991. Hydric soils of the United States: In cooperation with the National Technical Committee for Hydric Soils. U.S.D.A. Miscellaneous Publication Number 1491.

U.S.D.A. Natural Resources Conservation Service. 2019. On-line Web Soil Survey. <http://websoilsurvey.nrcs.usda.gov>. Accessed December 2019.

U.S. Fish and Wildlife Service. 2019. National Wetland Inventory, Wetlands Online Mapper. <http://wetlandsfws.er.usgs.gov/wtlnds/launch.html>. Accessed December 2019.

Washington Department of Ecology. 2019. Washington State Water Quality Atlas. Assessed Waters/Sediment and Water Quality Standard Data. <https://fortress.wa.gov/ecy/waterqualityatlas/map>. Last accessed December 2019.

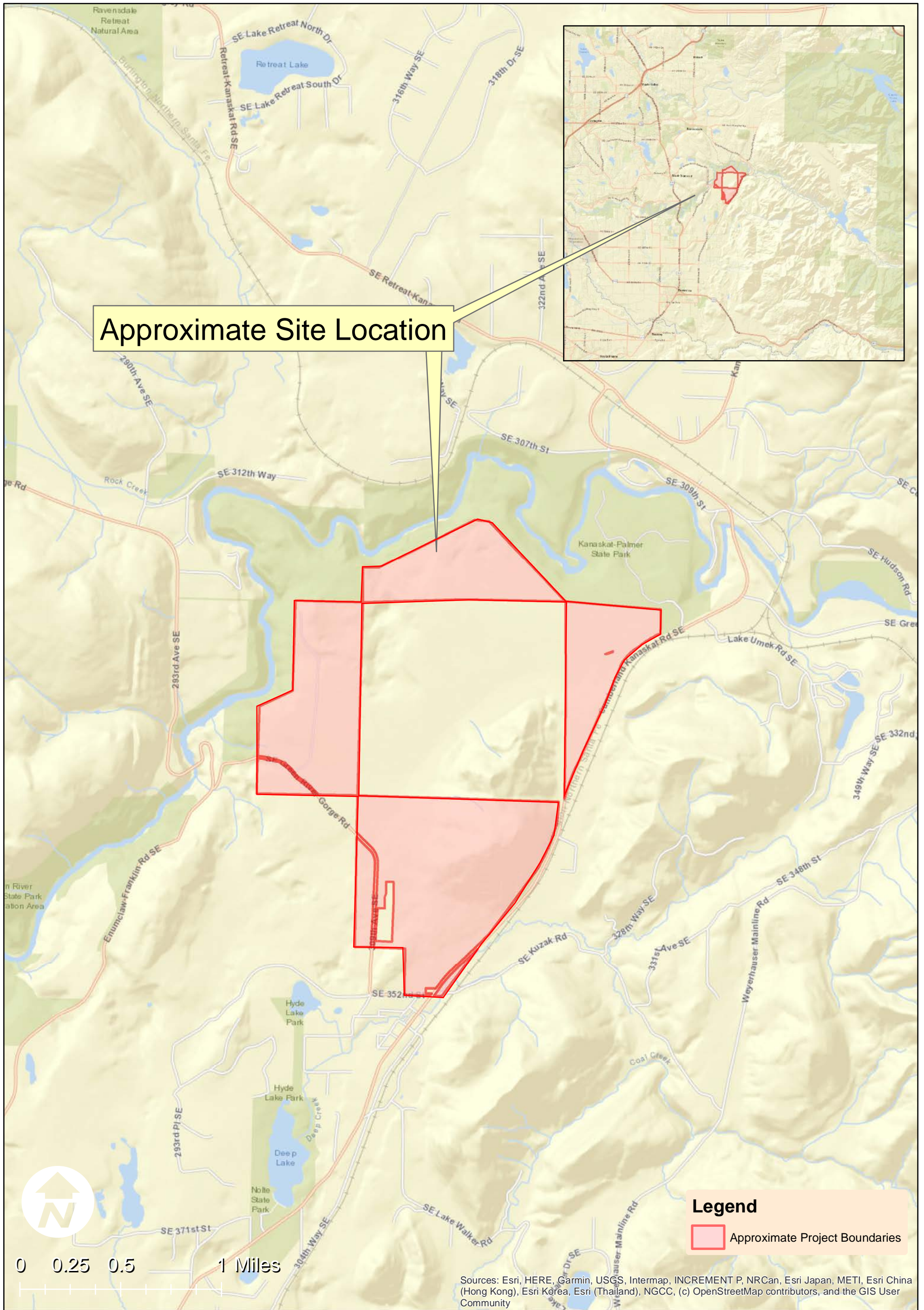
Washington Department of Fish and Wildlife. 2016. Priority habitats and species list. August 2008 (updated June 2016), Olympia, WA. 296 pp.

Washington Department of Fish and Wildlife. 2019. PHS on the web. Available at: <http://apps.wdfw.wa.gov/phsontheweb/>. Last accessed December 2019.

Washington Department of Fish and Wildlife. 2019. Salmonscape, on-line mapper. <http://apps.wdfw.wa.gov/salmonscape/>. Accessed December 2019.

Mr. Mike Pruett
Segale Properties - Cumberland
February 13, 2023
Page 10

Washington Department of Natural Resources. 2019. Forest Practices
Application Mapping Tool. <https://fpamt.dnr.wa.gov/default.aspx#>
Accessed December 2019.



Cumberland Segale Figure 1. Regional & Vicinity Map

Date Created: 12 July, 2022

RAI Project #: 2019-105-002

Note: Boundaries are approximate
 and for planning purposes only.



2111 N. Northgate Way, Ste. 219 Wetland Science
 Seattle, WA 98133 Wildlife Biology
 Phone 206-525-8122 Landscape Architecture

Not to scale

Approximate Project Location

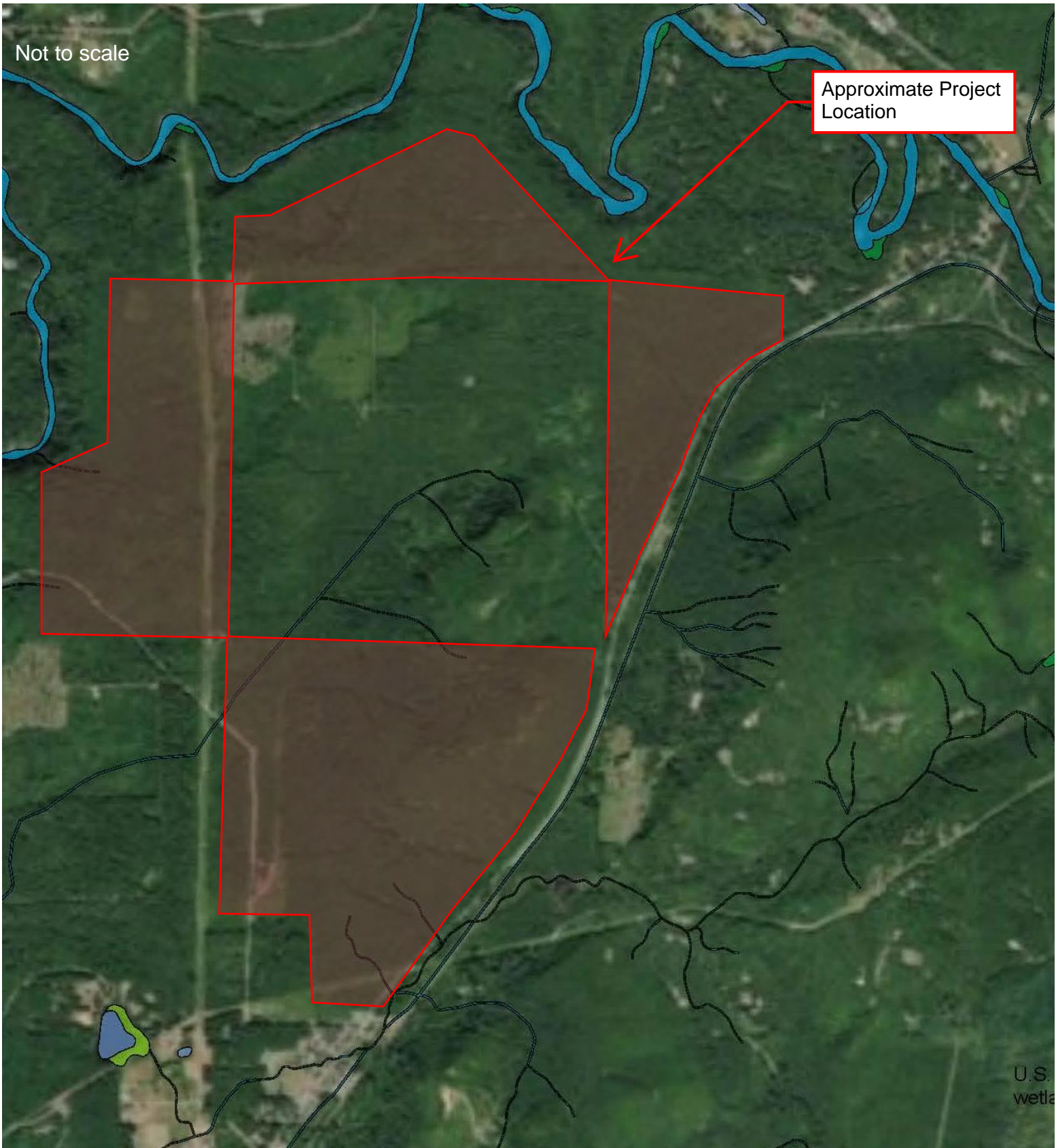


FIGURE 2 - National Wetland Inventory Map Cumberland Segale Property

- Wetlands**
- Estuarine and Marine Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Lake
 - Other
 - Riverine

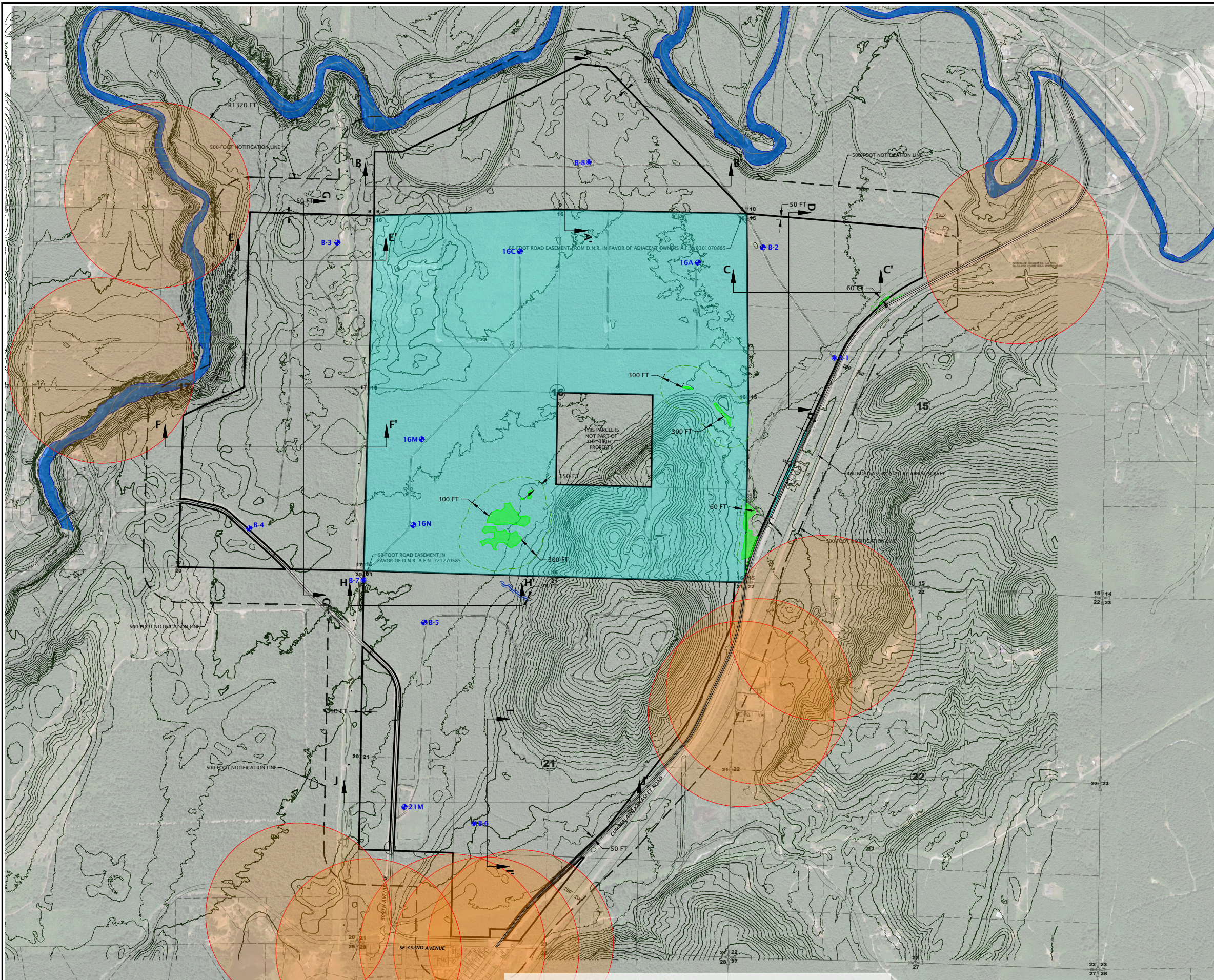
King County, WA
RAI PROJECT: 2019-105-001

PREPARED: 1/20/2023
BY: WR

Image source: <https://www.fws.gov/wetlands/data/mapper.html#>

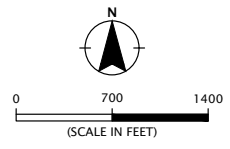


Raedeke
Associates, Inc.
2111 N. Northgate Way,
Suite 219 Seattle, WA 98133



LEGEND:

- PROPERTY BOUNDARY
- EXISTING TOPOGRAPHY (20-FOOT INTERVALS; 100-FOOT INDEX CONTOURS)
- BORING
- WELL
- SEGALE PROPERTIES LLC OWNERSHIP
- DNR OWNERSHIP
- GREEN RIVER (APPROXIMATE)
- WETLAND
- WETLAND BUFFER
- STREAM
- STREAM BUFFER
- 1/2-MILE-RADIUS FROM APPROXIMATE CENTER OF RESIDENCE (LOCATED WITH GOOGLE EARTH PRO)
- CROSS SECTION



- NOTES:**
1. SITE PLAN BASED ON DRAWINGS PROVIDED BY SEGALE PROPERTIES, LLC.
 2. AERIAL PHOTOGRAPH (JULY 13, 2017) OBTAINED FROM GOOGLE EARTH PRO.
 3. EXISTING TOPOGRAPHY (LIDAR 2016) OBTAINED FROM WADNR.

| | |
|--|---------|
| CONCEPTUAL DEVELOPMENT PLAN EXISTING CONDITIONS MAP | |
| SEGALE-3-01 | DRAFT 1 |
| CUMBERLAND GRAVEL OPERATION KING COUNTY, WA | |

| | |
|-------------|-----------|
| SEGALE-3-01 | JULY 2022 |
|-------------|-----------|

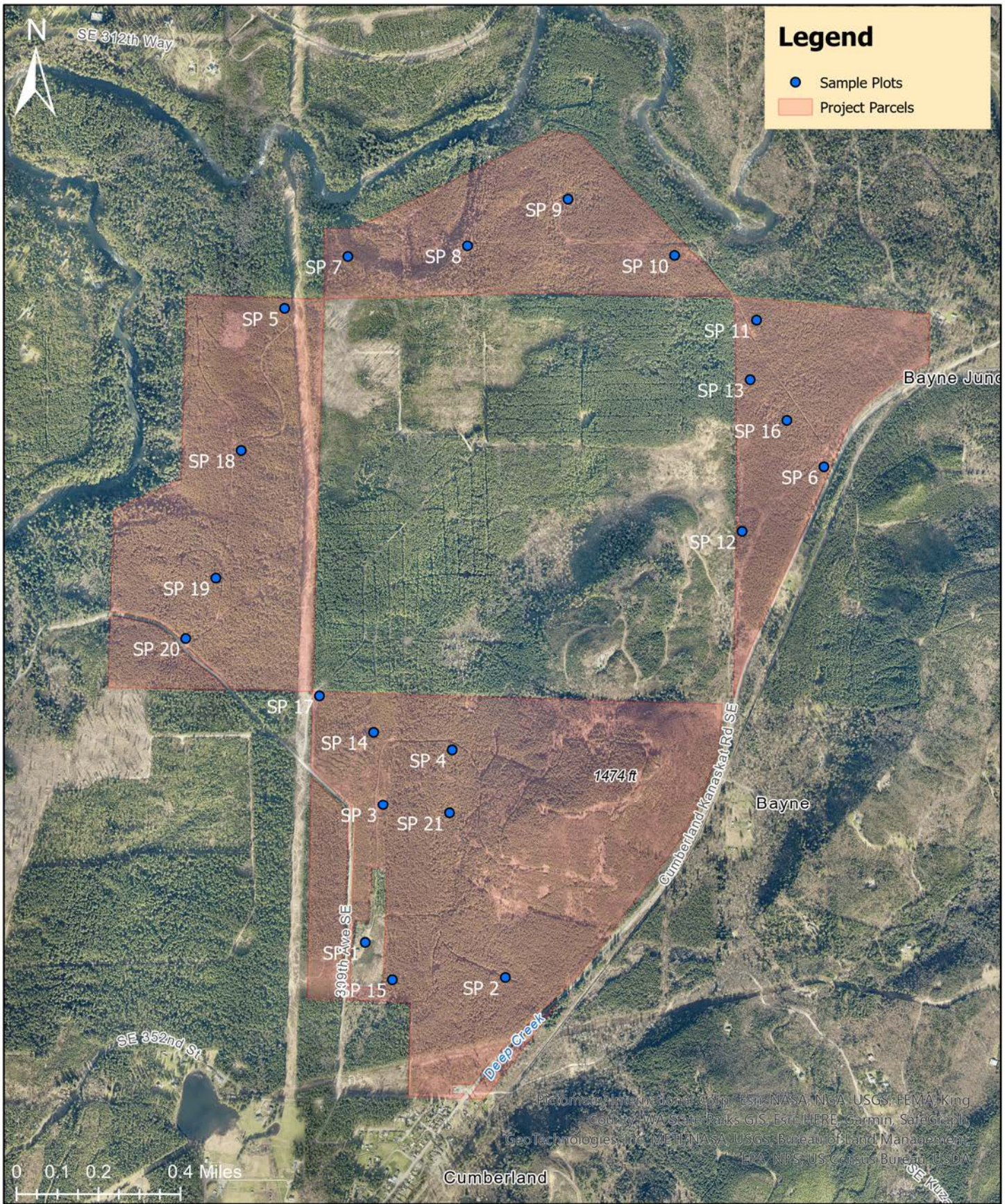
SEGALE PROPERTIES

COMMERCIAL • INDUSTRIAL • AGRICULTURAL • NATURAL RESOURCES
 P.O. BOX 88028, TUKWILA, WA 98138
 5811 SEGALE PARK DRIVE, C. TUKWILA, WA 98188
 O: 206.575-2000
 www.segaleproperties.com

N15

DRAFT

Cumberland Segale
 Figure 3. Existing Conditions



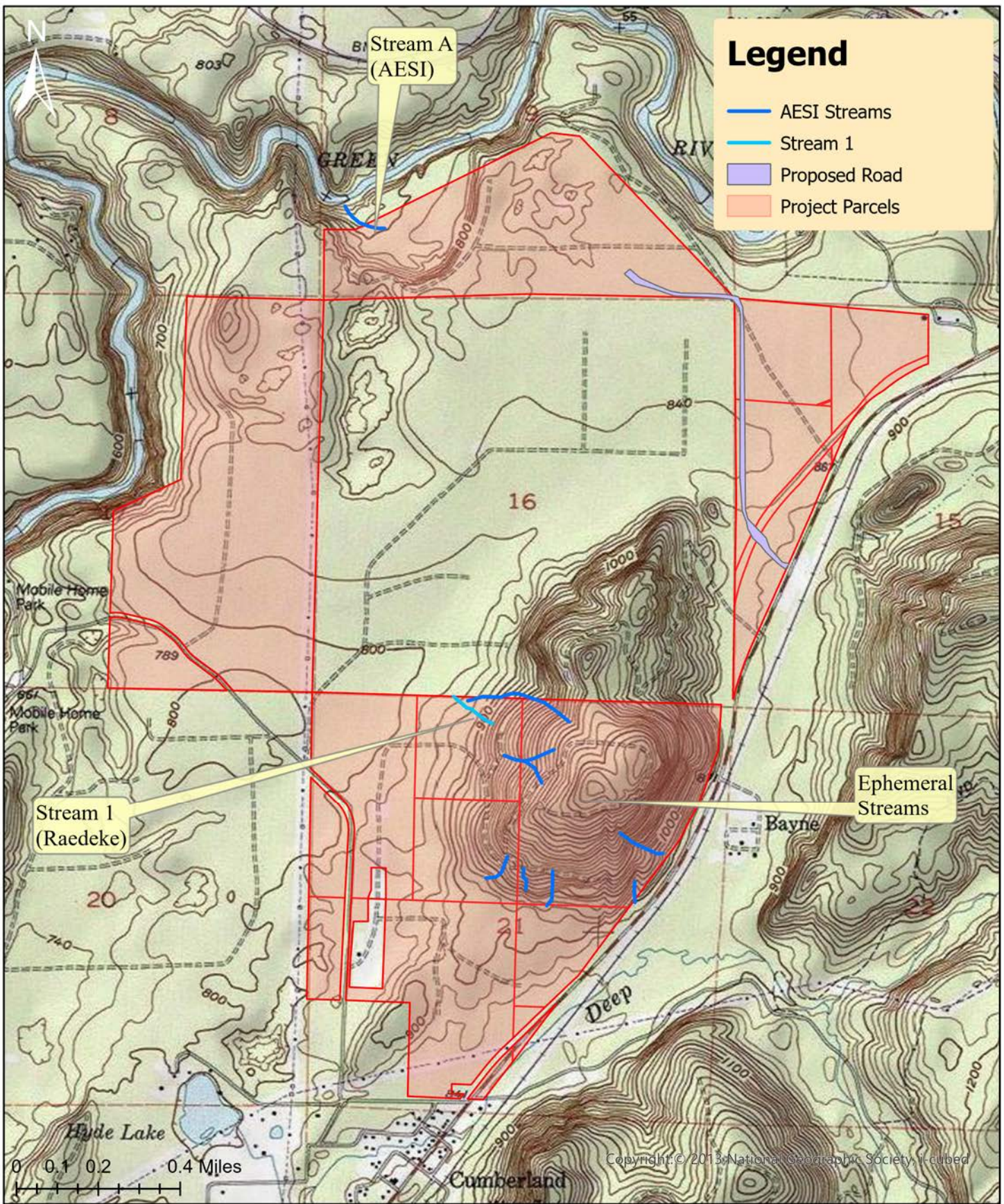
**Figure 4 - Sample Plot Locations
Cumberland Segale Property**

1/11/23

Note: Sample plot locations based on handheld GPS units and have not been surveyed. Boundaries are approximate and for planning purposes only.

Project no: 2019-105-002





**Figure 5 - Identified Streams
Cumberland Segale Property**

1/24/23

Note: Sample plot locations based on handheld GPS units and have not been surveyed. Boundaries are approximate and for planning purposes only.

Project no: 2019-105-002



ATTACHMENT A:

Data Forms

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/3/19
 Applicant/Owner: Segale State: WA Sampling Point: SP1
 Investigator(s): Will Russack, Kolten Kusters Section, Township, Range: T.21N R.07E S.21SW
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 1-3
 Subregion (LRR): NW Forest Lat: 47.2909 Long: -121.9303 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: <u>21A test pit</u> | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | | |
|---|------------------|-------------------|------------------|--|--|
| Tree Stratum (Plot size: <u>5 m</u>) | | | | | |
| 1. <u>Acer macrophyllum (big-leaf maple)</u> | <u>50</u> | <u>Y</u> | <u>FACU</u> | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B) | |
| 2. <u>Alnus rubra (red Alder)</u> | <u>20</u> | <u>Y</u> | <u>FAC</u> | | |
| 3. <u>Pseudotsuga menziesii (Douglas fir)</u> | <u>10</u> | <u>N</u> | <u>FACU</u> | | |
| 4. _____ | | | | | |
| | <u>80</u> | = Total Cover | | Prevalence Index worksheet: 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>70</u> x 3 = <u>210</u> FACU species <u>140</u> x 4 = <u>560</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>210</u> (A) <u>770</u> (B) Prevalence Index = B/A = <u>3.66</u> | |
| Sapling/Shrub Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. <u>Rubus ursinus (trailing blackberry)</u> | <u>30</u> | <u>Y</u> | <u>FACU</u> | | |
| 2. <u>Rubus armeniacus (Himalayan blackberry)</u> | <u>20</u> | <u>Y</u> | <u>FAC</u> | | |
| 3. <u>Cytisus scoparius (Scot's broom)</u> | <u>1</u> | <u>N</u> | <u>NL</u> | | |
| 4. _____ | | | | | |
| 5. _____ | | | | | |
| | <u>51</u> | = Total Cover | | | |
| Herb Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. <u>Dactylis glomerata (orchard-grass)</u> | <u>40</u> | <u>Y</u> | <u>FACU</u> | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. | |
| 2. <u>Agrostis capillaris (bentgrass)</u> | <u>30</u> | <u>Y</u> | <u>FAC</u> | | |
| 3. <u>Geranium robertianum (Robert geranium)</u> | <u>5</u> | <u>N</u> | <u>FACU</u> | | |
| 4. <u>Polystichum munitum (Sword fern)</u> | <u>5</u> | <u>N</u> | <u>FACU</u> | | |
| 5. _____ | | | | | |
| 6. _____ | | | | | |
| 7. _____ | | | | | |
| 8. _____ | | | | | |
| 9. _____ | | | | | |
| 10. _____ | | | | | |
| 11. _____ | | | | | |
| | <u>80</u> | = Total Cover | | | |
| Woody Vine Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. _____ | | | | Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| 2. _____ | | | | | |
| | | | | | |
| % Bare Ground in Herb Stratum <u>0</u> | | | | | |
| Remarks: _____ | | | | | |

SOIL

Sampling Point: SP1 _____

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) | | | | | | | | |
|--|---------------|-----|--|---|-------------------|---|---------|---------|
| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-12 | 10YR 2.5/3 | 100 | | | | | GR.S.L | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. | | | | | | | | |
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) | | | | | | Indicators for Problematic Hydric Soils³: | | |
| <input type="checkbox"/> Histosol (A1) | | | <input type="checkbox"/> Sandy Redox (S5) | | | <input type="checkbox"/> 2 cm Muck (A10) | | |
| <input type="checkbox"/> Histic Epipedon (A2) | | | <input type="checkbox"/> Stripped Matrix (S6) | | | <input type="checkbox"/> Red Parent Material (TF2) | | |
| <input type="checkbox"/> Black Histic (A3) | | | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) | | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | | | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | | | <input type="checkbox"/> Other (Explain in Remarks) | | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | | | <input type="checkbox"/> Depleted Matrix (F3) | | | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. | | |
| <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) | | | | | |
| | | | | | | | | |
| Restrictive Layer (if present): | | | | | | | | |
| Type: _____ | | | | | | | | |
| Depth (inches): _____ | | | | | | Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | | |
| Remarks: No hydric soil indicators | | | | | | | | |

HYDROLOGY

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

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/3/19
 Applicant/Owner: Segale State: WA Sampling Point: SP2
 Investigator(s): Will Russack, Kolten Kusters Section, Township, Range: T.21N R.07E S.21SE
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 3-5
 Subregion (LRR): NW Forest Lat: 47.2899 Long: -121.9223 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: <u>21E Test Pit</u> | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | | |
|---|------------------|-------------------|------------------|---|--|
| Tree Stratum (Plot size: <u>5 m</u>) | | | | | |
| 1. <u>Pseudotsuga menziesii</u> (Douglas fir) | <u>90</u> | <u>Y</u> | <u>FACU</u> | 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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B) | |
| 2. _____ | _____ | _____ | _____ | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| | <u>90</u> | = Total Cover | | | |
| Sapling/Shrub Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. <u>Rubus ursinus</u> (trailing blackberry) | <u>20</u> | <u>Y</u> | <u>FACU</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ | |
| 2. <u>Acer circinatum</u> (vine maple) | <u>10</u> | <u>Y</u> | <u>FAC</u> | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| 5. _____ | _____ | _____ | _____ | | |
| | <u>30</u> | = Total Cover | | | |
| Herb Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. <u>Polystichum munitum</u> (Sword fern) | <u>40</u> | <u>Y</u> | <u>FACU</u> | | |
| 2. _____ | _____ | _____ | _____ | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| 5. _____ | _____ | _____ | _____ | | |
| 6. _____ | _____ | _____ | _____ | | |
| 7. _____ | _____ | _____ | _____ | | |
| 8. _____ | _____ | _____ | _____ | | |
| 9. _____ | _____ | _____ | _____ | | |
| 10. _____ | _____ | _____ | _____ | | |
| 11. _____ | _____ | _____ | _____ | | |
| | <u>40</u> | = Total Cover | | | |
| Woody Vine Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. _____ | _____ | _____ | _____ | | |
| 2. _____ | _____ | _____ | _____ | | |
| | _____ | = Total Cover | | | |
| % Bare Ground in Herb Stratum <u>60</u> | | | | | |
| Remarks: _____ | | | | | |

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: SP2

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) | | | | | | | | |
|--|---------------|-----|----------------|---|-------------------|------------------|------------|---------|
| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-4 | 10YR 2/1 | 100 | | | | | Loam/Duff | |
| 4-18 | 10YR 4/4 | 100 | | | | | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

| | | |
|--|---|---|
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> 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) (except MLRA 1) <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) | Indicators for Problematic Hydric Soils³: <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) |
|--|---|---|

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

| | |
|--|---|
| Restrictive Layer (if present): Type: _____ Depth (inches): _____ | Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
|--|---|

Remarks: No hydric soil indicators

HYDROLOGY

| | | | | | | | | |
|--|--|--|---|--|--|--|--|--|
| Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <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) | | | <u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <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) (LRR A) <input type="checkbox"/> Other (Explain in Remarks) | | | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7) | | |
|--|--|--|---|--|--|--|--|--|

| | |
|---|---|
| Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
|---|---|

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

Remarks: No indicators of hydrology

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/3/19
 Applicant/Owner: Segale State: WA Sampling Point: SP3
 Investigator(s): Kolten Kusters, Will Russack Section, Township, Range: T.21N R.07E S.21NW
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 3-5
 Subregion (LRR): NW Forest Lat: 47.2957 Long: -121.9292 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam & Arents NWI classification: None

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

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

| | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: <u>21B Test Pit</u> | |

VEGETATION – Use scientific names of plants.

| <u>Tree Stratum</u> (Plot size: <u>5 m</u>) | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|------------------|-------------------|------------------|---|
| 1. <u>Alnus rubra (red alder)</u> | <u>20</u> | <u>Y</u> | <u>FAC</u> | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B) |
| 2. <u>Pseudotsuga menziesii (Douglas fir)</u> | <u>10</u> | <u>Y</u> | <u>FACU</u> | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| | <u>30</u> | = Total Cover | | |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>3 m</u>) | | | | |
| 1. <u>Spiraea douglasii (Douglas spiraea)</u> | <u>40</u> | <u>Y</u> | <u>FACW</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| 2. <u>Pseudotsuga menziesii (Douglas fir)</u> | <u>20</u> | <u>Y</u> | <u>FACU</u> | |
| 3. <u>Alnus rubra (red alder)</u> | <u>20</u> | <u>Y</u> | <u>FAC</u> | |
| 4. <u>Rubus armeniacus (Himalayan blackberry)</u> | <u>10</u> | <u>N</u> | <u>FAC</u> | |
| 5. _____ | | | | |
| | <u>90</u> | = Total Cover | | |
| <u>Herb Stratum</u> (Plot size: <u>3 m</u>) | | | | |
| 1. _____ | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| 6. _____ | | | | |
| 7. _____ | | | | |
| 8. _____ | | | | |
| 9. _____ | | | | |
| 10. _____ | | | | |
| 11. _____ | | | | |
| | | | | |
| <u>Woody Vine Stratum</u> (Plot size: <u>3 m</u>) | | | | |
| 1. _____ | | | | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| 2. _____ | | | | |
| | | | | |
| <u>% Bare Ground in Herb Stratum</u> <u>0</u> | | | | |
| Remarks: | | | | |

SOIL

Sampling Point: SP3

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) | | | | | | | | |
|---|---------------|-----|----------------|---|-------------------|------------------|---------|---------|
| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-6 | 10YR 4/2 | 100 | | | | | Gr.S.L | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

| | |
|--|---|
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> 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) | Indicators for Problematic Hydric Soils³: <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"/> 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) (except MLRA 1) <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) |

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

| | |
|---|---|
| Restrictive Layer (if present): Type: <u>Copmacted Gravel</u> Depth (inches): <u>6</u> | Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
|---|---|

Remarks: Site appears excavated; possible former gravel borrow pit. No hydric soil indicators

HYDROLOGY

| | | | | | |
|---|---|--|---|--|--|
| Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> | | | <u>Secondary Indicators (2 or more required)</u> | | |
| <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) (except MLRA 1, 2, 4A, and 4B) <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) (LRR A) <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7) | | | |
| Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | | | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | | | |
| Remarks: no indicators of hydrology | | | | | |

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/3/19
 Applicant/Owner: Segale State: WA Sampling Point: SP4
 Investigator(s): Kolten Kusters, Will Russack Section, Township, Range: T.21N R.07E S.21NW
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): Convex Slope (%): 1-3
 Subregion (LRR): NW Forest Lat: 47.2981 Long: 121.9255 Datum: WGS 84
 Soil Map Unit Name: Beausite gravelly loam NWI classification: None

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

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

| | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: <u>21C Test Pit</u> | |

VEGETATION – Use scientific names of plants.

| <u>Tree Stratum</u> (Plot size: <u>5 m</u>) | Absolute % Cover | Dominant Species? | Indicator Status | |
|--|--------------------------|-------------------|------------------|---|
| 1. <u>Pseudotsuga menziesii (Douglas fir)</u> | <u>80</u> | <u>Y</u> | <u>FACU</u> | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B) |
| 2. <u>Thuja plicata (western red cedar)</u> | <u>10</u> | <u>N</u> | <u>FAC</u> | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| | <u>90</u> | = Total Cover | | |
| Sapling/Shrub Stratum | (Plot size: <u>3 m</u>) | | | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| 1. <u>Acer circinatum (vine maple)</u> | <u>10</u> | <u>Y</u> | <u>FAC</u> | |
| 2. <u>Rubus spectabilis (salmonberry)</u> | <u>10</u> | <u>Y</u> | <u>FAC</u> | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| | <u>20</u> | = Total Cover | | |
| Herb Stratum | (Plot size: <u>3 m</u>) | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u>Polystichum munitum (Sword fern)</u> | <u>30</u> | <u>Y</u> | <u>FACU</u> | |
| 2. <u>Tolmiea menziesii (piggy-back plant)</u> | <u>30</u> | <u>Y</u> | <u>FAC</u> | |
| 3. <u>Carex deweyana (Dewey's sedge)</u> | <u>10</u> | <u>N</u> | <u>FAC</u> | |
| 4. <u>Geranium robertianum (Robert geranium)</u> | <u>5</u> | <u>N</u> | <u>FACU</u> | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| 11. _____ | _____ | _____ | _____ | |
| | <u>75</u> | = Total Cover | | |
| Woody Vine Stratum | (Plot size: <u>3 m</u>) | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| | _____ | = Total Cover | | |
| % Bare Ground in Herb Stratum <u>25</u> | | | | |
| Remarks: _____ | | | | |
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | | | | |

SOIL

Sampling Point: SP4

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

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|------------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-8 | 7.5YR 2.5/2 | 100 | | | | | Sandy Loam | |
| 8-18 | 10YR 4/3 | 100 | | | | | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: no hydric soil indicators

HYDROLOGY

Wetland Hydrology Indicators:

| | |
|---|---|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | <u>Secondary Indicators (2 or more required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Field Observations:

| | | |
|--|-----------------------|---|
| Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |

(includes capillary fringe)

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

Remarks: no indicators of hydrology

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/3/19
 Applicant/Owner: Segale State: WA Sampling Point: SP5
 Investigator(s): Kolten Kosters, Will Russack Section, Township, Range: T.21N R.07E S.17NE
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 1-5
 Subregion (LRR): NW Forest Lat: 47.3123 Long: -121.9344 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: SP approx 150ft south of 17D Test Pit | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | | |
|--|------------------|-------------------|------------------|---|--|
| Tree Stratum (Plot size: 5 m) | | | | | |
| 1. <u>Pseudotsuga menziesii</u> (Douglas fir) | <u>90</u> | <u>Y</u> | <u>FACU</u> | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0</u> (A/B) | |
| 2. _____ | _____ | _____ | _____ | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| | <u>90</u> | = Total Cover | | | |
| Sapling/Shrub Stratum (Plot size: 3 m) | | | | | |
| 1. <u>Gaultheria shallon</u> (salal) | <u>60</u> | <u>Y</u> | <u>FACU</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ | |
| 2. <u>Rubus ursinus</u> (trailing blackberry) | <u>10</u> | <u>N</u> | <u>FACU</u> | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| 5. _____ | _____ | _____ | _____ | | |
| | <u>70</u> | = Total Cover | | | |
| Herb Stratum (Plot size: 3 m) | | | | | |
| 1. <u>Polystichum munitum</u> (Sword fern) | <u>10</u> | <u>Y</u> | <u>FACU</u> | | |
| 2. _____ | _____ | _____ | _____ | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| 5. _____ | _____ | _____ | _____ | | |
| 6. _____ | _____ | _____ | _____ | | |
| 7. _____ | _____ | _____ | _____ | | |
| 8. _____ | _____ | _____ | _____ | | |
| 9. _____ | _____ | _____ | _____ | | |
| 10. _____ | _____ | _____ | _____ | | |
| 11. _____ | _____ | _____ | _____ | | |
| | <u>10</u> | = Total Cover | | | |
| Woody Vine Stratum (Plot size: 3 m) | | | | | |
| 1. _____ | _____ | _____ | _____ | | |
| 2. _____ | _____ | _____ | _____ | | |
| | _____ | = Total Cover | | | |
| % Bare Ground in Herb Stratum <u>20</u> | | | | | |
| Remarks: | | | | | |

SOIL

Sampling Point: SP5 _____

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) | | | | | | | | |
|--|---------------|---|----------------|---|-------------------|---|------------|---------|
| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-8 | 7.5YR 2/2 | 100 | | | | | Sandy Loam | |
| 8-12 | 10YR 4/4 | 100 | | | | | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. | | | | | | | | |
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) | | | | | | Indicators for Problematic Hydric Soils³: | | |
| <input type="checkbox"/> Histosol (A1) | | <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> 2 cm Muck (A10) | | | | |
| <input type="checkbox"/> Histic Epipedon (A2) | | <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Red Parent Material (TF2) | | | | |
| <input type="checkbox"/> Black Histic (A3) | | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) | | | | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | | <input type="checkbox"/> Other (Explain in Remarks) | | | | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | | <input type="checkbox"/> Depleted Matrix (F3) | | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. | | | | |
| <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"/> Restrictive Layer (if present): Type: _____ Depth (inches): _____ | | Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | | | | | | |
| Remarks: No hydric soil indicators | | | | | | | | |

HYDROLOGY

| Wetland Hydrology Indicators: | | | | | |
|---|---|--|---|--|---|
| Primary Indicators (minimum of one required; check all that apply) | | | Secondary Indicators (2 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-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <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"/> 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) (LRR A) | <input type="checkbox"/> Other (Explain in Remarks) | <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"/> FAC-Neutral Test (D5) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) | <input type="checkbox"/> Frost-Heave Hummocks (D7) | <input type="checkbox"/> Geomorphic Position (D2) | <input type="checkbox"/> Shallow Aquitard (D3) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | | | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | | | |
| Remarks: No indicators of hydrology | | | | | |

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/3/19
 Applicant/Owner: Segale State: WA Sampling Point: SP6
 Investigator(s): Kolten Kosters, Will Russack Section, Township, Range: T.21N R.07E S.15NW
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 1-3
 Subregion (LRR): NW Forest Lat: 47.3086 Long: -121.9060 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: <u>15B Test Pit</u> | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|------------------|-------------------|------------------|--|
| Tree Stratum (Plot size: <u>5 m</u>) | | | | |
| 1. <u>Acer macrophyllum (big-leaf maple)</u> | <u>20</u> | <u>Y</u> | <u>FACU</u> | 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>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B) |
| 2. <u>Pseudotsuga menziesii (Douglas fir)</u> | <u>20</u> | <u>Y</u> | <u>FACU</u> | |
| 3. <u>Alnus rubra (red alder)</u> | <u>20</u> | <u>Y</u> | <u>FAC</u> | |
| 4. _____ | | | | |
| | <u>60</u> | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: <u>3 m</u>) | | | | |
| 1. <u>Rubus spectabilis (salmonberry)</u> | <u>50</u> | <u>Y</u> | <u>FAC</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| 2. <u>Rubus ursinus (trailing blackberry)</u> | <u>10</u> | <u>N</u> | <u>FACU</u> | |
| 3. <u>Acer circinatum (vine maple)</u> | <u>10</u> | <u>N</u> | <u>FAC</u> | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| | <u>70</u> | = Total Cover | | |
| Herb Stratum (Plot size: <u>3 m</u>) | | | | |
| 1. <u>Polystichum munitum (Sword fern)</u> | <u>20</u> | <u>Y</u> | <u>FACU</u> | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| 6. _____ | | | | |
| 7. _____ | | | | |
| 8. _____ | | | | |
| 9. _____ | | | | |
| 10. _____ | | | | |
| 11. _____ | | | | |
| | <u>20</u> | = Total Cover | | |
| Woody Vine Stratum (Plot size: <u>3 m</u>) | | | | |
| 1. _____ | | | | Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| 2. _____ | | | | |
| | | | | |
| % Bare Ground in Herb Stratum <u>60</u> | | | | |
| Remarks: | | | | |

SOIL

Sampling Point: SP6

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) | | | | | | | | |
|--|---------------|--|----------------|---|-------------------|---|------------|---------|
| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-2 | 10YR 2/2 | 100 | | | | | Sandy Loam | |
| 2-12 | 10YR 4/3 | 100 | | | | | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. | | | | | | | | |
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) | | | | | | Indicators for Problematic Hydric Soils³: | | |
| <input type="checkbox"/> Histosol (A1) | | <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> 2 cm Muck (A10) | | | | |
| <input type="checkbox"/> Histic Epipedon (A2) | | <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Red Parent Material (TF2) | | | | |
| <input type="checkbox"/> Black Histic (A3) | | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) | | | | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | | <input type="checkbox"/> Other (Explain in Remarks) | | | | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | | <input type="checkbox"/> Depleted Matrix (F3) | | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. | | | | |
| <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"/> Restrictive Layer (if present): | | | | | | | | |
| Type: _____ | | | | | | | | |
| Depth (inches): _____ | | | | Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | | | | |
| Remarks: no hydric soil indicators | | | | | | | | |

HYDROLOGY

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

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/10/19
 Applicant/Owner: Segale State: WA Sampling Point: SP7
 Investigator(s): Kolten Kusters, Will Russack Section, Township, Range: T.21N R.07E S.09SW
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 5-7
 Subregion (LRR): NW Forest Lat: 47.3144 Long: -121.9311 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: <u>9C Test Pit</u> | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | | |
|---|------------------|-------------------|------------------|---|--|
| Tree Stratum (Plot size: <u>5 m</u>) | | | | | |
| 1. <u>Pseudotsuga menziesii</u> (Douglas fir) | <u>80</u> | <u>Y</u> | <u>FACU</u> | 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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B) | |
| 2. <u>Thuja plicata</u> (western red cedar) | <u>10</u> | <u>N</u> | <u>FAC</u> | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| | <u>90</u> | = Total Cover | | | |
| Sapling/Shrub Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. <u>Gaultheria shallon</u> (salal) | <u>60</u> | <u>Y</u> | <u>FACU</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ | |
| 2. <u>Acer circinatum</u> (vine maple) | <u>30</u> | <u>Y</u> | <u>FAC</u> | | |
| 3. <u>Holodiscus discolor</u> (oceanspray) | <u>5</u> | <u>N</u> | <u>FACU</u> | | |
| 4. _____ | _____ | _____ | _____ | | |
| 5. _____ | _____ | _____ | _____ | | |
| | <u>95</u> | = Total Cover | | | |
| Herb Stratum (Plot size: <u>1 m</u>) | | | | | |
| 1. <u>Polystichum munitum</u> (Sword fern) | <u>5</u> | <u>Y</u> | <u>FACU</u> | | |
| 2. _____ | _____ | _____ | _____ | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| 5. _____ | _____ | _____ | _____ | | |
| 6. _____ | _____ | _____ | _____ | | |
| 7. _____ | _____ | _____ | _____ | | |
| 8. _____ | _____ | _____ | _____ | | |
| 9. _____ | _____ | _____ | _____ | | |
| 10. _____ | _____ | _____ | _____ | | |
| 11. _____ | _____ | _____ | _____ | | |
| | <u>5</u> | = Total Cover | | | |
| Woody Vine Stratum (Plot size: <u>1 m</u>) | | | | | |
| 1. _____ | _____ | _____ | _____ | | |
| 2. _____ | _____ | _____ | _____ | | |
| | _____ | = Total Cover | | | |
| % Bare Ground in Herb Stratum <u>5</u> | | | | | |

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

5 - Wetland Non-Vascular Plants¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Sampling Point: SP7

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) | | | | | | | | |
|--|---------------|--|----------------|---|-------------------|---|---------|--------------|
| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-6 | 10YR 2/1 | | | | | | Gr.S.L | |
| 6-12+ | 10YR 3/4 | | | | | | Gr.S.L | cobbles 2-4" |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. | | | | | | | | |
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) | | | | | | Indicators for Problematic Hydric Soils³: | | |
| <input type="checkbox"/> Histosol (A1) | | <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> 2 cm Muck (A10) | | | | |
| <input type="checkbox"/> Histic Epipedon (A2) | | <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Red Parent Material (TF2) | | | | |
| <input type="checkbox"/> Black Histic (A3) | | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) | | | | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | | <input type="checkbox"/> Other (Explain in Remarks) | | | | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | | <input type="checkbox"/> Depleted Matrix (F3) | | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. | | | | |
| <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) | | | | | | |
| Restrictive Layer (if present): | | | | | | | | |
| Type: _____ | | | | | | | | |
| Depth (inches): _____ | | | | | | Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | | |
| Remarks: no hydric soil indicators | | | | | | | | |

HYDROLOGY

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

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/10/19
 Applicant/Owner: Segale State: WA Sampling Point: SP8
 Investigator(s): Kolten Kosters, Will Russack Section, Township, Range: T.21N R.07E S.09SW
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 1-3
 Subregion (LRR): NW Forest Lat: 47.3151 Long: -121.9233 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: <u>9B Test Pit</u> | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|------------------|-------------------|------------------|--|
| Tree Stratum (Plot size: 5 m) | | | | |
| 1. <u>Pseudotsuga menziesii</u> (Douglas fir) | <u>50</u> | <u>Y</u> | <u>FACU</u> | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B) |
| 2. <u>Prunus virginiana</u> (western chokecherry) | <u>30</u> | <u>Y</u> | <u>FACU</u> | |
| 3. <u>Acer macrophyllum</u> (bigleaf maple) | <u>5</u> | <u>N</u> | <u>FACU</u> | |
| 4. _____ | | | | |
| | <u>85</u> | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: 3 m) | | | | |
| 1. <u>Gaultheria shallon</u> (salal) | <u>30</u> | <u>Y</u> | <u>FACU</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| 2. <u>Mahonia nervosa</u> (dull oregon-grape) | <u>30</u> | <u>Y</u> | <u>FACU</u> | |
| 3. <u>Acer circinatum</u> (vine maple) | <u>5</u> | <u>N</u> | <u>FAC</u> | |
| 4. <u>Prunus virginiana</u> (western chokecherry) | <u>5</u> | <u>N</u> | <u>FACU</u> | |
| 5. <u>Vaccinium parvifolium</u> (red huckleberry) | <u>3</u> | <u>N</u> | <u>FACU</u> | |
| | <u>73</u> | = Total Cover | | |
| Herb Stratum (Plot size: 3 m) | | | | |
| 1. <u>Polystichum munitum</u> (Sword fern) | <u>20</u> | <u>Y</u> | <u>FACU</u> | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <u>Pteridium aquilinum</u> (bracken fern) | <u>10</u> | <u>Y</u> | <u>FACU</u> | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| 6. _____ | | | | |
| 7. _____ | | | | |
| 8. _____ | | | | |
| 9. _____ | | | | |
| 10. _____ | | | | |
| 11. _____ | | | | |
| | <u>30</u> | = Total Cover | | |
| Woody Vine Stratum (Plot size: 3 m) | | | | |
| 1. _____ | | | | Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| 2. _____ | | | | |
| | | | | |
| % Bare Ground in Herb Stratum <u>10</u> | | | | |
| Remarks: <u>Musci spp. 10% Cover</u> | | | | |

SOIL

Sampling Point: SP8 _____

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

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|------------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-5 | 10YR 2/1 | 100 | | | | | Sandy Loam | |
| 5-12+ | 10YR 3/4 | 100 | | | | | Gr.S.L | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

| | | |
|--|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | Indicators for Problematic Hydric Soils³: <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"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | |

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

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: no hydric soil indicators

HYDROLOGY

Wetland Hydrology Indicators:

| | |
|---|---|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | <u>Secondary Indicators (2 or more required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Field Observations:

| | | | |
|-----------------------------|---|-----------------------|---|
| Surface Water Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Water Table Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| Saturation Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| (includes capillary fringe) | | | |

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

Remarks: no indicators of hydrology

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/10/19
 Applicant/Owner: Segale State: WA Sampling Point: SP9
 Investigator(s): Kolten Kusters, Will Russack Section, Township, Range: T.21N R.07E S.09SE
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 1-3
 Subregion (LRR): NW Forest Lat: 47.3175 Long: -121.9199 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: <u>9D Test Pit</u> | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|------------------|-------------------|------------------|--|
| Tree Stratum (Plot size: <u>5 m</u>) | | | | |
| 1. <u>Pseudotsuga menziesii (Douglas fir)</u> | <u>80</u> | <u>Y</u> | <u>FACU</u> | 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>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B) |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| | <u>80</u> | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: <u>3 m</u>) | | | | |
| 1. <u>Acer circinatum (vine maple)</u> | <u>30</u> | <u>Y</u> | <u>FAC</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| 2. <u>Tsuga heterophylla (western hemlock)</u> | <u>5</u> | <u>N</u> | <u>FACU</u> | |
| 3. <u>Rubus ursinus (trailing blackberry)</u> | <u>5</u> | <u>N</u> | <u>FACU</u> | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| | <u>40</u> | = Total Cover | | |
| Herb Stratum (Plot size: <u>3 m</u>) | | | | |
| 1. <u>Polystichum munitum (Sword fern)</u> | <u>40</u> | <u>Y</u> | <u>FACU</u> | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <u>Blechnum spicant (deer fern)</u> | <u>3</u> | <u>N</u> | <u>FAC</u> | |
| 3. <u>Pteridium aquilinum (bracken fern)</u> | <u>1</u> | <u>N</u> | <u>FACU</u> | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| 11. _____ | _____ | _____ | _____ | |
| | <u>44</u> | = Total Cover | | |
| Woody Vine Stratum (Plot size: <u>3 m</u>) | | | | |
| 1. _____ | _____ | _____ | _____ | Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| 2. _____ | _____ | _____ | _____ | |
| % Bare Ground in Herb Stratum <u>20</u> | | | | |
| Remarks: _____ | | | | |

SOIL

Sampling Point: SP9

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) | | | | | | | | | | | | | |
|--|---------------|--|----------------|--|-------------------|---|---|---------|---|--|--|--|--|
| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks | | | | | |
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | | | | | | |
| 0-4 | 10YR 2/1 | 100 | | | | | Sandy Loam | | | | | | |
| 4-12+ | 10YR 3/3 | 100 | | | | | Gr.S.L | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. | | | | | | | | | | | | | |
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) | | | | | | Indicators for Problematic Hydric Soils³: | | | | | | | |
| <input type="checkbox"/> Histosol (A1) | | <input type="checkbox"/> Sandy Redox (S5) | | <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) | | | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. | | | | | | |
| <input type="checkbox"/> Histic Epipedon (A2) | | <input type="checkbox"/> Stripped Matrix (S6) | | | | | | | | | | | |
| <input type="checkbox"/> Black Histic (A3) | | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | | | | | | | | | | | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | | | | | | | | | | | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | | <input type="checkbox"/> Depleted Matrix (F3) | | | | | | | | | | | |
| <input type="checkbox"/> Thick Dark Surface (A12) | | <input type="checkbox"/> Redox Dark Surface (F6) | | | | | | | | | | | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | | <input type="checkbox"/> Depleted Dark Surface (F7) | | | | | | | | | | | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Redox Depressions (F8) | | | | | | | | | | | |
| Restrictive Layer (if present): | | | | | | | | | Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | | | | |
| Type: _____ Depth (inches): _____ | | | | | | | | | | | | | |
| Remarks: no hydric soil indicators | | | | | | | | | | | | | |

HYDROLOGY

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

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/10/19
 Applicant/Owner: Segale State: WA Sampling Point: SP10
 Investigator(s): Kolten Koters, Will Russack Section, Township, Range: T.21N R.07E S.09SE
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): Convex Slope (%): 1-2
 Subregion (LRR): NW Forest Lat: 47.3165 Long: -121.9145 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: <u>9A Test Pit</u> | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | | |
|---|------------------|-------------------|------------------|---|--|
| Tree Stratum (Plot size: <u>5 m</u>) | | | | | |
| 1. <u>Pseudotsuga menziesii (Douglas fir)</u> | <u>60</u> | <u>Y</u> | <u>FACU</u> | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0</u> (A/B) | |
| 2. <u>Tsuga heterophylla (western hemlock)</u> | <u>20</u> | <u>Y</u> | <u>FACU</u> | | |
| 3. _____ | | | | | |
| 4. _____ | | | | | |
| <u>80</u> | = Total Cover | | | | |
| Sapling/Shrub Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. <u>Gaultheria shallon (salal)</u> | <u>30</u> | <u>Y</u> | <u>FACU</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ | |
| 2. <u>Tsuga heterophylla (western hemlock)</u> | <u>20</u> | <u>Y</u> | <u>FACU</u> | | |
| 3. <u>Rubus spectabilis (salmonberry)</u> | <u>10</u> | <u>N</u> | <u>FAC</u> | | |
| 4. _____ | | | | | |
| 5. _____ | | | | | |
| <u>60</u> | = Total Cover | | | | |
| Herb Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. <u>Polystichum munitum (Sword fern)</u> | <u>50</u> | <u>Y</u> | <u>FACU</u> | | |
| 2. <u>Pteridium aquilinum (bracken fern)</u> | <u>10</u> | <u>N</u> | <u>FACU</u> | | |
| 3. _____ | | | | | |
| 4. _____ | | | | | |
| 5. _____ | | | | | |
| 6. _____ | | | | | |
| 7. _____ | | | | | |
| 8. _____ | | | | | |
| 9. _____ | | | | | |
| 10. _____ | | | | | |
| 11. _____ | | | | | |
| <u>60</u> | = Total Cover | | | | |
| Woody Vine Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. _____ | | | | | |
| 2. _____ | | | | | |
| _____ | = Total Cover | | | | |
| % Bare Ground in Herb Stratum <u>5</u> | | | | | |

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

5 - Wetland Non-Vascular Plants¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Sampling Point: SP10

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

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|---------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-8 | 10YR 2/1 | 100 | | | | | Loam | |
| 8-16+ | 10YR 2/2 | 100 | | | | | Gr.S.L | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

| | | |
|--|---|---|
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) | Indicators for Problematic Hydric Soils³: <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"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| | <input type="checkbox"/> Redox Depressions (F8) | |
| | | |
| | | |

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

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: no hydric soil indicators

HYDROLOGY

Wetland Hydrology Indicators:

| | |
|---|--|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | <u>Secondary Indicators (2 or more required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Field Observations:

| | | | |
|-----------------------------|---|-----------------------|---|
| Surface Water Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Water Table Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| Saturation Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| (includes capillary fringe) | | | |

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

Remarks: no indicators of hydrology

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/10/19
 Applicant/Owner: Segale State: WA Sampling Point: SP11
 Investigator(s): Kolten Kusters, Will Russack Section, Township, Range: T.21N R.07E S.15NW
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): Convex Slope (%): 1-2
 Subregion (LRR): NW Forest Lat: 47.3132 Long: -121.9099 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: <u>15C Test Pit</u> | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|------------------|-------------------|------------------|--|
| Tree Stratum (Plot size: <u>5 m</u>) | | | | |
| 1. <u>Pseudotsuga menziesii</u> (Douglas fir) | <u>80</u> | <u>Y</u> | <u>FACU</u> | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0</u> (A/B) |
| 2. <u>Prunus virginiana</u> (western chokecherry) | <u>5</u> | <u>N</u> | <u>FACU</u> | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| | <u>85</u> | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: <u>3 m</u>) | | | | |
| 1. <u>Gaultheria shallon</u> (salal) | <u>50</u> | <u>Y</u> | <u>FACU</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| 2. <u>Acer circinatum</u> (vine maple) | <u>5</u> | <u>N</u> | <u>FAC</u> | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| | <u>55</u> | = Total Cover | | |
| Herb Stratum (Plot size: <u>1 m</u>) | | | | |
| 1. <u>Polystichum munitum</u> (Sword fern) | <u>5</u> | <u>Y</u> | <u>FACU</u> | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| 11. _____ | _____ | _____ | _____ | |
| | <u>5</u> | = Total Cover | | |
| Woody Vine Stratum (Plot size: <u>1 m</u>) | | | | |
| 1. _____ | _____ | _____ | _____ | Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| 2. _____ | _____ | _____ | _____ | |
| % Bare Ground in Herb Stratum <u>10</u> | | | | |

Remarks:

SOIL

Sampling Point: SP11

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

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|---------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-12+ | 10YR 4/3 | 100 | | | | | Gr.S.L | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

| | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | Indicators for Problematic Hydric Soils³: <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"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | |

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

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: no hydric soil indicators

HYDROLOGY

Wetland Hydrology Indicators:

| | |
|---|--|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | <u>Secondary Indicators (2 or more required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Field Observations:

| | | | |
|-----------------------------|---|-----------------------|---|
| Surface Water Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Water Table Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| Saturation Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| (includes capillary fringe) | | | |

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

Remarks: no indicators of hydrology

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 6/21/22
 Applicant/Owner: Segale State: WA Sampling Point: SP12
 Investigator(s): Will Russack, Kolten Kusters Section, Township, Range: T.21N R.07E S.21SW
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 1-3
 Subregion (LRR): NW Forest Lat: 47.2909 Long: -121.9303 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: Sample plot along proposed road alignment | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|--|------------------|-------------------|------------------|--|
| Tree Stratum (Plot size: 5 m) | | | | |
| 1. <u>Pseudotsuga menziesii (Douglas fir)</u> | <u>90</u> | <u>Y</u> | <u>FACU</u> | 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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B) |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| | <u>90</u> | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: 3 m) | | | | |
| 1. <u>Rubus spectabilis (salmonberry)</u> | <u>20</u> | <u>Y</u> | <u>FAC</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| 2. <u>Rubus ursinus (trailing blackberry)</u> | <u>10</u> | <u>Y</u> | <u>FACU</u> | |
| 3. <u>Vaccinium parvifolium (red huckleberry)</u> | <u>5</u> | <u>N</u> | <u>FACU</u> | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| | <u>35</u> | = Total Cover | | |
| Herb Stratum (Plot size: 3 m) | | | | |
| 1. <u>Polystichum munitum (sword fern)</u> | <u>60</u> | <u>Y</u> | <u>FACU</u> | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| 11. _____ | _____ | _____ | _____ | |
| | <u>60</u> | = Total Cover | | |
| Woody Vine Stratum (Plot size: 3 m) | | | | |
| 1. _____ | _____ | _____ | _____ | Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| 2. _____ | _____ | _____ | _____ | |
| % Bare Ground in Herb Stratum <u>0</u> = Total Cover | | | | |

Remarks:

SOIL

Sampling Point: SP12

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) | | | | | | | | | | |
|--|---------------|---|----------------|---|-------------------|---|---|---------|--|--|
| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks | | |
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | | | |
| 0-5 | 10YR 3/3 | | | | | | GR.S.L | | | |
| 5-12+ | 10YR 4/4 | | | | | | GR.S.L | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. | | | | | | | | | | |
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) | | | | | | Indicators for Problematic Hydric Soils³: | | | | |
| <input type="checkbox"/> Histosol (A1) | | <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> 2 cm Muck (A10) | | | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. | | | |
| <input type="checkbox"/> Histic Epipedon (A2) | | <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Red Parent Material (TF2) | | | | | | |
| <input type="checkbox"/> Black Histic (A3) | | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) | | | | | | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | | <input type="checkbox"/> Other (Explain in Remarks) | | | | | | |
| <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) | | | | | | | | |
| Restrictive Layer (if present): | | | | | | Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | | | | |
| Type: _____ Depth (inches): _____ | | | | | | | | | | |
| Remarks: No hydric soil indicators observed | | | | | | | | | | |

HYDROLOGY

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

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 6/21/22
 Applicant/Owner: Segale State: WA Sampling Point: SP13
 Investigator(s): Will Russack, Kolten Kusters Section, Township, Range: T.21N R.07E S.21SW
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 1-3
 Subregion (LRR): NW Forest Lat: 47.2909 Long: -121.9303 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: <u>Sample plot along proposed road alignment</u> | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | | |
|---|------------------|-------------------|------------------|---|--|
| Tree Stratum (Plot size: 5 m) | | | | | |
| 1. <u>Pseudotsuga menziesii (Douglas fir)</u> | <u>40</u> | <u>Y</u> | <u>FACU</u> | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83</u> (A/B) | |
| 2. <u>Alnus rubra (red alder)</u> | <u>40</u> | <u>Y</u> | <u>FAC</u> | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| | <u>80</u> | = Total Cover | | | |
| Sapling/Shrub Stratum (Plot size: 3 m) | | | | | |
| 1. <u>Acer circinatu (vine maple)</u> | <u>40</u> | <u>Y</u> | <u>FAC</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ | |
| 2. <u>Rubus spectabilis (salmonberry)</u> | <u>30</u> | <u>Y</u> | <u>FAC</u> | | |
| 3. <u>Sambucus racemosa (red elderberry)</u> | <u>15</u> | <u>N</u> | <u>FACU</u> | | |
| 4. _____ | _____ | _____ | _____ | | |
| 5. _____ | _____ | _____ | _____ | | |
| | <u>85</u> | = Total Cover | | | |
| Herb Stratum (Plot size: 3 m) | | | | | |
| 1. <u>Hydrophyllum tenuipes (Pacific waterleaf)</u> | <u>30</u> | <u>Y</u> | <u>FAC</u> | | |
| 2. <u>Carex deweyana (Dewey's sedge)</u> | <u>30</u> | <u>Y</u> | <u>FAC</u> | | |
| 3. <u>Claytonia sp (sprinbeauty)</u> | <u>15</u> | <u>N</u> | <u>FAC</u> | | |
| 4. <u>Geranium robertianum (Herb Robert)</u> | <u>10</u> | <u>N</u> | <u>FACU</u> | | |
| 5. <u>Ranunculus repens (creeping buttercup)</u> | <u>5</u> | <u>N</u> | <u>FAC</u> | | |
| 6. <u>Tolmeia menziesii (piggyback plant)</u> | <u>5</u> | <u>N</u> | <u>FAC</u> | | |
| 7. _____ | _____ | _____ | _____ | | |
| 8. _____ | _____ | _____ | _____ | | |
| 9. _____ | _____ | _____ | _____ | | |
| 10. _____ | _____ | _____ | _____ | | |
| 11. _____ | _____ | _____ | _____ | | |
| | <u>95</u> | = Total Cover | | | |
| Woody Vine Stratum (Plot size: 3 m) | | | | | |
| 1. _____ | _____ | _____ | _____ | | |
| 2. _____ | _____ | _____ | _____ | | |
| | _____ | = Total Cover | | | |
| % Bare Ground in Herb Stratum <u>5</u> | | | | | |

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 5 - Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Sampling Point: SP13

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

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|---|----------------|---|-------------------|------------------|---------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-10 | 10YR 2/1 | | | | | | S.L | |
| 10-14+ | 10YR 4/4 | | | | | | GR.S.L | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

| | | |
|--|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | Indicators for Problematic Hydric Soils³: |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | |

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

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

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: No hydric soil indicators observed

HYDROLOGY

Wetland Hydrology Indicators:

| | |
|---|--|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | <u>Secondary Indicators (2 or more required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <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) (LRR A) |
| | <input type="checkbox"/> Frost-Heave Hummocks (D7) |

Field Observations:

| | | | |
|-----------------------------|---|-----------------------|---|
| Surface Water Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Water Table Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| Saturation Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| (includes capillary fringe) | | | |

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

Remarks: No indicators of hydrology

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 5/14/21
 Applicant/Owner: Segale LLC State: WA Sampling Point: SP14
 Investigator(s): Will Russack Section, Township, Range: T.21N R.07E S.21SW
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 1-3
 Subregion (LRR): NW Forest Lat: 47.2909 Long: -121.9303 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: SP in NW corner of section 21, south of NWI riverine feature | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|------------------|-------------------|------------------|---|
| Tree Stratum (Plot size: <u>3 m</u>) | | | | |
| 1. <u>Populus trichocarpa</u> (black cottonwood) | <u>50</u> | <u>Y</u> | <u>FAC</u> | 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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B) |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| _____ | _____ | _____ | _____ | |
| <u>50</u> = Total Cover | | | | |
| Sapling/Shrub Stratum (Plot size: <u>2 m</u>) | | | | |
| 1. <u>Acer circinatum</u> (vine maple) | <u>80</u> | <u>Y</u> | <u>FAC</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| <u>80</u> = Total Cover | | | | |
| Herb Stratum (Plot size: <u>1 m</u>) | | | | |
| 1. <u>Carex deweyana</u> (Dewey's sedge) | <u>25</u> | <u>Y</u> | <u>FAC</u> | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <u>Petasites frigidus</u> (sweet colt's foot) | <u>10</u> | <u>Y</u> | <u>FACW</u> | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| 11. _____ | _____ | _____ | _____ | |
| <u>35</u> = Total Cover | | | | |
| Woody Vine Stratum (Plot size: <u>1 m</u>) | | | | |
| 1. _____ | _____ | _____ | _____ | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| 2. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| % Bare Ground in Herb Stratum <u>60</u> | | | | |
| Remarks: | | | | |

SOIL

Sampling Point: SP 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 ¹ | Loc ² | | |
| 0-10 | 10YR 3/2 | | | | | | GR.S.L | |
| 10-14+ | 10YR 4/3 | | | | | | Gr.S.L | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. | | | | | | | | |
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) | | | | | | Indicators for Problematic Hydric Soils³: | | |
| <input type="checkbox"/> Histic Epipedon (A2) | | | <input type="checkbox"/> Sandy Redox (S5) | | | <input type="checkbox"/> 2 cm Muck (A10) | | |
| <input type="checkbox"/> Black Histic (A3) | | | <input type="checkbox"/> Stripped Matrix (S6) | | | <input type="checkbox"/> Red Parent Material (TF2) | | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | | | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) | | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | | | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | | | <input type="checkbox"/> Other (Explain in Remarks) | | |
| <input type="checkbox"/> Thick Dark Surface (A12) | | | <input type="checkbox"/> Depleted Matrix (F3) | | | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. | | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | | | <input type="checkbox"/> Redox Dark Surface (F6) | | | | | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | | <input type="checkbox"/> Depleted Dark Surface (F7) | | | | | |
| | | | <input type="checkbox"/> Redox Depressions (F8) | | | | | |
| Restrictive Layer (if present): | | | | | | Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | | |
| Type: _____ Depth (inches): _____ | | | | | | | | |
| Remarks: No hydric soil indicators | | | | | | | | |

HYDROLOGY

| Wetland Hydrology Indicators: | | | |
|--|--|---|--|
| Primary Indicators (minimum of one required; check all that apply) | | Secondary Indicators (2 or more required) | |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) | |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Drainage Patterns (B10) | |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Dry-Season Water Table (C2) | |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) | |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Geomorphic Position (D2) | |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Shallow Aquitard (D3) | |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> FAC-Neutral Test (D5) | |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) | |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Frost-Heave Hummocks (D7) | |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | | | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | | | |
| Field Observations: | | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | |
| Surface Water Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| Water Table Present? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Depth (inches): <u>10</u> | |
| Saturation Present? (includes capillary fringe) | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Depth (inches): <u>8</u> | |
| 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: Cumberland Segale City/County: King County Sampling Date: 5/14/21
 Applicant/Owner: Segale LLC State: WA Sampling Point: SP15
 Investigator(s): Will Hohman Section, Township, Range: T.21N R.07E S.21SW
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 5-10
 Subregion (LRR): NW Forest Lat: 47.2909 Long: -121.9303 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|--|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: SP in west central portion of Section 21; no surface hydrology. No soil pit excavated | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|------------------|-------------------|------------------|--|
| Tree Stratum (Plot size: <u>3 m</u>) | | | | |
| 1. <u>Tsuga heterophylla</u> (western hemlock) | <u>40</u> | <u>Y</u> | <u>FACU</u> | 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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B) |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| | <u>40</u> | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: <u>2 m</u>) | | | | |
| 1. <u>Mahonia nervosa</u> (dull Oregon grape) | <u>30</u> | <u>Y</u> | <u>FACU</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| 2. <u>Acer circinatum</u> (vine maple) | <u>15</u> | <u>Y</u> | <u>FAC</u> | |
| 3. <u>Ilex aquifolium</u> (English holly) | <u>10</u> | <u>N</u> | <u>FACU</u> | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| | <u>55</u> | = Total Cover | | |
| Herb Stratum (Plot size: <u>1 m</u>) | | | | |
| 1. <u>Polystichum munitum</u> (sword fern) | <u>40</u> | <u>Y</u> | <u>FACU</u> | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| 11. _____ | _____ | _____ | _____ | |
| | <u>35</u> | = Total Cover | | |
| Woody Vine Stratum (Plot size: <u>1 m</u>) | | | | |
| 1. _____ | _____ | _____ | _____ | Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| 2. _____ | _____ | _____ | _____ | |
| % Bare Ground in Herb Stratum <u>60</u> | | | | |
| Remarks: | | | | |

SOIL

Sampling Point: SP 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 ¹ | Loc ² | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

| | | |
|--|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | Indicators for Problematic Hydric Soils³: <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) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | |

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: no soil pit excavated

HYDROLOGY

Wetland Hydrology Indicators:

| | |
|---|---|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | <u>Secondary Indicators (2 or more required)</u> |
| <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) (except MLRA 1, 2, 4A, and 4B) <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) (LRR A) <input type="checkbox"/> Other (Explain in Remarks) |
| | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7) |

Field Observations:

| | | | |
|-----------------------------|---|-----------------------|---|
| Surface Water Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Water Table Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| Saturation Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| (includes capillary fringe) | | | |

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

Remarks: no surface hydrology observed

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 4/22/21
 Applicant/Owner: Segale LLC State: WA Sampling Point: SP16
 Investigator(s): Will Russack Section, Township, Range: T.21N R.07E S.21SW
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 5-10
 Subregion (LRR): NW Forest Lat: 47.2909 Long: -121.9303 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: SP in NW portion of Section 15 | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|------------------|-------------------|------------------|--|
| Tree Stratum (Plot size: <u>3 m</u>) | | | | |
| 1. <u>Pseudotsuga menziesii</u> (Douglas fir) | <u>50</u> | Y | FACU | 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>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B) |
| 2. <u>Alnus rubra</u> (red alder) | <u>30</u> | Y | FAC | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| | <u>80</u> | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: <u>2 m</u>) | | | | |
| 1. <u>Acer circinatum</u> (vine maple) | <u>15</u> | Y | FAC | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| 2. <u>Gaultheria shallon</u> (salal) | <u>15</u> | Y | FACU | |
| 3. <u>Rubus spectabilis</u> (Salmonberry) | <u>5</u> | N | FAC | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| | <u>35</u> | = Total Cover | | |
| Herb Stratum (Plot size: <u>1 m</u>) | | | | |
| 1. <u>Polystichum munitum</u> (sword fern) | <u>10</u> | Y | FACU | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <u>Muesci sp</u> (moss) | <u>30</u> | _____ | N.L | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| 11. _____ | _____ | _____ | _____ | |
| | <u>40</u> | = Total Cover | | |
| Woody Vine Stratum (Plot size: <u>1 m</u>) | | | | |
| 1. _____ | _____ | _____ | _____ | Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| 2. _____ | _____ | _____ | _____ | |
| % Bare Ground in Herb Stratum <u>30</u> | | | | |

Remarks:

SOIL

Sampling Point: SP 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 ¹ | Loc ² | | |
| 0-6 | 10YR 2/2 | | | | | | S.L | |
| 6-12+ | 7.5YR 4/6 | | | | | | Gr.S.L | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

| | |
|--|---|
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8) | Indicators for Problematic Hydric Soils³: <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) |
|--|---|

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

| | |
|--|---|
| Restrictive Layer (if present): Type: _____ Depth (inches): _____ | Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
|--|---|

Remarks: no hydric soils observed

HYDROLOGY

| | | |
|--|---|--|
| Wetland Hydrology Indicators: | | |
| <u>Primary Indicators (minimum of one required; check all that apply)</u> <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) (except MLRA 1, 2, 4A, and 4B) <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) (LRR A) <input type="checkbox"/> Other (Explain in Remarks) | <u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | |
| Remarks: no hydrology observed | | |

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/3/19
 Applicant/Owner: Segale State: WA Sampling Point: SP17
 Investigator(s): Will Russack, Kolten Kusters Section, Township, Range: T.21N R.07E S.21SW
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 3-5
 Subregion (LRR): NW Forest Lat: 47.2909 Long: -121.9303 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: <u>Sample plot SE of test pit 21D</u> | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | | |
|---|------------------|-------------------|------------------|--|--|
| Tree Stratum (Plot size: <u>5 m</u>) | | | | | |
| 1. <u>Pseudotsuga menziesii</u> (Douglas fir) | | Y | FACU | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B) | |
| 2. <u>Prunus virginiana</u> (choke cherry) | | Y | FACU | | |
| 3. <u>Alnus rubra</u> (red alder) | | Y | FAC | | |
| 4. _____ | | | | | |
| _____ = Total Cover | | | | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ | |
| Sapling/Shrub Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. <u>Acer circinatum</u> (vine maple) | | Y | FAC | | |
| 2. <u>Gaultheria shallon</u> (salal) | | Y | FACU | | |
| 3. <u>Holodiscus discolor</u> (oceanspray) | | Y | FACU | | |
| 4. <u>Rubus armeniacus</u> (Himalayan blackberry) | | Y | FAC | | |
| 5. _____ | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. | |
| _____ = Total Cover | | | | | |
| Herb Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. <u>Pteridium aquilinum</u> (bracken fern) | | Y | FACU | | |
| 2. <u>Polystichum munitum</u> (sword fern) | | Y | FACU | | |
| 3. _____ | | | | | |
| 4. _____ | | | | | |
| 5. _____ | | | | | |
| 6. _____ | | | | | |
| 7. _____ | | | | | |
| 8. _____ | | | | | |
| 9. _____ | | | | | |
| 10. _____ | | | | | |
| 11. _____ | | | | | |
| _____ = Total Cover | | | | | |
| Woody Vine Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. _____ | | | | | |
| 2. _____ | | | | | |
| _____ = Total Cover | | | | | |
| % Bare Ground in Herb Stratum <u>0</u> | | | | Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |

Remarks:

SOIL

Sampling Point: SP17

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

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|-------------------|---------------|---|----------------|---|-------------------|------------------|---------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

| | | |
|--|--|---|
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> 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) (except MLRA 1) <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) | Indicators for Problematic Hydric Soils³: <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>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p> | | |

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

| | | |
|--|---|--|
| Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> 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) (except MLRA 1, 2, 4A, and 4B) <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) (LRR A) <input type="checkbox"/> Other (Explain in Remarks) | Secondary Indicators (2 or more required) <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <p>Field Observations:</p> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | | |
| <p>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/></p> | | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | |
| Remarks: no surface water observed | | |

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/3/19
 Applicant/Owner: Segale State: WA Sampling Point: SP18
 Investigator(s): Will Russack, Kolten Kusters Section, Township, Range: T.21N R.07E S.21SW
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 3-5
 Subregion (LRR): NW Forest Lat: 47.2909 Long: -121.9303 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: Sample plot E of test pit 17C | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|------------------|-------------------|------------------|--|
| Tree Stratum (Plot size: 5 m) | | | | |
| 1. <u>Pseudotsuga menziesii (Douglas fir)</u> | | Y | FACU | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B) |
| 2. <u>Thuja plicata (western red cedar)</u> | | Y | FAC | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| | | | = Total Cover | |
| Sapling/Shrub Stratum (Plot size: 3 m) | | | | |
| 1. <u>Acer circinatum (vine maple)</u> | | Y | FAC | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| 2. <u>Gaultheria shallon (salal)</u> | | Y | FACU | |
| 3. <u>Rubus armeniacus (Himalayan blackberry)</u> | | Y | FAC | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| | | | = Total Cover | |
| Herb Stratum (Plot size: 3 m) | | | | |
| 1. <u>Polystichum munitum (sword fern)</u> | | Y | FACU | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| 6. _____ | | | | |
| 7. _____ | | | | |
| 8. _____ | | | | |
| 9. _____ | | | | |
| 10. _____ | | | | |
| 11. _____ | | | | |
| | | | = Total Cover | |
| Woody Vine Stratum (Plot size: 3 m) | | | | |
| 1. _____ | | | | Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| 2. _____ | | | | |
| | | | = Total Cover | |
| % Bare Ground in Herb Stratum <u>0</u> | | | | |

Remarks:

SOIL

Sampling Point: SP18

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

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|-------------------|---------------|-------|----------------|-------|-------------------|------------------|---------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

| | |
|--|--|
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8) | Indicators for Problematic Hydric Soils³: <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) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
|--|--|

| | |
|--|--|
| Restrictive Layer (if present): Type: _____ Depth (inches): _____ | Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Remarks: _____ | |

HYDROLOGY

| | | | |
|---|---|--|--|
| Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> | | <u>Secondary Indicators (2 or more required)</u> | |
| <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) (except MLRA 1, 2, 4A, and 4B) <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) (LRR A) <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7) | |
| Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ | | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | |
| Remarks: no surface water observed | | | |

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/3/19
 Applicant/Owner: Segale State: WA Sampling Point: SP19
 Investigator(s): Will Russack, Kolten Kusters Section, Township, Range: T.21N R.07E S.21SW
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Convex Slope (%): 1-2
 Subregion (LRR): NW Forest Lat: 47.2909 Long: -121.9303 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|--|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: <u>Sample plot SW of test pit 17B</u> | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | | |
|---|------------------|-------------------|------------------|--|--|
| Tree Stratum (Plot size: <u>5 m</u>) | | | | | |
| 1. <u>Pseudotsuga menziesii (Douglas fir)</u> | | Y | FACU | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B) | |
| 2. _____ | | | | | |
| 3. _____ | | | | | |
| 4. _____ | | | | | |
| _____ | | | | | |
| _____ = Total Cover | | | | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ | |
| Sapling/Shrub Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. <u>Mahonia nervosa (dull Oregon grape)</u> | | Y | FACU | | |
| 2. <u>Gaultheria shallon (salal)</u> | | Y | FACU | | |
| 3. _____ | | | | | |
| 4. _____ | | | | | |
| 5. _____ | | | | | |
| _____ = Total Cover | | | | | |
| Herb Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. <u>Polystichum munitum (sword fern)</u> | | Y | FACU | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. | |
| 2. _____ | | | | | |
| 3. _____ | | | | | |
| 4. _____ | | | | | |
| 5. _____ | | | | | |
| 6. _____ | | | | | |
| 7. _____ | | | | | |
| 8. _____ | | | | | |
| 9. _____ | | | | | |
| 10. _____ | | | | | |
| 11. _____ | | | | | |
| _____ = Total Cover | | | | | |
| Woody Vine Stratum (Plot size: <u>3 m</u>) | | | | | |
| 1. _____ | | | | | |
| 2. _____ | | | | | |
| _____ = Total Cover | | | | | |
| % Bare Ground in Herb Stratum <u>0</u> | | | | | |
| Remarks: _____ | | | | | |

SOIL

Sampling Point: SP19

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) | | | | | | | | |
|--|---------------|-------|--|-------|-------------------|---|---------|---------|
| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| _____ | 10YR 2/2 | _____ | _____ | _____ | _____ | _____ | S.L | _____ |
| _____ | 10YR 4/4 | _____ | _____ | _____ | _____ | _____ | S.L | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix. | | | | | | | | |
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) | | | | | | Indicators for Problematic Hydric Soils³: | | |
| <input type="checkbox"/> Histosol (A1) | | | <input type="checkbox"/> Sandy Redox (S5) | | | <input type="checkbox"/> 2 cm Muck (A10) | | |
| <input type="checkbox"/> Histic Epipedon (A2) | | | <input type="checkbox"/> Stripped Matrix (S6) | | | <input type="checkbox"/> Red Parent Material (TF2) | | |
| <input type="checkbox"/> Black Histic (A3) | | | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) | | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | | | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | | | <input type="checkbox"/> Other (Explain in Remarks) | | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | | | <input type="checkbox"/> Depleted Matrix (F3) | | | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. | | |
| <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) | | | | | |
| Restrictive Layer (if present): | | | | | | | | |
| Type: _____ Depth (inches): _____ | | | | | | | | |
| Remarks: | | | | | | | | |

HYDROLOGY

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

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 12/3/19
 Applicant/Owner: Segale State: WA Sampling Point: SP20
 Investigator(s): Will Russack, Kolten Kusters Section, Township, Range: T.21N R.07E S.21SW
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Convex Slope (%): 1-2
 Subregion (LRR): NW Forest Lat: 47.2909 Long: -121.9303 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: Sample plot in forest adjacent to test pit 17A | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | | |
|---|------------------|-------------------|------------------|--|--|
| Tree Stratum (Plot size: 5 m) | | | | | |
| 1. <u>Pseudotsuga menziesii (Douglas fir)</u> | | Y | FACU | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B) | |
| 2. _____ | | | | | |
| 3. _____ | | | | | |
| 4. _____ | | | | | |
| _____ | | | | | |
| _____ = Total Cover | | | | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ | |
| Sapling/Shrub Stratum (Plot size: 3 m) | | | | | |
| 1. <u>Rubus spectabilis (salmonberry)</u> | | Y | FAC | | |
| 2. <u>Gaultheria shallon (salal)</u> | | Y | FACU | | |
| 3. <u>Rubus armeniacus (Himalayan blackberry)</u> | | Y | FAC | | |
| 4. _____ | | | | | |
| 5. _____ | | | | | |
| _____ = Total Cover | | | | | |
| Herb Stratum (Plot size: 3 m) | | | | | |
| 1. <u>Polystichum munitum (sword fern)</u> | | Y | FACU | | |
| 2. _____ | | | | | |
| 3. _____ | | | | | |
| 4. _____ | | | | | |
| 5. _____ | | | | | |
| 6. _____ | | | | | |
| 7. _____ | | | | | |
| 8. _____ | | | | | |
| 9. _____ | | | | | |
| 10. _____ | | | | | |
| 11. _____ | | | | | |
| _____ = Total Cover | | | | | |
| Woody Vine Stratum (Plot size: 3 m) | | | | | |
| 1. _____ | | | | | |
| 2. _____ | | | | | |
| _____ = Total Cover | | | | | |
| % Bare Ground in Herb Stratum <u>0</u> | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. | |
| Remarks: | | | | Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |

SOIL

Sampling Point: SP20

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

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|-------------------|---------------|---|----------------|---|-------------------|------------------|---------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

| | | |
|--|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Other (Explain in Remarks) |
| <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) | |

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

| | |
|---|---|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | <u>Secondary Indicators (2 or more required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |

Field Observations:

| | | |
|--|-----------------------|--|
| Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> | Depth (inches): _____ | |
| Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> | Depth (inches): _____ | |
| (includes capillary fringe) | | |

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

Remarks: no surface water observed

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

Project/Site: Cumberland Segale City/County: King County Sampling Date: 5/14/21
 Applicant/Owner: Segale State: WA Sampling Point: SP21
 Investigator(s): Will Russack, Kolten Kusters Section, Township, Range: T.21N R.07E S.21SW
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 1-2
 Subregion (LRR): NW Forest Lat: 47.2909 Long: -121.9303 Datum: WGS 84
 Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: None

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

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

| | |
|--|--|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Remarks: Sample plot in west central portion of Section 21 | |

VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status | | |
|---|------------------|-------------------|------------------|---|--|
| Tree Stratum (Plot size: 5 m) | | | | | |
| 1. <u>Tsuga heterophylla (western hemlock)</u> | <u>60</u> | <u>Y</u> | <u>FACU</u> | 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>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20</u> (A/B) | |
| 2. _____ | _____ | _____ | _____ | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| _____ | _____ | _____ | _____ | | |
| <u>60</u> = Total Cover | | | | | |
| Sapling/Shrub Stratum (Plot size: 3 m) | | | | | |
| 1. <u>Acer circinatum (vine maple)</u> | <u>30</u> | <u>Y</u> | <u>FAC</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ | |
| 2. <u>Vaccinium parvifolium (evergreen huckleberry)</u> | <u>10</u> | <u>Y</u> | <u>FACU</u> | | |
| 3. <u>Gaultheria shallon (salal)</u> | <u>10</u> | <u>Y</u> | <u>FACU</u> | | |
| 4. _____ | _____ | _____ | _____ | | |
| 5. _____ | _____ | _____ | _____ | | |
| _____ | _____ | _____ | _____ | | |
| <u>50</u> = Total Cover | | | | | |
| Herb Stratum (Plot size: 1 m) | | | | | |
| 1. <u>Polystichum munitum (sword fern)</u> | <u>30</u> | <u>Y</u> | <u>FACU</u> | | |
| 2. _____ | _____ | _____ | _____ | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| 5. _____ | _____ | _____ | _____ | | |
| 6. _____ | _____ | _____ | _____ | | |
| 7. _____ | _____ | _____ | _____ | | |
| 8. _____ | _____ | _____ | _____ | | |
| 9. _____ | _____ | _____ | _____ | | |
| 10. _____ | _____ | _____ | _____ | | |
| 11. _____ | _____ | _____ | _____ | | |
| <u>30</u> = Total Cover | | | | | |
| Woody Vine Stratum (Plot size: 1 m) | | | | | |
| 1. _____ | _____ | _____ | _____ | | |
| 2. _____ | _____ | _____ | _____ | | |
| _____ = Total Cover | | | | | |
| % Bare Ground in Herb Stratum <u>50</u> | | | | | |
| Remarks: | | | | | |

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: SP21

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

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|---|----------------|---|-------------------|------------------|---------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

| | | |
|--|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | Indicators for Problematic Hydric Soils³: <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) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | |

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

| | |
|---|---|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | <u>Secondary Indicators (2 or more required)</u> |
| <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) (except MLRA 1, 2, 4A, and 4B) <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) (LRR A) <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7) | |

Field Observations:

| | | |
|---|-----------------------|---|
| Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |

(includes capillary fringe)

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

Remarks: no indicators of hydrology