

Thurston County
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CRITICAL AREAS ASSESSMENT

**PARCEL 22612200700
LOT#7 - YELM MEADOWS COMMUNITY
BALD HILLS AREA OF THURSTON COUNTY
WASHINGTON**

prepared for

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INTRODUCTION

This document details the culmination of activities and onsite evaluations undertaken to complete an onsite critical areas assessment as a part of future planning for potential site development actions within **Parcel 22611110700** (project site). The project site was approximately 40-acres in size and consisted of a single existing parcel (Lot #7) located within the Yelm Meadows Community, Bald Hills Area southeast of the City of Yelm, Thurston County, Washington (Figure 1). The evaluation and delineation of onsite and adjacent critical areas (i.e. wetlands, surface water drainage corridors, and critical fish and wildlife habitats) is a vital element in the planning and selection of a site development action. The goal of this approach is to ensure that planned site development does not result in adverse environmental impacts to these identified critical areas or their associated protective buffers.

The onsite assessment and evaluation of critical areas within and immediately adjacent to the project site was completed following the methods and procedures defined in the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010); the *Washington State Wetland Rating System for Western Washington: 2014 Update* Publication #14-06-029 (Hruby, 2014); the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030); and Thurston County Title 24 – Critical Areas.

PROJECT SITE DESCRIPTION

The project site was irregular in shape and approximately 40-acres in total size. The project site was within a rural residential area of similarly sized parcels in the Yelm Meadows Community. The project site was accessed by Thimbleberry Lane that generally crossed through the central portion of the project site. The project site was created as a part of the Yelm Meadows Lot Segregation in 2006.

Legal Description: Section 11 Township 16 Range 2E Quarter NE & SE & SE Survey YELM MEADOWS SEGREGATION LOTS LT 7 Document 3850419.

Directions to Project Site: From SR507 within the City of Yelm continue generally southward through Yelm to the intersection of SR507 and Bald Hill Road SE. Exit SR507 onto Bald Hills Road SE and continue generally southeasterly on Bald Hill Road SE to Mountain Vista Drive SE. Turn north onto Mountain Vista Drive SE and continue to 146th Avenue SE. Turn east on 146th Avenue SE and continue to Brenda Drive SE. Turn northward onto Brenda Drive SE and continue to Thimbleberry Lane SE. Turn generally north onto Thimbleberry Lane SE and continue project site.

BACKGROUND INFORMATION

NATIONAL WETLAND INVENTORY

The *National Wetland Inventory (NWI) Mapping* completed by the U.S. Fish and Wildlife Service was reviewed as a part of this assessment (Figure 2). This mapping resource identified portions of a wetland complexes within and adjacent to the southwestern portion of the project site. This wetland was identified as palustrine, forested, temporarily flooded (PFOA). This wetland was noted to continue offsite into adjacent parcels.

STATE OF WASHINGTON PRIORITY HABITATS AND SPECIES

The State of Washington *Priority Habitats and Species (PHS) Mapping* was reviewed as a part of this assessment (Figure 3). This mapping resource generally identified the same wetland areas within and adjacent to the project site as noted in the NWI mapping resource above.

STATE OF WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

The State of Washington Department of Fish and Wildlife (WDFW) *SalmonScape Mapping* was reviewed as a part of this assessment (Figure 4). This mapping resource did not identify any streams within the project site. This mapping resource identified a stream well to the north of the project site and to continue to the east and west. This stream was identified as part of the Yelm Creek/Yelm Ditch Systems depending upon a number of managed ditch systems and to eventually enter the Nisqually River. This stream within the general area of the project site was not identified to provide direct habitats for salmonid fish (genus *Oncorhynchus*).

STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

The State of Washington Department of Natural Resources (WDNR) *Water Type Mapping* was reviewed as a part of this assessment (Figure 5). This mapping resource generally identified the wetlands noted in the NWI and PHS mapping resources above within and adjacent to the project site.

THURSTON COUNTY INVENTORY

The *Thurston County Inventory Mapping* was reviewed as a part of this assessment (Figure 6). This mapping resource identified wetlands, and wetland buffers within the project site. This mapping resource also noted that the area generally identified as

wetland below in the western portion of the project site to contained soils typically noted as “less preferred” to be utilized by Mazama pocket gopher (*Thomomys mazama*).

SOILS MAPPING

The *Soil Mapping Inventory* completed by the Natural Resources Conservation Service was reviewed as a part of this assessment (Figure 7). This mapping resource identified the soils within the project site as Baldhill very stony sandy loam (005/006), Kapowsin silt loam (050), Everson clay loam (036), and McKenna gravelly silty loam (065) within the project site.

PRIOR ASSESSMENTS

A series of prior assessments of the project site, along with the adjacent parcels, had been completed by Habitat Technologies since the early 2000s. These assessments included the identification of wetlands, surface water drainages, wildlife habitats, and listed threatened species (i.e. Mazama gopher) habitat utilization. Much of the information provided by these prior assessments had been used to resolve potential clearing and grading issues, to create the present parcel configurations, to create single family homesites, and to create a pattern of internal roadways. These assessments have also been utilized by Thurston County to map wetland and drainage corridors within and adjacent to the Yelm Meadows Community.

ONSITE ANALYSIS

CRITERIA FOR CRITICAL AREAS IDENTIFICATION

Thurston County defines “critical areas” to include the following areas, as per RCW 36.70A: critical aquifer recharge areas; geologic hazard areas; fish and wildlife habitat conservation areas; flood and channel migration hazard areas; and wetlands. The *Critical Areas Assessment* presented within this document has focused on wetlands and fish and wildlife habitat conservations areas. This assessment did not characterize other critical areas such as potential steep slopes, potential erosion hazard areas, potential flood zones, potential critical aquifer recharge areas, or potential channel migration hazard areas.

- **Wetlands**

Wetlands are transitional areas between aquatic and upland habitats. In general terms, wetlands are lands where the extent and duration of saturation with water is the primary

factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface (Cowardin, et al., 1979). Wetlands are generally defined within land use regulations as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (United States Army Corps of Engineers, 1987).

Wetlands exhibit three essential characteristics, all of which must be present for an area to meet the established criteria (United States Army Corps of Engineers, 1987 and United States Army Corps of Engineers, 2010). These essential characteristics are:

1. **Hydrophytic Vegetation:** The assemblage of macrophytes that occurs in areas where inundation or soil saturation is either permanent or of sufficient frequency and duration to influence plant occurrence. Hydrophytic vegetation is present when the plant community is dominated by species that require or can tolerate prolonged inundation or soil saturation during the growing season.
2. **Hydric Soil:** A soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper parts. Most hydric soils exhibit characteristic morphologies that result from recent periods of saturation or inundation. These processes result in distinctive characteristics that persist in the soil during both wet and dry periods.
3. **Wetland Hydrology:** Permanent or periodic inundation, or surface soil saturation, at least seasonally. Wetland hydrology indicators are used in combination with indicators of hydric soil and hydrophytic vegetation to define the area. Wetland hydrology indications provide evidence that the site has a continuing wetland hydrology regime. Where hydrology has not been altered vegetation and soils provide strong evidence that wetland hydrology is present.

- **Fish and Wildlife Habitat Areas**

"Fish and Wildlife Habitat Conservation Areas" are areas that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term. These areas may include, but are not limited to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors; and areas with high relative population density or species richness. These also include locally important habitats and species. Fish and Wildlife Habitat Conservation Areas that must be considered for classification and designation include:

- A. Areas where endangered, threatened, and sensitive species have a primary association;
- B. Habitats and species of local importance, as determined locally;

- C. Commercial and recreational shellfish areas;
- D. Kelp and eelgrass beds; herring, smelt, and other forage fish spawning areas;
- E. Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat;
- F. Waters of the state;
- G. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;
- H. State natural area preserves, natural resource conservation areas, and state wildlife areas; and
- I. Any other habitat areas as defined by WAC 365-190-130, as amended.

Specific to Westside Dry Prairies: As defined by the State of Washington Department of Fish and Wildlife, and as adopted by Thurston County in TCC Title 24 – Critical Areas, prairies are “herbaceous, non-forested plant communities that can either take the form of a dry prairie where soils are well-drained or a wet prairie. In parts of the Puget Trough prairies can sometimes be recognized by mounded topography commonly referred to as Mima Mounds.

Although dry prairies can occur on other soils, typically such prairies occur on any one of the soils known to be associated with a prairie (i.e. Alderwood, Baldhill, Cagey, Everett, Grove, Indianola, Nisqually, Spana, Spanaway, Tenino). In addition, certain vegetation characteristics typify a dry prairie. These characteristics include the occurrence of diagnostic grasses, sedges, and forbs. The presence of these certain diagnostic plants is required to establish an occurrence of a dry prairie.

Those areas that are dominated by prairie soils but which are no longer dominated by the specific diagnostic prairie plants, a combination of native and non-native invasive plants typically dominates the plant community. These native and non-native species include a wide variety of seeded and native grasses and forbs, as well as a variety of invasive native and non-native shrubs and trees.

STUDY METHODS

Habitat Technologies completed a series of onsite assessments of the project site from May 2019 through July 2019, consistent with the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010); the Washington State *Wetland Rating System for Western Washington: 2014 Update* Publication #14-06-029 (Hruby, 2014); the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030); and Thurston County Title 24 – Critical Areas. Field data sheets are provided in Appendix A and the location of each sample plot is provided on the attached graphic.

FIELD OBSERVATION

The project site was dominated by a regenerating forest plant community. Portions of the project site had undergone forest harvest and replanting activities approximately 15 to 20 years ago. Shallow depressional swales was identified within the southern, eastern, and western portions of the project site, within and adjacent to the northern boundary of the project site, and within central portion of the site. The swale areas along the eastern and western boundaries of the project site were identified to seasonally (intermittently) drain generally to the north and into the wetland noted along the northern boundary area of the project site.

- **Soils**

As documented at representative sample plots throughout the upland areas within the project site the soils typical exhibited characteristics of the Baldhill soil series. Soil texture was generally very gravelly loam to stony sandy loam that appeared to drain moderately well to well. Surface soil coloration ranged from dark brown (10YR 3/3) to very dark grayish brown (10YR 3/2). The subsoil exhibited a generally brown coloration (10YR 3/3 to 10YR 4/3). The onsite soils did not exhibit prominent redoximorphic features.

The soils within the shallow swales and shallow depressions within the project site exhibited a surface soil coloration of very dark grayish brown (10YR 3/2) to black (10YR 2/1). The subsoil varied from black (10YR 2/1) to dark grayish brown (10YR 4/2) and exhibited prominent redoximorphic features (i.e. depleted matrix and redox concentrations). Oxidized root channels were also noted. The soil ranged from a gravelly loam, to silty loam, to gravelly stoney loam in texture. The soils within these areas exhibited prominent field indicators typical of hydric soil.

- **Hydrology**

Onsite hydrology appeared to be the result of seasonal stormwater runoff from onsite and the seasonal movement of surface water within the identified swale areas. The majority of the project site outside the identified topographic swale appeared to drain moderately well to well and did not exhibit field indicators typically associated with wetland hydrology. Onsite hydrology patterns were seasonal and appeared to be the result of seasonal stormwater runoff, soil characteristics, prior land use impacts, and slope characteristics.

A shallow topographic swale (noted as Wetland A) was identified to originate offsite to the southwest of the project site and to extend generally north/northeasterly through the eastern portion of the project site. A second topographic swale (also noted as Wetland A) was identified to originate to the south/southeast of the project site and then combine with the southwestern swale along the southern edge of Thimbleberry Lane SE. Seasonal surface water within this combined topographic swale then passed to the north

via culvert within Thimbleberry Lane SE and to continue northward within a topographic swale along the northwestern portion of the project site.

A second culvert associated with Thimbleberry Lane SE was present along the southcentral boundary of the project site. This culvert generally allowed seasonal surface water runoff within a small area to the north of Thimbleberry Lane SE to pass southerly into the topographic depression on the southern side of Thimbleberry Lane SE.

As defined during prior site assessments seasonal surface water leaving the site via the topographic swale along the northwestern portion of the project site continued generally northerly to potentially enter the Yelm Creek/Yelm Ditch Corridor well offsite to the north. No movement of seasonal surface water was observed during the onsite assessment.

A small, excavated depression was present in the southeastern portion of the project site adjacent to Starflower Lane SE. This excavated depression appeared to be a barrow pit for prior internal roadway development and maintenance. This excavated depression exhibited seasonal ponding and did not exhibit an outlet.

- **Vegetation**

The project site exhibited two (2) primary plant communities, both of which had undergone prior land use manipulations. The first plant community was typically associated with the majority of the project site and was dominated by a mixed upland, reproduction forest. Observed tree species included Douglas fir (*Pseudotsuga menziesii*), Western red cedar (*Thuja plicata*), Western hemlock (*Tsuga heterophylla*), red alder (*Alnus rubra*), black cottonwood (*Populus trichocarpa*), big leaf maple (*Acer macrophyllum*), Oregon oak (*Quercus garryana*), and cherry (*Prunus* spp.). The understory included Himalayan blackberry (*Rubus procera*), evergreen blackberry (*Rubus laciniatus*), trailing blackberry (*Rubus ursinus*), rose (*Rosa* spp.), Indian plum (*Oemleria cerasiformis*), vine maple (*Acer circinatum*), Pacific red elderberry (*Sambucus racemosa*), Oregon grape (*Berberis nervosa* and *Berberis aquifolium*), hazelnut (*Corylus cornuta*), Saskatoon (*Amelanchier alnifolia*), salal (*Gaultheria shallon*), salmonberry (*Rubus spectabilis*), Pacific ninebark (*Physocarpus capitatus*), red huckleberry (*Vaccinium parvifolium*), sword fern (*Polystichum munitum*), bracken fern (*Pteridium aquilium*), western trillium (*Trillium ovatum*), foam flower (*Tiarella trifoliata*), bluegrass (*Poa* spp.), bedstraw (*Galium* spp.), hairy cats ear (*Hypochaeris radicata*), dandelion (*Taraxacum officinale*), daisy (*Bellis perennis*), clover (*Trifolium* spp.), and buttercup (*Ranunculus repens*). This plant community was located throughout the upland areas of the project site and was identified as non-hydrophytic in character (i.e. typical of uplands). This plant community was also identified to extend offsite within similar upland areas.

The second plant community was defined as a mixed forest dominated by species typically associated with damp to saturated soils conditions. Observed species included red alder, Sitka willow (*Salix sitchensis*), Western red cedar, Oregon ash (*Fraxinus latifolia*), black cottonwood, crabapple (*Pyrus fusca*), salmonberry, Pacific ninebark, black

twinberry (*Lonicera involucrata*), Nootka rose (*Rosa nutkana*), common lady fern (*Athyrium filix-femina*), deer fern (*Blechnum spicant*), slough sedge (*Carex obnupta*), skunk cabbage (*Lysichitum americanum*), small fruited bulrush (*Scirpus microcarpus*), soft rush (*Juncus effusus*), water parsley (*Oenanthe sarmentosa*), speedwell (*Veronica scutellata*), buttercup, curled dock (*Rumex crispus*), big leaf avens (*Geum macrophyllum*), reed canarygrass (*Phalaris arundinacea*), and reed mannagrass (*Glyceria grandis*). This plant community was identified as hydrophytic in character (i.e. typical of wetlands). This plant community extended offsite within similarly identified swales.

- **Wildlife Observations**

A variety of wildlife species were observed (directly or indirectly) within the project site. The majority of these observed species are commonly present within rural-residential areas and managed forest plant communities. Observed species, those species identified during prior assessments, and those species likely to use the habitats provided by the project site include red tailed hawk (*Buteo jamaicensis*), rough legged hawk (*Buteo lagopus*), turkey vulture (*Cathartes aura*), bald eagle (*Haliaeetus leucocephalus*), merlin (*Falco columbarius*), ruffed grouse (*Bonasa embellus*), California quail (*Lophortyx californicus*), common mallard (*Anas platyrhynchos*), mourning dove (*Zenaida macroura*), great horned owl (*Bubo virginianus*), American crow (*Corvus brachyrhynchos*), Northern flicker (*Colaptes auratus*), hairy woodpecker (*Picoides villosus*), pileated woodpecker (*Dryocopus pileatus*), violet green swallow (*Tachycineta thalassina*), tree swallow (*Tachycineta bicolor*), American robin (*Turdus migratorius*), song sparrow (*Melospiza melodia*), black capped chickadee (*Parus atricapillus*), dark-eyed junco (*Junco hyemalis*), purple finch (*Carpodacus purpureus*), house finch (*Carpodacus mexicanus*), white crowned sparrow (*Zonotrichia leucophrys*), brown creeper (*Certhia americana*), bushtit (*Psaltiriparus minimus*), evening grosbeak (*Coccothraustes vespertina*), rufous sided towhee (*Pipilo erythrophthalmus*), starling (*Sturnus vulgaris*), rock dove (*Columbia livia*), Steller jay (*Cyanocitta stelleri*), rufous hummingbird (*Selasphorus rufus*), American kestrel (*Falco sparverius*), great blue heron (*Ardea herodias*), Roosevelt elk (*Cervus elaphus roosevelti*), black bear (*Ursus americanus*), black tailed deer (*Odocoileus hemionus*), cougar (*Felis concolor*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginianus*), longtail weasel (*Mustela frenata*), deer mouse (*Peromyscus maniculatus*), shrew (*Sorex* spp.), mole (*Scapanus* spp.), bats (*Myotis* spp.), Townsend Chipmunk (*Eutamias townsendi*), Douglas squirrel (*Tamiasciurus douglasi*), eastern gray squirrel (*Sciurus carolinensis*), Norway rat (*Rattus norvegicus*), deer mouse (*Peromyscus maniculatus*), shrew (*Sorex* spp.), eastern cottontail (*Sylvilagus floridanus*), and vole (*Microtus* spp.). The project site was identified to provide spawning habitats for amphibians – tree frog (*Hyla regilla*). The project site was not identified and has not been documented to provide direct habitats for fish species.

OF SPECIAL NOTE: A specific assessment of potential project site utilization by Mazama pocket gophers (*Thomomys mazama*) was not completed as a part of this assessment. However, this assessment did identify that because of the forested

character of the project site and the forested character of adjacent parcels that neither the project site nor adjacent parcels exhibited a “prairie ecosystem” habitat type. As such, the presence of those species dependent upon “prairie ecosystems” (i.e. Mazama pocket gophers, streaked horned lark, Taylor’s checkerspot butterfly) would be highly unlikely within or immediately adjacent to the project site.

MOVEMENT CORRIDORS: The project site was generally located within a rural residential area. The project site appeared well used by the daily movements of wildlife species and was within the seasonal migratory pathways for a variety of passerine birds.

- **State Priority Species**

Several species identified by the State of Washington as “Priority Species” were observed onsite or potentially may utilize the project site. Priority species require protective measures for their survival due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance.

Game Species: “Game species” are regulated by the State of Washington through recreational hunting bag limits, harvest seasons, and harvest area restrictions. Observed or documented “game species” within and adjacent to the project site included Roosevelt elk, black bear, black-tailed deer, cougar, bobcat, ruffed grouse, common mallard, California quail, and mourning dove.

State Monitored: State Monitored species are native to Washington but require habitat that has limited availability, are indicators of environmental quality, require further assessment, have unresolved taxonomy, may be competing with other species of concern, or have significant popular appeal. A few State Monitored species – great blue heron and turkey vulture – may utilize the habitats associated with the project site.

State Candidate: State Candidate species are presently under review by the State of Washington Department of Fish and Wildlife (WDFW) for possible listing as endangered, threatened, or sensitive. One State Candidate species - pileated woodpecker – were identified to use the habitats within and adjacent to the project site.

State Sensitive: State Sensitive species are native to Washington and is vulnerable to declining and is likely to become endangered or threatened throughout a significant portion of its range without cooperative management or removal of threats. No State Sensitive species were observed as a part of this assessment.

State Threatened: State Threatened species means any wildlife species native to the state of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state

without cooperative management or removal of threats. The project site did not appear to provide direct critical habitats for State Threatened species.

State Endangered: State endangered species means any species native to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state. The project site did not appear to provide direct critical habitats for State Endangered species.

- **Federally Listed Species**

The project site was not identified and has not been documented to provide critical habitats for federally listed endangered, threatened, or sensitive species. A single, federally listed “species of concern” – bald eagle – has been observed and documented to utilize the habitats provided by Nisqually River Corridor, larger surface water drainages, area lakes, and ponds within the general area of the project site. As such, this species may overfly the project site and may occasionally over fly the project site.

As noted above, neither the project site nor adjacent parcels exhibited a “prairie ecosystem.” As such, the presence of those federally listed species dependent upon “prairie ecosystems” would be highly unlikely within or immediately adjacent to the project site. In addition, prior assessment of a variety of parcels within the Yelm Meadows Community have not documented the presence of any federally listed species dependent upon “prairie ecosystems.”

CRITICAL AREAS DETERMINATION

Critical Areas determination was based on the methods and criteria outlined in following the methods and procedures defined in the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010); the Washington State *Wetland Rating System for Western Washington: 2014 Update* Publication #14-06-029 (Hruby, 2014); the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030); and Thurston County Title 24 – Critical Areas.

WETLANDS

Wetland determination was based on sample plots which contained hydrophytic vegetation, hydric soils, and wetland hydrology in accordance with the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010).

Based on these methods one (1) contiguous areas within the project site were identified to exhibit all three of the established wetland criteria.

WETLAND	CLASSIFICATION (USFWS) (onsite)	THURSTON COUNTY CATEGORY	WDOE RATING SCORE	WDOE HABITAT SCORE	ESTIMATED BUFFER WIDTH
A	PFOE	II	20	7	240 feet

Wetland A: Wetland A was identified as a combination of two shallow topographic swales that originated offsite generally to the south and continued generally northerly within the western portion of the project site. This wetland was also identified to continue offsite with seasonal surface water runoff potentially entering the Yelm Creek/Yelm Ditch Corridor well offsite to the north. This wetland was estimated from aerial photos as approximately 50+-acres in size (onsite and offsite). As viewed in aerial photos, from public roadways, and prior assessments Wetland A appeared to have undergone a number of prior land use manipulations primarily associated with forest harvest and forest production actions. Wetland A exhibited a mixed forest plant community within the project site and adjacent areas. Wetland hydrology was provided by seasonal stormwater sheetflow, seasonal flow within wetland, and soils characteristics.

Onsite Wetland A met the U.S. Fish and Wildlife Service (USFWS) criteria for classification of palustrine, forested, seasonally flooded/saturated (PFOE). Wetland A was also identified to meet the criteria for designation as a Thurston County Category II Wetland. Wetland A achieved a total functions score of 20 points (7 habitat points) utilizing the Washington State Department of Ecology (WDOE) Wetland Rating Form for Western Washington - 2014 Version (Hruby 2014) (Appendix B).

FISH AND WILDLIFE HABITAT CONSERVATION AREAS

The project site exhibited two primary habitat types – a reproduction upland forest and a forested wetland – neither of which meet the criteria for designation as Thurston County “fish and wildlife habitat conservation areas.” No habitats onsite were identified as “critical habitats” for wildlife species listed as endangered, threatened, or sensitive by the Washington Department of Fish and Wildlife, the National Marine Fisheries Service, or the U.S. Fish and Wildlife Service. In addition, the project site did not exhibit habitats and species of local importance as defined by Thurston County, did not exhibit marine environments, did not exhibit naturally occurring ponds, did not exhibit natural resource conservation areas, and did not exhibit or other habitats listed within Thurston County Title 24.

The project was noted to contain Oregon white oak tree habitat within identified scattered pockets of wetland buffer areas in the project site. These areas included a mixture of other tree species and a generally dense understory that had been retained during prior forest harvest actions.

REGULATORY CONSIDERATION

The proposed alteration of lands defined by various federal, state, and local authority rules and regulations as "critical areas or critical habitats" raises environmental concerns that are generally addressed in the development review and planning process. These concerns center on the development's potential adverse impacts to the structure, function, value, and size of these critical areas and critical habitats. Such adverse impacts may include: a reduction in wildlife habitats, reduced surface water quality, reduced water retention, a reduced ground water recharge rate, reduced plant species diversity, and the reduction in the function and value of other associated wetland/stream and non-wetland/stream characteristics.

THURSTON COUNTY - CRITICAL AREAS

Thurston County regulates activities in and around wetland, stream, and critical fish and wildlife habitat areas through Title 24 - Critical Areas. Mitigation actions associated with development proposals impacting critical areas shall adhere to the following mitigation sequence:

- A. Avoiding the impact altogether by not taking a certain action or parts of an action;
- B. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;
- C. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- D. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
- E. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or
- F. Monitoring the impact and taking appropriate corrective measures

- **Wetland Categories (24.30)**

Wetlands within Thurston County are classified into categories and scored for habitat, water quality, and hydrologic functions using the most recently approved version of the Washington State Department of Ecology's *Wetland Rating System for Western Washington* (Washington State Department of Ecology publication number 14-06-029, published October 2014) (Hruby 2014).

- **Wetland Buffers**

To retain the natural functions of wetlands and adjacent associated riparian functions, Thurston County requires that buffers shall be established consistent with the provisions of 24.30.045 which identifies the standard wetland buffer widths. These standard buffer widths may be reduced pursuant to 24.30.050, increased pursuant to 24.30.055, or reconfigured pursuant to 24.30.060. Established buffers shall be maintained in their existing condition, except as provided for in this chapter. Buffer widths shall be measured on a horizontal plane outward from the outer edge of the wetland and established consistent with the provision of 24.30.020.

- **Fish and Wildlife Conservation Areas (24.25)**

Thurston County has adopted regulations to protect habitat and healthy functioning ecosystems to support viable populations of priority and locally important fish, wildlife, and plants in Thurston County; to preserve the functions and values of locally important habitat; to protect the functions and values of priority habitats such as, but not limited to, prairies, Oregon white oak, and riparian areas along streams and marine waters; to protect the function and values of marine habitats, including shellfish beds harvested for commercial use or personal consumption; and to provide for connectivity among fish and wildlife habitats. Fish and wildlife habitat conservation areas are typically identified either by known point locations of specific species or by habitat areas or both. The presence of a fish and wildlife habitat conservation area and/or buffer on a parcel triggers the requirements of this chapter, regardless of whether or not the habitat conservation area has been mapped.

Thurston County has identified a range of important habitats and species. These include Federally Listed Species and Associated Habitats. Animal and plant species listed under the federal Endangered Species Act (64 FR 14307) as endangered, threatened, or candidates for listing and their habitats of primary association; Washington State listed priority species and their habitats of primary association; Washington State listed priority habitats; prairies and prairie habitats; Oregon white oak (*Quercus garryana*) woodlands, stands, and individual trees; Washington State listed plant species identified as “rare;” and habitats and species of “Local Importance.”

- **Fish and Wildlife Conservation Area Buffers**

Thurston County may require that protective buffers be established adjacent to an identified conservation area. The identified buffers for the habitat or species on a case-by-case basis, in consultation with the Washington Department of Fish and Wildlife (WDFW) or others with expertise, based on the critical area report and the WDFW management recommendations for Washington's priority habitats and species, if available. The buffers shall reflect the sensitivity of the specific habitat(s) and/or species to be protected.

SELECTED DEVELOPMENT ACTION

The *Selected Development Action* has not yet been fully identified for the project site. If undertaken, ongoing and future forest management actions and potential future site development actions shall be consistent with the Thurston County Comprehensive Plan, local zoning, Thurston County Title 24 – Critical Areas, Thurston County Title 20 – Forest Management, and the local neighborhood.

STANDARD OF CARE

This critical areas assessment has been completed by Habitat Technologies for use by **Ms. Cindy Smith**. Prior to extensive site planning the findings documented in this document should be reviewed and verified by Thurston County and potentially other resource agency personnel. Habitat Technologies has provided professional services that are in accordance with the degree of care and skill generally accepted in the nature of the work accomplished. No other warranties are expressed or implied. Habitat Technologies is not responsible for design costs incurred before this document is approved by the appropriate resource and permitting agencies.

Bryan W. Peck

Bryan W. Peck
Wetland Biologist

Thomas D. Deming

Thomas D. Deming, PWS
Habitat Technologies

FIGURES

Figure 1 Site Vicinity



Legend

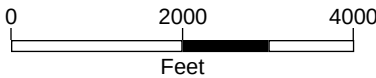
Roads

- City
- County
- Government
- Private
- State

Roads - Major (Large Scale)

- <all other values>
- 15 ACCESS; US 101 ACCESS; US 101 SB OFF RAMP

Scale 1: 39,372



Map Created Using GeoData Public Website

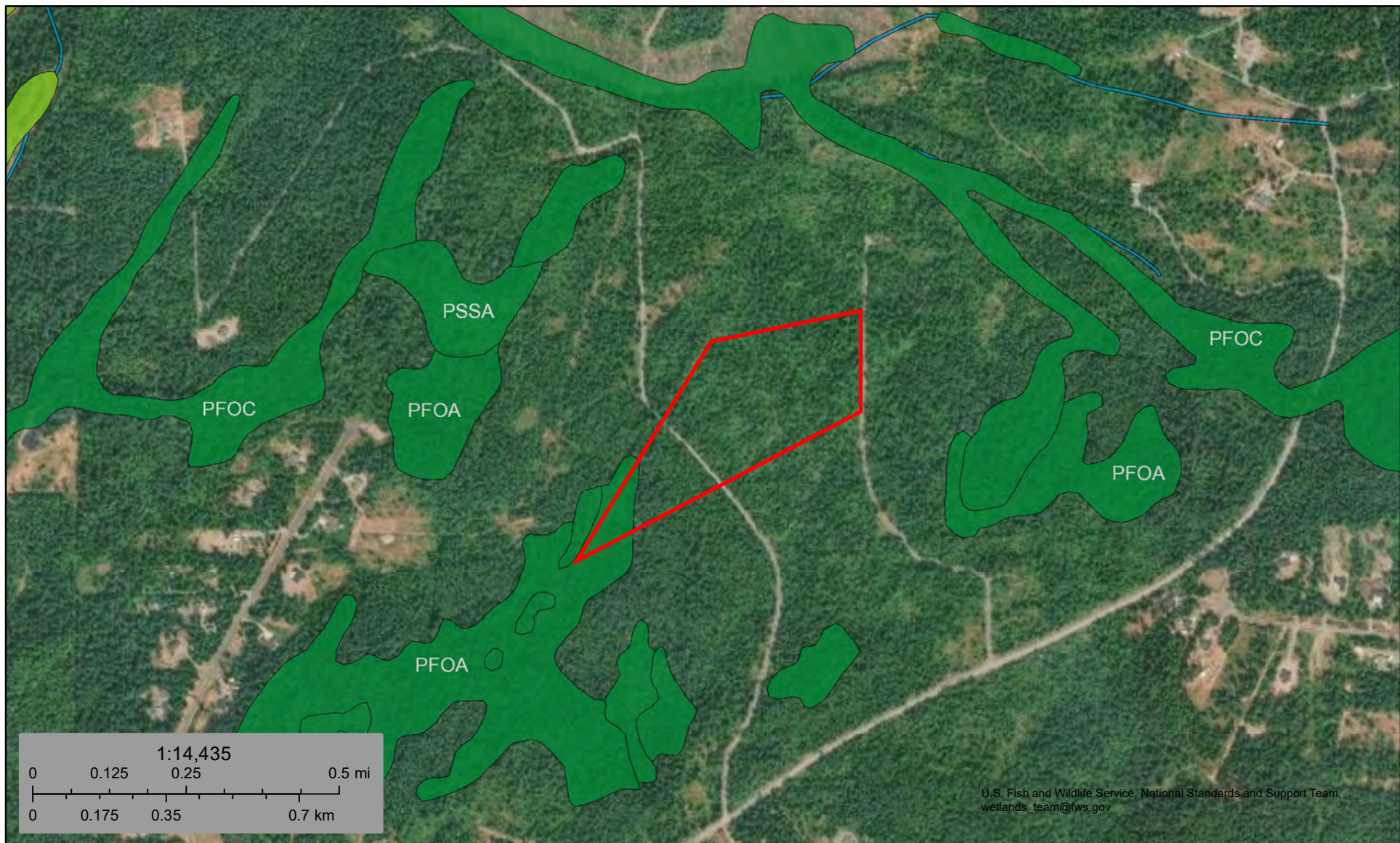
Published: 7/22/2019

Note:



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Figure 2 NWI Mapping



July 22, 2019

Wetlands

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

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



WASHINGTON DEPARTMENT OF FISH AND WILDLIFE PRIORITY HABITATS AND SPECIES REPORT

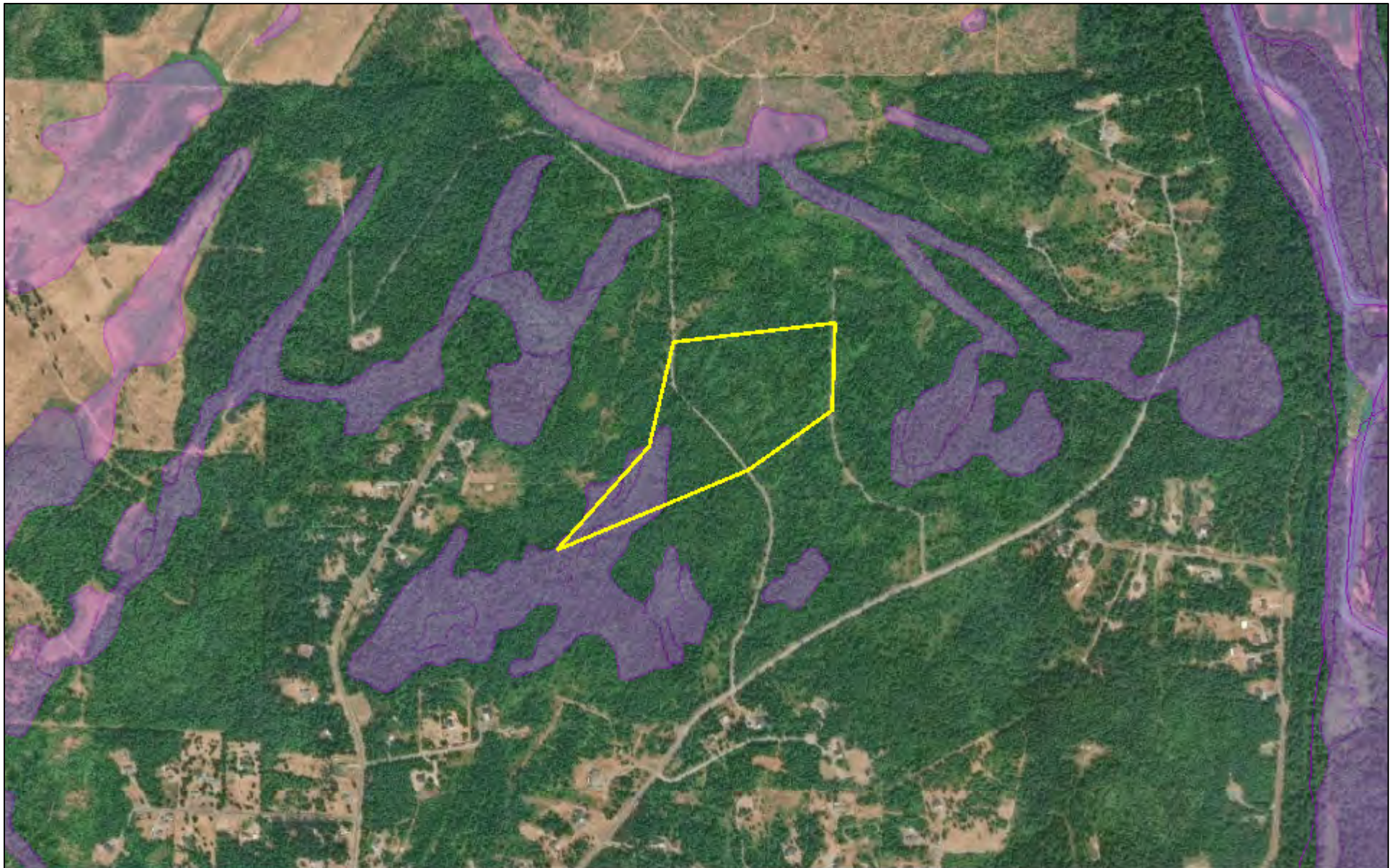
Figure 3

SOURCE DATASET: PHSPublic
REPORT DATE: 07/22/2019 8.19

Query ID: P190722081857

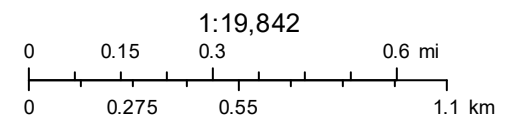
Common Name	Site Name	Priority Area	Accuracy	Federal Status	Sensitive Data	Source Entity
Scientific Name	Source Dataset	Occurrence Type		State Status	Resolution	Geometry Type
Notes	Source Date	More Information (URL)		PHS Listing Status		
Freshwater Forested/Shrub	N/A	Aquatic Habitat	NA	N/A	N	US Fish and Wildlife Service
	NWIWetlands	Aquatic habitat		N/A	AS MAPPED	Polygons
		http://www.ecy.wa.gov		PHS Listed		
Freshwater Forested/Shrub	N/A	Aquatic Habitat	NA	N/A	N	US Fish and Wildlife Service
	NWIWetlands	Aquatic habitat		N/A	AS MAPPED	Polygons
		http://www.ecy.wa.gov		PHS Listed		
Freshwater Forested/Shrub	N/A	Aquatic Habitat	NA	N/A	N	US Fish and Wildlife Service
	NWIWetlands	Aquatic habitat		N/A	AS MAPPED	Polygons
		http://www.ecy.wa.gov		PHS Listed		

DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.



July 22, 2019

- | | | | | | |
|---|----------------------|---|---|---|----------|
|  | PHS Report Clip Area | POLY |  | QTR-TWP | |
|  | PT |  | AS MAPPED |  | TOWNSHIP |
|  | LN |  | SECTION | | |



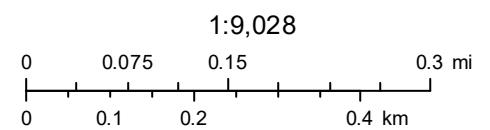
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 4 WDFW Salmonscape



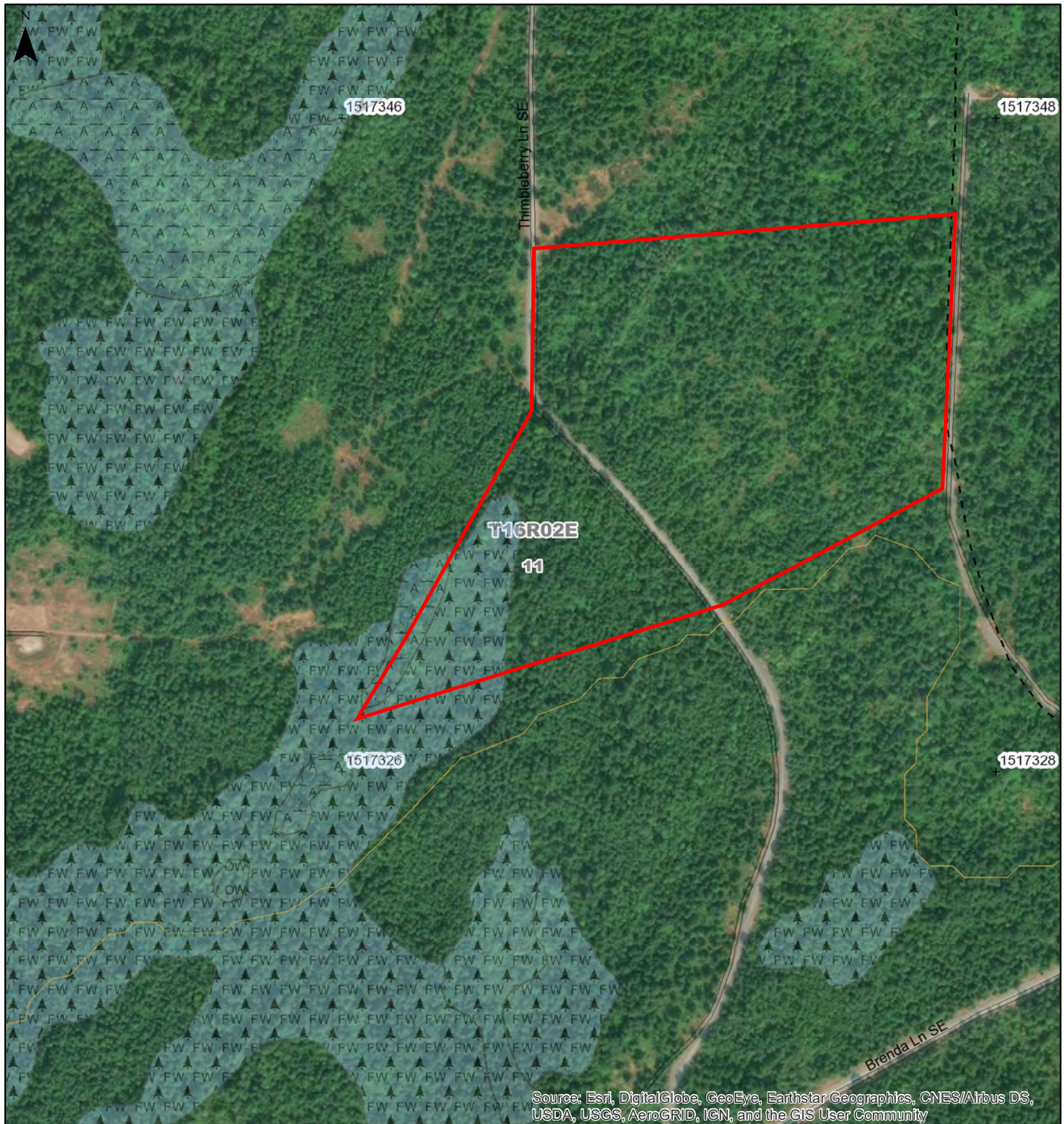
July 22, 2019

— All SalmonScape Species



USGS/NHD
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Forest Practices Water Type Map



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

Map Symbols

- New Stream
- Proposed Water Type
- Stream Removal
- Break between water types
- Start and End Point of Surveyed Reach
- Natural Fish Barrier
- Manmade Barrier
- End of Fish or Last Fish

Additional Information

Extreme care was used during the compilation of this map to ensure its accuracy. However, due to changes in data and the need to rely on outside information, the Department of Natural Resources cannot accept responsibility for errors or omissions, and therefore, there are no warranties that accompany this material.

Legal Description

S11 T16.0N R02.0E

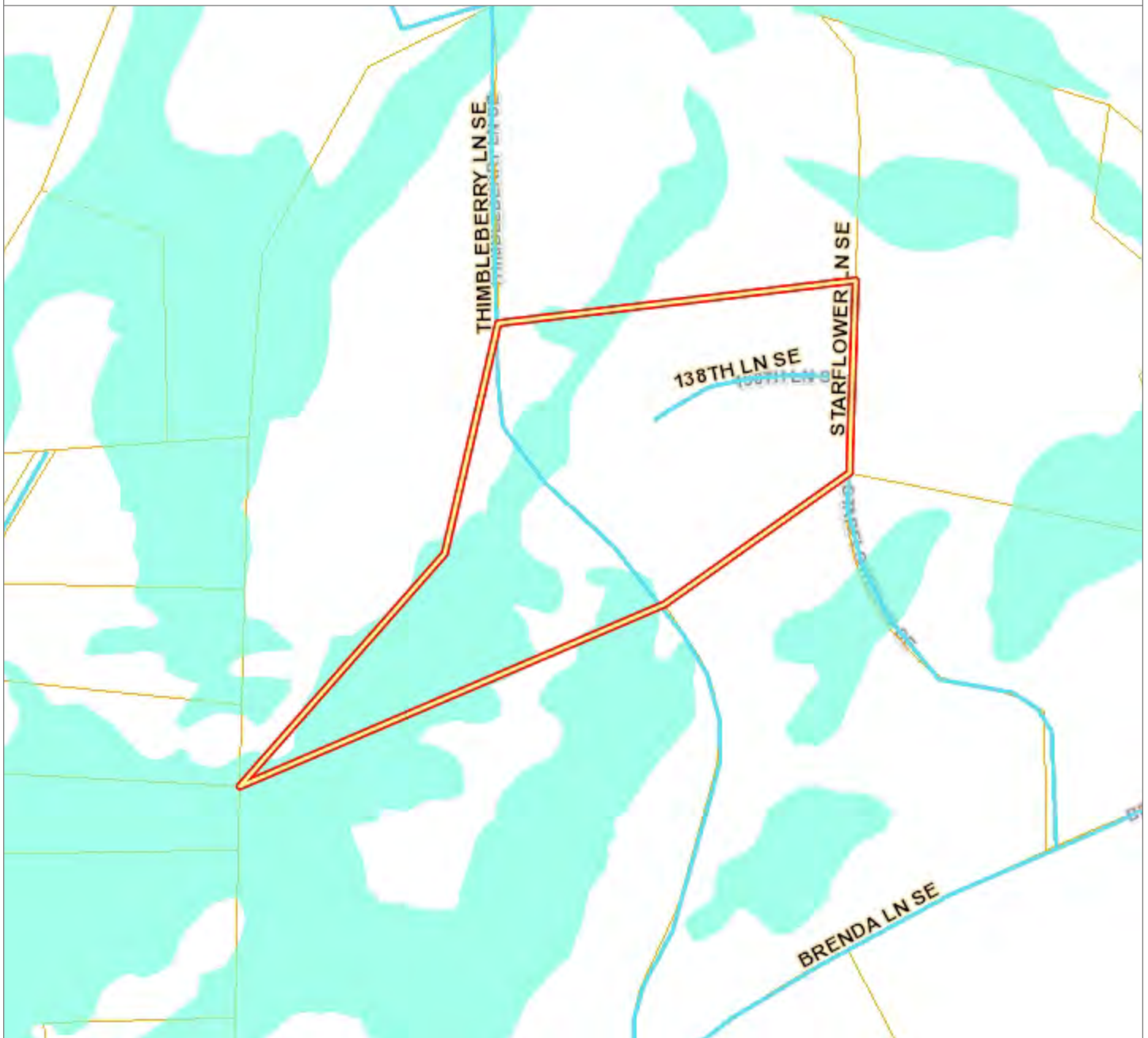


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Miles

Date: 7/22/2019

Time: 8:17:28 AM

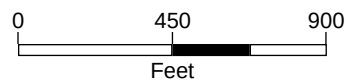
Fig 6 Thurston County Mapping



Legend

- Streams
- Roads**
 - City
 - County
 - Government
 - Private
 - State
- Wetlands
- Waterbodies
- Parcel Boundaries
- Roads - Major (Large Scale)**
 - Roads (Large Scale)
 - + Railroads

Scale 1: 9,843



Map Created Using GeoData Public Website

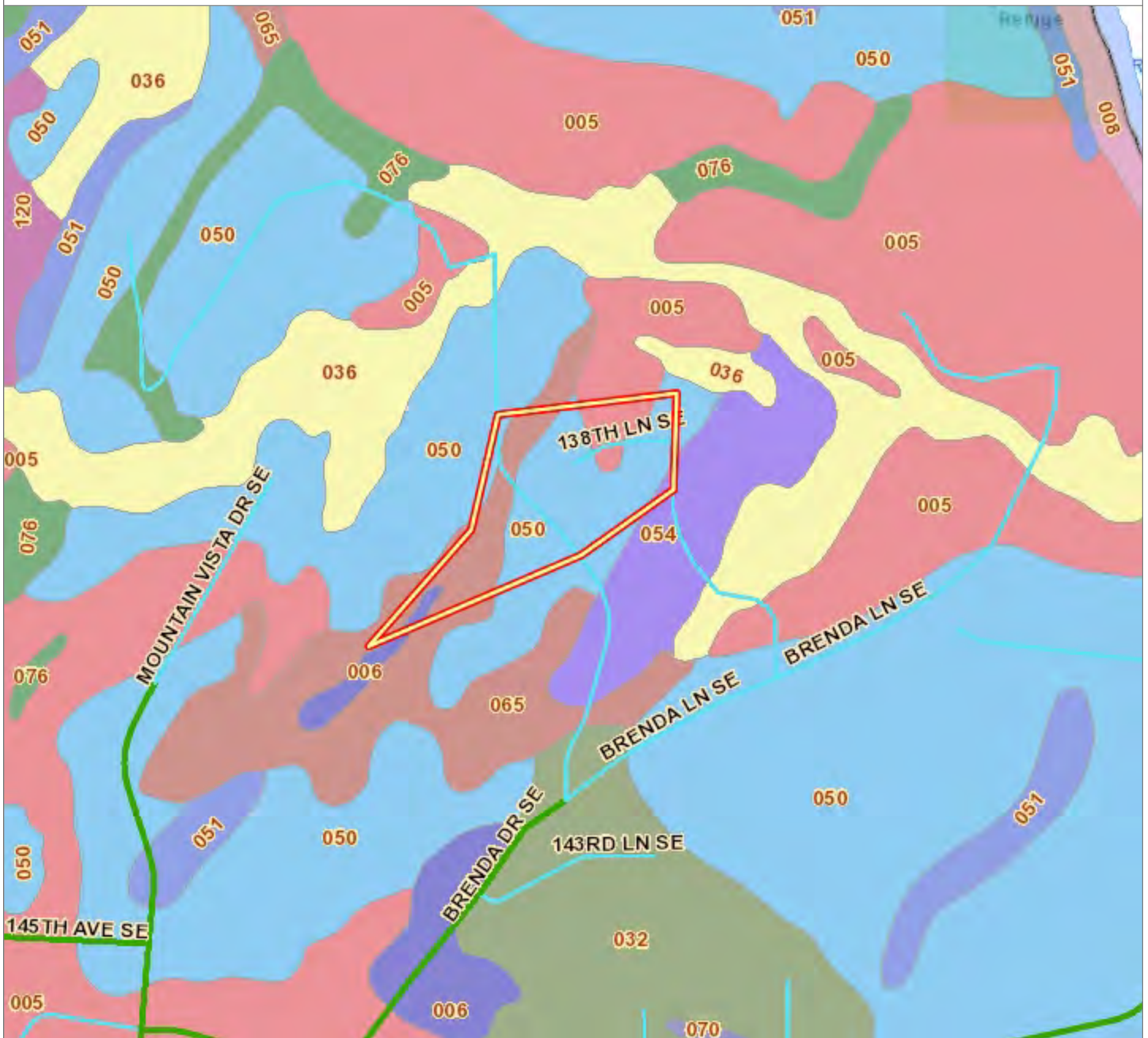
Published: 7/22/2019

Note:



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Figure 7 Soils Mapping



Legend

Roads

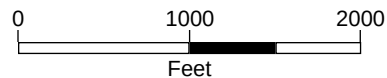
- City
- County
- Government
- Private
- State

Soils (USDA)

- Alderwood gravelly sandy loam, 0 to 3% slopes
- Alderwood gravelly sandy loam, 15 to 30% slopes
- Alderwood gravelly sandy loam, 3 to 15% slopes

- Baldhill very stony sandy loam, 3 to 15% slopes

Scale 1: 19,686



Map Created Using GeoData Public Website

Published: 7/22/2019

Note:



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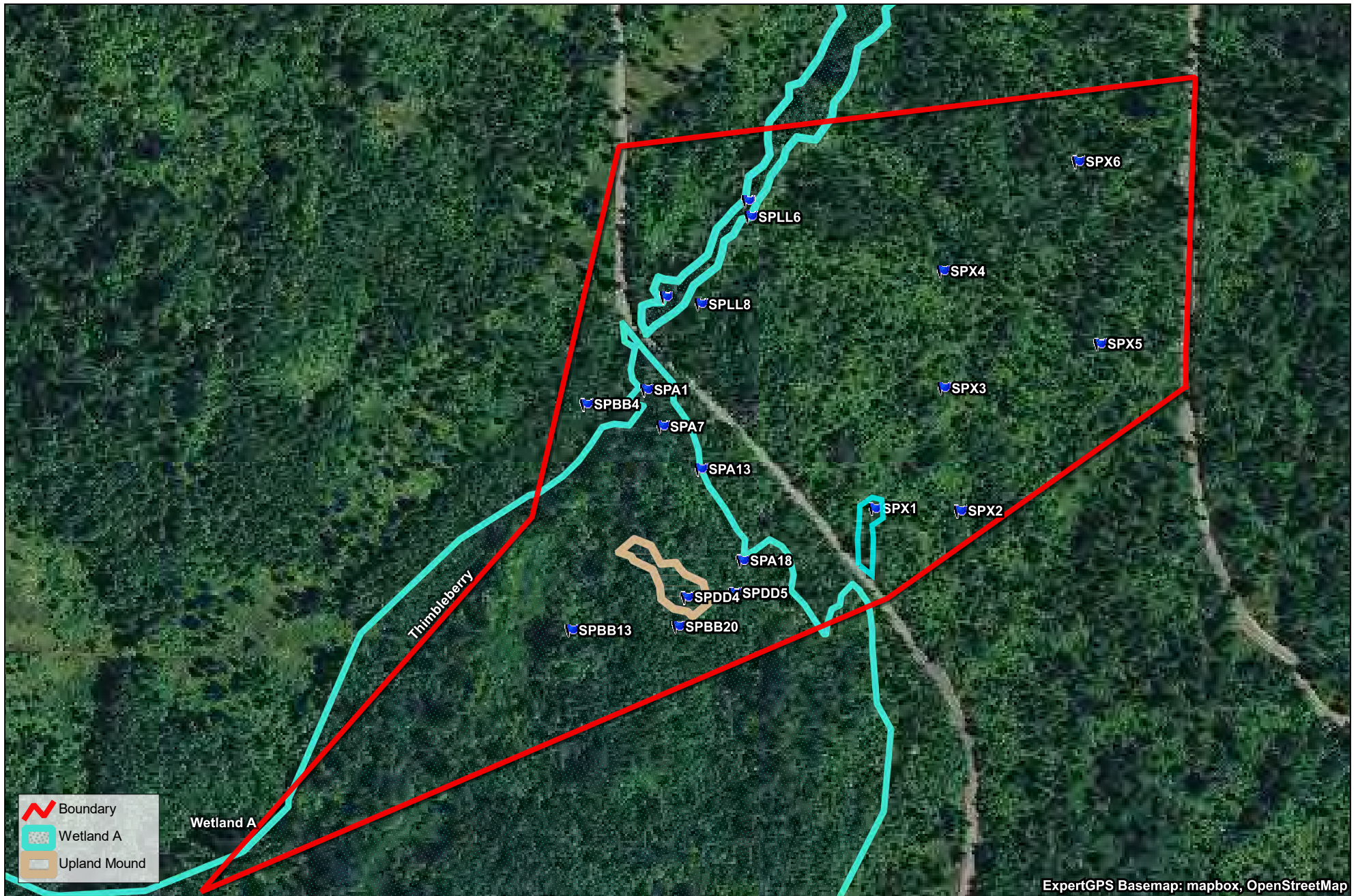


Figure 8 Site Graphic

REFERENCE LIST

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Washington State Department of Natural Resources FPARS Mapping System, 2016 (for stream typing): <http://fortess.wa.gov/dnr/app1/fpars/viewer.htm>

APPENDIX A – Field Data Sheets

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 9 JUL 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPA1
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): shallow depression on terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: McKenna gravelly silty loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: <u>topographic wetland swale area</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</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>100%</u> (A/B)
1. <u>Alnus rubra</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Fraxinus latifolia</u>	<u>60</u>	<u>yes</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 = _____
3. <u>Populus trichocarpa</u>	<u>10</u>	<u>no</u>	<u>FAC</u>	
4. <u>Thuja plicata</u>	<u>10</u>	<u>no</u>	<u>FAC</u>	
	<u>100</u>	= Total Cover		Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Acer circinatum</u>	<u>10</u>	<u>no</u>	<u>FAC</u>	
2. <u>Lonicera involucrata</u>	<u>25</u>	<u>yes</u>	<u>FACW</u>	
3. <u>Rubus spectabilis</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Cornus stolonifera</u>	<u>35</u>	<u>yes</u>	<u>FACW</u>	
5. <u>Spiraea douglasii</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
	<u>100</u>	= Total Cover		
Herb Stratum (Plot size: 15ft radius)				
1. <u>Ranunculus repens</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	
2. <u>Carex obnupta</u>	<u>20</u>	<u>yes</u>	<u>OBL</u>	
3. <u>Athyrium filix-femina</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>20</u>	= Total Cover		
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>topographic swale dominated by deciduous forest plant community</u>				

SOIL

Sampling Point: SPA1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-2		100					L	mixed duff
2-6	10YR 3/1	100						gravelly loam
6-24	10R 4/2	90	10YR 4/6	10	D	M		gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☒ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ 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 ☒ No ☐
Remarks: field indicators of hydric soils present	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
☐ Surface Water (A1) ☐ High Water Table (A2) ☐ Saturation (A3) ☒ Water Marks (B1) ☐ Sediment Deposits (B2) ☒ Drift Deposits (B3) ☒ Algal Mat or Crust (B4) ☒ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Sparsely Vegetated Concave Surface (B8)	☒ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☒ Oxidized Rhizospheres along Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Other (Explain in Remarks)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Patterns (B10) ☐ Dry-Season Water Table (C2) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☒ No ☐ Depth (inches): <u>6 inches</u> (includes capillary fringe)		Wetland Hydrology Present? Yes ☒ No ☐
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: field indicators of seasonal wetland hydrology patterns present. area of seasonal ponding		

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 9 JUL 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPA13
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): shallow depression on terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: McKenna gravelly silty loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: <u>topographic wetland swale area</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	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>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Alnus rubra</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	
2. <u>Fraxinus latifolia</u>	<u>trace</u>	<u>no</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 = _____
3. <u>Populus trichocarpa</u>	<u>75</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Thuja plicata</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	
<u>75</u> = Total Cover				Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Acer circinatum</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	
2. <u>Lonicera involucrata</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	
3. <u>Rubus spectabilis</u>	<u>60</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Cornus stolonifera</u>	<u>15</u>	<u>no</u>	<u>FACW</u>	
5. <u>Spiraea douglasii</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	
<u>95</u> = Total Cover				
Herb Stratum (Plot size: 15ft radius)				
1. <u>Ranunculus repens</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	
2. <u>Carex obnupta</u>	<u>trace</u>	<u>no</u>	<u>OBL</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
3. <u>Athyrium filix-femina</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>topographic swale dominated by deciduous forest plant community</u>				

SOIL

Sampling Point: SPA13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-2		100					L	mixed duff
2-6	10YR 3/1	100						gravelly loam
6-11	10R 3/2	90	10YR 4/6	10	D	M		gravelly sandy loam
11-24	10YR 4/1	85	10UR 4/6	15	D	M		gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☒ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
Remarks: field indicators of hydric soils present	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☒ No ☐ Depth (inches): 12 inches (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: field indicators of seasonal wetland hydrology patterns present. area of seasonal ponding	

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 9 JUL 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPA18
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): shallow depression on terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: McKenna gravelly silty loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: <u>topographic wetland swale area</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Alnus rubra</u>	<u><10</u>	<u>no</u>	<u>FAC</u>	
2. <u>Fraxinus latifolia</u>	<u>50</u>	<u>yes</u>	<u>FACW</u>	
3. <u>Populus trichocarpa</u>	<u>25</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Pyrus fusca</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	
	<u>100</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Acer circinatum</u>	<u>trace</u>	<u>no</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>Lonicera involucrata</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	
3. <u>Rubus spectabilis</u>	<u>50</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Cornus stolonifera</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	
5. <u>Spiraea douglasii</u>	<u>25</u>	<u>no</u>	<u>FACW</u>	
	<u>100</u>	= Total Cover		
Herb Stratum (Plot size: 15ft radius)				
1. <u>Ranunculus repens</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Carex obnupta</u>	<u>10</u>	<u>no</u>	<u>OBL</u>	
3. <u>Athyrium filix-femina</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>60</u>	= Total Cover		
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>topographic swale dominated by deciduous forest plant community</u>				

SOIL

Sampling Point: SPA18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-2		100					L	mixed duff
2-9	10YR 3/2	100						gravelly loam
9-24	10YR 4/1	85	10YR 4/6	15	D	M		gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☒ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
Remarks: field indicators of hydric soils present	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
☐ Surface Water (A1) ☐ High Water Table (A2) ☒ Saturation (A3) ☒ Water Marks (B1) ☐ Sediment Deposits (B2) ☒ Drift Deposits (B3) ☒ Algal Mat or Crust (B4) ☒ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Sparsely Vegetated Concave Surface (B8)	☒ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☒ Oxidized Rhizospheres along Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Other (Explain in Remarks)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Patterns (B10) ☐ Dry-Season Water Table (C2) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☒ No ☐ Depth (inches): 14 inches (includes capillary fringe)		Wetland Hydrology Present? Yes ☒ No ☐
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: field indicators of seasonal wetland hydrology patterns present. area of seasonal ponding		

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 9 JUL 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPA7
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): shallow depression on terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: McKenna gravelly silty loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: <u>topographic wetland swale area</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	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>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Alnus rubra</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Fraxinus latifolia</u>	<u>60</u>	<u>yes</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 = _____
3. <u>Populus trichocarpa</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	
4. <u>Thuja plicata</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	<u>100</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)				Hydrophytic Vegetation Present? Yes ☒ No ☐
1. <u>Acer circinatum</u>	<u>10</u>	<u>no</u>	<u>FAC</u>	
2. <u>Lonicera involucrata</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
3. <u>Rubus spectabilis</u>	<u>35</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Cornus stolonifera</u>	<u>15</u>	<u>no</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
5. <u>Spiraea douglasii</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	
	<u>80</u>	= Total Cover		Hydrophytic Vegetation Present? Yes ☒ No ☐
Herb Stratum (Plot size: 15ft radius)				
1. <u>Ranunculus repens</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
2. <u>Carex obnupta</u>	<u>trace</u>	<u>no</u>	<u>OBL</u>	
3. <u>Athyrium filix-femina</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
	<u>trace</u>	= Total Cover		
Woody Vine Stratum (Plot size: 15ft radius)				Hydrophytic Vegetation Present? Yes ☒ No ☐
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				Hydrophytic Vegetation Present? Yes ☒ No ☐
Remarks: <u>topographic swale dominated by deciduous forest plant community</u>				

SOIL

Sampling Point: SPA7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-3		100					L	mixed duff
3-11	10YR 3/1	100						gravelly loam
11-24	10R 4/2	90	10YR 4/6	10	D	M		gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☒ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
Remarks: field indicators of hydric soils present	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☒ No ☐ Depth (inches): 8 inches (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: field indicators of seasonal wetland hydrology patterns present. area of seasonal ponding	

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 9 JUL 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPBB13
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): shallow depression on terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: McKenna gravelly silty loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: <u>topographic wetland swale area</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	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>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Alnus rubra</u>	<u>60</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Fraxinus latifolia</u>	<u>40</u>	<u>yes</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 = _____
3. <u>Populus trichocarpa</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	
4. <u>Pyrus fusca</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	
<u>100</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Acer circinatum</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Lonicera involucrata</u>	<u>10</u>	<u>no</u>	<u>FACW</u>	
3. <u>Rubus spectabilis</u>	<u>40</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Cornus stolonifera</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	
5. <u>Spiraea douglasii</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	
<u>50</u> = Total Cover				
Herb Stratum (Plot size: 15ft radius)				
1. <u>Ranunculus repens</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
2. <u>Carex obnupta</u>	<u>30</u>	<u>no</u>	<u>OBL</u>	
3. <u>Athyrium filix-femina</u>	<u>40</u>	<u>yes</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>topographic swale dominated by deciduous forest plant community</u>				

SOIL

Sampling Point: SPBB13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-2		100					L	mixed duff
2-8	10YR 3/2	100						gravelly loam
8-20	10YR 4/2	80	10YR 4/6	20	D	M		gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☒ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
Remarks: field indicators of hydric soils present	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
☐ Surface Water (A1) ☐ High Water Table (A2) ☒ Saturation (A3) ☒ Water Marks (B1) ☐ Sediment Deposits (B2) ☒ Drift Deposits (B3) ☒ Algal Mat or Crust (B4) ☒ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Sparsely Vegetated Concave Surface (B8)	☒ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☒ Oxidized Rhizospheres along Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Other (Explain in Remarks)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Patterns (B10) ☐ Dry-Season Water Table (C2) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☒ No ☐ Depth (inches): <u>15 inches</u> (includes capillary fringe)		Wetland Hydrology Present? Yes ☒ No ☐
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: field indicators of seasonal wetland hydrology patterns present. area of seasonal ponding		

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 9 JUL 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPBB20
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): shallow depression on terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: McKenna gravelly silty loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: <u>topographic wetland swale area</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</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>100%</u> (A/B)
1. <u>Alnus rubra</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Fraxinus latifolia</u>	<u>80</u>	<u>yes</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 = _____
3. <u>Populus trichocarpa</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	
4. <u>Pyrus fusca</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	<u>100</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Acer circinatum</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
2. <u>Lonicera involucrata</u>	<u>10</u>	<u>no</u>	<u>FACW</u>	
3. <u>Rubus spectabilis</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
4. <u>Cornus stolonifera</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	
5. <u>Spiraea douglasii</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
	<u>30</u>	= Total Cover		
Herb Stratum (Plot size: 15ft radius)				
1. <u>Ranunculus repens</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
2. <u>Carex obnupta</u>	<u>30</u>	<u>yes</u>	<u>OBL</u>	
3. <u>Athyrium filix-femina</u>	<u>40</u>	<u>yes</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
	<u>90</u>	= Total Cover		
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		Hydrophytic Vegetation Present? Yes ☒ No ☐
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>topographic swale dominated by deciduous forest plant community</u>				

SOIL

Sampling Point: SPBB20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-2		100					L	mixed duff
2-11	10YR 3/2	100						gravelly loam
11-20	10YR 4/2	80	10YR 4/6	20	D	M		gravelly 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.) ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☒ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8)		Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
Remarks: field indicators of hydric soils present	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☒ No ☐ Depth (inches): <u>12 inches</u> (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: field indicators of seasonal wetland hydrology patterns present. area of seasonal ponding	

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 9 JUL 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPBB4
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: Kapowsin silt loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present? Yes ☐ No ☒	
Wetland Hydrology Present? Yes ☐ No ☒	
Remarks: reproduction forest adjacent to topographic wetland swale area	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. <u>Alnus rubra</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Pseudotsuga menziesii</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Acer macrophyllum</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	
4. <u>Thuja plicata</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	
	<u>100</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Acer circinatum</u>	<u>30</u>	<u>yes</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>Oemleria cerasiformis</u>	<u><5</u>	<u>no</u>	<u>UPL</u>	
3. <u>Symphoricarpos albus</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	
4. <u>Rosa nutkana</u>	<u><5</u>	<u>no</u>	<u>FAC</u>	
5. <u>Berberis nervosa</u>	<u>60</u>	<u>yes</u>	<u>UPL</u>	
	<u>90</u>	= Total Cover		
Herb Stratum (Plot size: 15ft radius)				
1. <u>Polystichum munitum</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Pteridium aquilium</u>	<u>35</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Dicentra formosa</u>	<u><10</u>	<u>no</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>60</u>	= Total Cover		
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☐ No ☒
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: upland reproduction forest				

SOIL

Sampling Point: SPBB4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-2		100					L	mixed duff
2-11	10YR 3/3	100					Gsl	
11-24	10R 4/3	100						gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☐ No ☒
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Remarks: no field indicators of hydric soils

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no field indicators of seasonal wetland hydrology patterns

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 9 JUL 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPDD4
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: Kapowsin silt loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present? Yes ☐ No ☒	
Wetland Hydrology Present? Yes ☐ No ☒	
Remarks: upland hummock surrounded by topographic wetland swale area	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>38%</u> (A/B)
1. <u>Alnus rubra</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Pseudotsuga menziesii</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Acer macrophyllum</u>	<u>trace</u>	<u>no</u>	<u>FACU</u>	
4. <u>Thuja plicata</u>	<u>40</u>	<u>yes</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 = _____
			<u>100</u> = Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Acer circinatum</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Oemleria cerasiformis</u>	<u><5</u>	<u>no</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. <u>Symphoricarpos albus</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	
4. <u>Gaultheria shallon</u>	<u>35</u>	<u>yes</u>	<u>FACU</u>	
5. <u>Berberis nervosa</u>	<u>40</u>	<u>yes</u>	<u>UPL</u>	
			<u>100+</u> = Total Cover	Hydrophytic Vegetation Present? Yes ☐ No ☒
Herb Stratum (Plot size: 15ft radius)				
1. <u>Polystichum munitum</u>	<u>trace</u>	<u>no</u>	<u>FACU</u>	
2. <u>Pteridium aquilium</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Dicentra formosa</u>	<u>trace</u>	<u>no</u>	<u>FACU</u>	Hydrophytic Vegetation Present? Yes ☐ No ☒
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☐ No ☒
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☐ No ☒
			<u>20</u> = Total Cover	
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☐ No ☒
			<u>0</u> = Total Cover	
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: upland hummock				

SOIL

Sampling Point: SPDD4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-2		100					L	mixed duff
2-14	10YR 3/3	100					Gsl	
14-24	10R 4/3	100						gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☐ No ☒
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Remarks: no field indicators of hydric soils

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no field indicators of seasonal wetland hydrology patterns

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 9 JUL 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPDD5
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): shallow depression on terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: McKenna gravelly silty loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: <u>topographic wetland swale area - located along old logging drag line</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	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>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Alnus rubra</u>	<u><5</u>	<u>no</u>	<u>FAC</u>	
2. <u>Fraxinus latifolia</u>	<u><5</u>	<u>no</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 = _____
3. <u>Populus trichocarpa</u>	<u>90</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Pyrus fusca</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	
<u>100</u> = Total Cover				Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Acer circinatum</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	
2. <u>Lonicera involucrata</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	
3. <u>Rubus spectabilis</u>	<u>80</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Cornus stolonifera</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
5. <u>Spiraea douglasii</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>	
<u>90</u> = Total Cover				
Herb Stratum (Plot size: 15ft radius)				
1. <u>Ranunculus repens</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	
2. <u>Carex obnupta</u>	<u>30</u>	<u>yes</u>	<u>OBL</u>	Hydrophytic Vegetation Present? Yes ☒ No ☐
3. <u>Athyrium filix-femina</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>70</u> = Total Cover				Hydrophytic Vegetation Present? Yes ☒ No ☐
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				Hydrophytic Vegetation Present? Yes ☒ No ☐
Remarks: <u>topographic swale dominated by deciduous forest plant community</u>				

SOIL

Sampling Point: SPDD5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-2		100					L	mixed duff
2-4	10YR 3/2	100						gravelly loam
4-20	10YR 4/2	80	10YR 4/6	20	D	M		gravelly 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.) ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☒ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8)		Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
Remarks: field indicators of hydric soils present	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☒ No ☐ Depth (inches): <u>14 inches</u> (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: field indicators of seasonal wetland hydrology patterns present. area of seasonal ponding	

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 23 JUN 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPLL5
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16 R02E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Kapowsin NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: Topographic swale	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</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>100</u> (A/B)
1. <u>Fraxinus latifolia</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	
2. <u>Alnus rubra</u>	<u>60</u>	<u>yes</u>	<u>FAC</u>	
3. <u>Populus trichocarapa</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
4. _____	_____	_____	_____	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 = _____
<u>100</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Rosa nutkana</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	
2. <u>Physocarpus capitatus</u>	<u>15</u>	<u>no</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. <u>Acer circinatum</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Pyrus fusca</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>	
5. <u>Spiraea douglasii</u>	<u>10</u>	<u>no</u>	<u>FACW</u>	
<u>90</u> = Total Cover				
Herb Stratum (Plot size: 15ft radius)				
1. <u>Athyrium filix-femina</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Carex obnupta</u>	<u>10</u>	<u>no</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>40</u> = Total Cover				
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: shallow topographic swale				

SOIL

Sampling Point: SPLL5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-6	10YR 3/1	100					Gl	
6-10	10YR 3/1	90	10YR 4/6	10	C	M	Gl	
10-20	10YR 4/2	85	10YR 4/6	15	C	M	Gl	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☒ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☒ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
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Remarks: soil exhibits prominent indicators of hydric soil

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☒ No ☐ Depth (inches): <u>11</u> (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: prominent field indicators of seasonal wetland hydrology.

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 23 JUN 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPLL6
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: Kapowsin silt loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present? Yes ☐ No ☒	
Wetland Hydrology Present? Yes ☐ No ☒	
Remarks: reproduction forest adjacent to topographic wetland swale area	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16%</u> (A/B)
1. <u>Alnus rubra</u>	<u>10</u>	<u>no</u>	<u>FAC</u>	
2. <u>Pseudotsuga menziesii</u>	<u>80</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Acer macrophyllum</u>	<u>10</u>	<u>no</u>	<u>FACU</u>	
4. _____	_____	_____	_____	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 = _____
<u>100</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Acer circinatum</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Amelanchier alnifolia</u>	<u>25</u>	<u>yes</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. <u>Symphoricarpos albus</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>	
4. <u>Rosa nutkana</u>	<u>10</u>	<u>no</u>	<u>FAC</u>	
5. <u>Gaultheria shallon</u>	<u>10</u>	_____	<u>FACU</u>	
<u>90</u> = Total Cover				
Herb Stratum (Plot size: 15ft radius)				
1. <u>Polystichum munitum</u>	<u>40</u>	<u>yes</u>	<u>FACU</u>	
2. <u>Pteridium aquilium</u>	<u>35</u>	<u>yes</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>45</u> = Total Cover				Hydrophytic Vegetation Present? Yes ☐ No ☒
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☐ No ☒
% Bare Ground in Herb Stratum <u>0</u> 0 = Total Cover				
Remarks: upland reproduction forest				

SOIL

Sampling Point: SPLL6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-4	10YR 3/3	100					L	organic duff mix
4-9	10YR 3/3	100					Gsl	
9-24	10R 4/3	100						gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☐ No ☒
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Remarks: no field indicators of hydric soils

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no field indicators of seasonal wetland hydrology patterns

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 23 JUN 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPLL8
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: Kapowsin silt loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present? Yes ☐ No ☒	
Wetland Hydrology Present? Yes ☐ No ☒	
Remarks: reproduction forest adjacent to topographic wetland swale area	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>14%</u> (A/B)
1. <u>Alnus rubra</u>	<u>10</u>	<u>no</u>	<u>FAC</u>	
2. <u>Pseudotsuga menziesii</u>	<u>50</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Acer macrophyllum</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>	
4. _____	<u>85</u>	<u>= Total Cover</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 = _____
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Acer circinatum</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Oemleria cerasiformis</u>	<u>20</u>	<u>yes</u>	<u>UPL</u>	
3. <u>Symphoricarpos albus</u>	<u>40</u>	<u>yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. <u>Rosa nutkana</u>	<u><5</u>	<u>no</u>	<u>FAC</u>	
5. <u>Gaultheria shallon</u>	<u><5</u>	<u>no</u>	<u>FACU</u>	
_____	<u>90</u>	<u>= Total Cover</u>		
Herb Stratum (Plot size: 15ft radius)				Hydrophytic Vegetation Present? Yes ☐ No ☒
1. <u>Polystichum munitum</u>	<u>60</u>	<u>yes</u>	<u>FACU</u>	
2. <u>Pteridium aquilium</u>	<u>35</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Dicentra formosa</u>	<u><10</u>	<u>no</u>	<u>FACU</u>	
4. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☐ No ☒
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☐ No ☒
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____	<u>95</u>	<u>= Total Cover</u>		Hydrophytic Vegetation Present? Yes ☐ No ☒
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____	<u>0</u>	<u>= Total Cover</u>		Hydrophytic Vegetation Present? Yes ☐ No ☒
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: upland reproduction forest				

SOIL

Sampling Point: SPLL8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-2	10YR 3/3	100					L	organic duff mix
2-7	10YR 3/3	100					Gsl	
7-24	10R 4/3	100						gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☐ No ☒
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Remarks: no field indicators of hydric soils

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no field indicators of seasonal wetland hydrology patterns

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 23 JUN 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPLL9
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16 R02E
 Landform (hillslope, terrace, etc.): shallow depression on terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: McKenna gravelly silty loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Remarks: Topographic swale	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Fraxinus latifolia</u>	<u>10</u>	<u>no</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. <u>Alnus rubra</u>	<u>40</u>	<u>yes</u>	<u>FAC</u>		
3. <u>Populus trichocarapa</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>		
4. _____	_____	_____	_____		
	<u>70</u>	= Total Cover			
Sapling/Shrub Stratum (Plot size: 15ft radius)					
1. <u>Rosa nutkana</u>	<u>trace</u>	<u>no</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>Cornus stolonifera</u>	<u>25</u>	<u>yes</u>	<u>FACW</u>		
3. <u>Acer circinatum</u>	<u>10</u>	<u>no</u>	<u>FAC</u>		
4. <u>Pyrus fusca</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>		
5. <u>Spiraea douglasii</u>	<u>25</u>	<u>yes</u>	<u>FACW</u>		
	<u>90</u>	= Total Cover			
Herb Stratum (Plot size: 15ft radius)					
1. <u>Athyrium filix-femina</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>		
2. <u>Carex obnupta</u>	<u>10</u>	<u>no</u>	<u>OBL</u>		
3. <u>Ranunculus repens</u>	<u>25</u>	<u>yes</u>	<u>FACW</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
	<u>65</u>	= Total Cover			
Woody Vine Stratum (Plot size: 15ft radius)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____	_____	_____	_____		
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					
Remarks: shallow topographic swale					

SOIL

Sampling Point: SPLL9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-4	10YR 3/1	100					Gl	
4-8	10YR 3/1	90	10YR 4/6	10	C	M	Gl	
8-20	10YR 4/2	85	10YR 4/6	15	C	M	Gl	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☒ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☒ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
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Remarks: soil exhibits prominent indicators of hydric soil

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☒ No ☐ Depth (inches): <u>13</u> (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: prominent field indicators of seasonal wetland hydrology.

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 23 JUN 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPX1
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16 R02E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Kapowsin NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Remarks: Small pocket on north side of road drains to the south via a culvert associated with the road	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: 15ft radius)					
1. <u>Fraxinus latifolia</u>	<u>50</u>	<u>yes</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. <u>Alnus rubra</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>		
3. <u>Populus trichocarapa</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>		
4. _____	_____	_____	_____		
	<u>90</u>	= Total Cover			
Sapling/Shrub Stratum (Plot size: 15ft radius)					
1. <u>Rosa nutkana</u>	<u>20</u>	<u>yes</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>Physocarpus capitatus</u>	<u>25</u>	<u>yes</u>	<u>FACW</u>		
3. <u>Acer circinatum</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>		
4. <u>Pyrus fusca</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>		
5. <u>Spiraea douglasii</u>	<u>trace</u>	<u>no</u>	<u>FACW</u>		
	<u>95</u>	= Total Cover			
Herb Stratum (Plot size: 15ft radius)					
1. <u>Athyrium filix-femina</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>		
2. <u>Carex obnupta</u>	<u>trace</u>	<u>no</u>	<u>OBL</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
	<u>20</u>	= Total Cover			
Woody Vine Stratum (Plot size: 15ft radius)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____	_____	_____	_____		
	<u>0</u>	= Total Cover			
Hydrophytic Vegetation Present? Yes ☒ No ☐					
% Bare Ground in Herb Stratum <u>0</u> Remarks: shallow depression formed by adajcent roadway					

SOIL

Sampling Point: SPX1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-3								Duff
3-6	10YR 3/1	100					Gl	
6-10	10YR 3/2	90	10YR 4/6	10	C	M	Gl	
10-20	10YR 4/2	85	10YR 4/6	15	C	M	Gl	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☒ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☒ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
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Remarks: soil exhibits prominent indicators of hydric soil

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☒ No ☐ Depth (inches): <u>16</u> Saturation Present? Yes ☒ No ☐ Depth (inches): <u>10</u> (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: prominent field indicators of seasonal wetland hydrology.

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 23 JUN 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPX2
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: Kapowsin silt loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☒ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Remarks: reproduction forest area	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. <u>Pseudotsuga menziesii</u>	<u>60</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Acer macrophyllum</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
	<u>90%</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Rubus armeniacus</u>	<u><10</u>	<u>no</u>	<u>FAC</u>	
2. <u>Rosa gymnocarpus</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Symphoricarpos albus</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>	
4. <u>Berberis nervosa</u>	<u>20</u>	<u>yes</u>	<u>UPL</u>	
5. <u>Corylus cornuta</u>	<u>15</u>	<u>no</u>	<u>FACU</u>	
	<u>90</u>	= Total Cover		
Herb Stratum (Plot size: 15ft radius)				
1. <u>Polystichum munitum</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	
2. <u>Pteridium aquilium</u>	<u>35</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Dicentra formosa</u>	<u><10</u>	<u>no</u>	<u>FACU</u>	
4. <u>Geranium spp.</u>	<u><10</u>	<u>no</u>	<u>-</u>	
5. <u>Digitalis purpurea</u>	<u><10</u>	<u>no</u>	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u><60</u>	= Total Cover		
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: upland reproduction forest				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 7 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:
☐ Rapid Test for Hydrophytic Vegetation
☐ Dominance Test is >50%
☐ Prevalence Index is ≤3.0¹
☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Wetland Non-Vascular Plants¹
☐ Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☒

SOIL

Sampling Point: SPX2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-1							L	organic duff mix
1-7	10YR 3/3	100					Gsl	gravelly sandy loam
7-24	10YR 4/4	100						gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☐ No ☒
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Remarks: no field indicators of hydric soils

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no field indicators of seasonal wetland hydrology patterns

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 23 JUN 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPX3
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: Kapowsin silt loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☒ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Remarks: reproduction forest area	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. <u>Pseudotsuga menziesii</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Acer macrophyllum</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
	<u>55%</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Rubus armeniacus</u>	<u><10</u>	<u>no</u>	<u>FAC</u>	
2. <u>Oemleria cerasiformis</u>	<u><10</u>	<u>no</u>	<u>UPL</u>	
3. <u>Symphoricarpos albus</u>	<u>50</u>	<u>yes</u>	<u>FACU</u>	
4. <u>Berberis nervosa</u>	<u>20</u>	<u>yes</u>	<u>UPL</u>	
5. <u>Corylus cornuta</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>	
	<u>100</u>	= Total Cover		
Herb Stratum (Plot size: 15ft radius)				
1. <u>Polystichum munitum</u>	<u><10</u>	<u>no</u>	<u>FACU</u>	
2. <u>Pteridium aquilium</u>	<u>35</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Dicentra formosa</u>	<u><10</u>	<u>no</u>	<u>FACU</u>	
4. <u>Geranium spp.</u>	<u><10</u>	<u>no</u>	<u>-</u>	
5. <u>Digitalis purpurea</u>	<u><10</u>	<u>no</u>	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u><50</u>	= Total Cover		
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: upland reproduction forest				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 6 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

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 = _____

Hydrophytic Vegetation Indicators:
☐ Rapid Test for Hydrophytic Vegetation
☐ Dominance Test is >50%
☐ Prevalence Index is ≤3.0¹
☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Wetland Non-Vascular Plants¹
☐ Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☒

SOIL

Sampling Point: SPX3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-1							L	organic duff mix
1-4	10YR 3/3	100					Gsl	gravelly sandy loam
4-24	10R 4/4	100						gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☐ No ☒
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Remarks: no field indicators of hydric soils

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no field indicators of seasonal wetland hydrology patterns

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 23 JUN 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPX4
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: Kapowsin silt loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present? Yes ☐ No ☒	
Wetland Hydrology Present? Yes ☐ No ☒	
Remarks: reproduction forest area	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	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>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>12%</u> (A/B)
1. _____	_____	_____	_____	
2. <u>Pseudotsuga menziesii</u>	<u>40</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Acer macrophyllum</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>	
4. <u>Quercus garryana</u>	<u><2</u>	<u>no</u>	<u>UPL</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 = _____
65% = Total Cover				
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Acer circinatum</u>	<u><10</u>	<u>no</u>	<u>FAC</u>	
2. <u>Oemleria cerasiformis</u>	<u><10</u>	<u>no</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. <u>Symphoricarpos albus</u>	<u>40</u>	<u>yes</u>	<u>FACU</u>	
4. <u>Berberis nervosa</u>	<u>20</u>	<u>yes</u>	<u>UPL</u>	
5. <u>Corylus cornuta</u>	<u>35</u>	<u>yes</u>	<u>FACU</u>	
100 = Total Cover				
Herb Stratum (Plot size: 15ft radius)				
1. <u>Polystichum munitum</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	
2. <u>Pteridium aquilium</u>	<u>35</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Dicentra formosa</u>	<u><10</u>	<u>no</u>	<u>FACU</u>	
4. <u>Geranium spp.</u>	<u><10</u>	<u>no</u>	<u>-</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
60 = Total Cover				
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☐ No ☒
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: upland reproduction forest				

SOIL

Sampling Point: SPX4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-2							L	organic duff mix
2-6	10YR 3/3	100					Gsl	gravelly sandy loam
6-24	10R 4/3	100						gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ 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 ☐ No ☒
--	---

Remarks: no field indicators of hydric soils

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
---	---

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

Remarks: no field indicators of seasonal wetland hydrology patterns

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 23 JUN 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPX5
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: Kapowsin silt loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☒ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Remarks: reproduction forest area - adjacent to small excavated barrow pit	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Alnus rubra</u>	<u>15</u>	<u>no</u>	<u>FAC</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>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>17%</u> (A/B)
2. <u>Pseudotsuga menziesii</u>	<u>60</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Acer macrophyllum</u>	<u><10</u>	<u>no</u>	<u>FACU</u>	
4. <u>Populus trichocarpa</u>	<u><10</u>	<u>no</u>	<u>FAC</u>	
	<u>90%</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Rubus armeniacus</u>	<u>25</u>	<u>yes</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>Rosa gymnocarpus</u>	<u><10</u>	<u>no</u>	<u>FACU</u>	
3. <u>Symphoricarpos albus</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>	
4. <u>Berberis nervosa</u>	<u>20</u>	<u>yes</u>	<u>UPL</u>	
5. <u>Corylus cornuta</u>	<u>15</u>	<u>no</u>	<u>FACU</u>	
	<u><100</u>	= Total Cover		
Herb Stratum (Plot size: 15ft radius)				
1. <u>Polystichum munitum</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Pteridium aquilium</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Dicentra formosa</u>	<u>trace</u>	<u>no</u>	<u>FACU</u>	
4. <u>Geranium spp.</u>	<u>trace</u>	<u>no</u>	<u>-</u>	
5. <u>Digitalis purpurea</u>	<u>trace</u>	<u>no</u>	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>40</u>	= Total Cover		
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☐ No ☒
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u> Remarks: upland reproduction forest				

SOIL

Sampling Point: SPX5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-1							L	organic duff mix
1-4	10YR 3/3	100					Gsl	gravelly sandy loam
4-24	10YR 4/4	100						very gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ 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 ☐ No ☒
--	---

Remarks: no field indicators of hydric soils

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
---	---

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

Remarks: no field indicators of seasonal wetland hydrology patterns

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

Project/Site: Thimbleberry Lane PARCEL 22612200700 City/County: Thurston County Sampling Date: 23 JUN 2019
 Applicant/Owner: _____ State: Washington Sampling Point: SPX6
 Investigator(s): Habitat Technologies Section, Township, Range: S11, T16, R02E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): rolling Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: USGS
 Soil Map Unit Name: Kapowsin silt loam NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present? Yes ☐ No ☒	
Wetland Hydrology Present? Yes ☐ No ☒	
Remarks: reproduction forest area	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>12%</u> (A/B)
1. <u>Alnus rubra</u>	<u>10</u>	<u>no</u>	<u>FAC</u>	
2. <u>Pseudotsuga menziesii</u>	<u>50</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Acer macrophyllum</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>	
4. <u>Populus trichocarpa</u>	<u><10</u>	<u>no</u>	<u>FAC</u>	
	<u>90%</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. <u>Acer circinatum</u>	<u>20</u>	<u>yes</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>Oemleria cerasiformis</u>	<u>20</u>	<u>yes</u>	<u>UPL</u>	
3. <u>Symphoricarpos albus</u>	<u>40</u>	<u>yes</u>	<u>FACU</u>	
4. <u>Berberis nervosa</u>	<u>20</u>	<u>yes</u>	<u>UPL</u>	
5. <u>Gaultheria shallon</u>	<u><5</u>		<u>FACU</u>	
	<u>100</u>	= Total Cover		
Herb Stratum (Plot size: 15ft radius)				
1. <u>Polystichum munitum</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Pteridium aquilium</u>	<u>35</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Dicentra formosa</u>	<u><10</u>	<u>no</u>	<u>FACU</u>	
4. <u>Geranium spp.</u>	<u><10</u>	<u>no</u>	<u>-</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	<u>60</u>	= Total Cover		
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____				Hydrophytic Vegetation Present? Yes ☐ No ☒
2. _____				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: upland reproduction forest				

SOIL

Sampling Point: SPX6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-1							L	organic duff mix
1-6	10YR 3/3	100					Gsl	
6-24	10R 4/3	100						gravelly 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.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ 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 ☐ No ☒
--	---

Remarks: no field indicators of hydric soils

HYDROLOGY

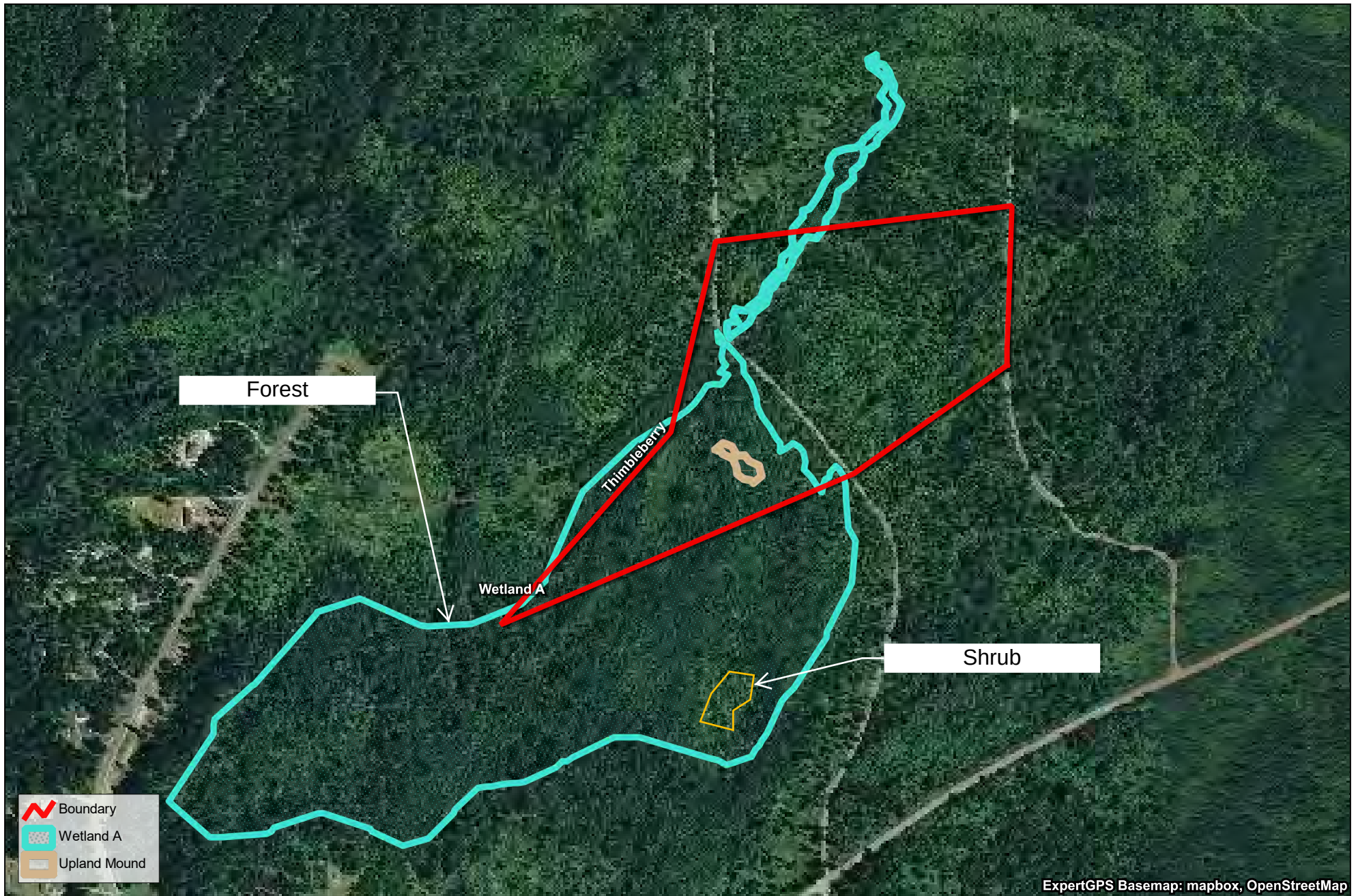
Wetland Hydrology Indicators:			
<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>	
☐ Surface Water (A1) ☐ High Water Table (A2) ☐ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
---	---

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

Remarks: no field indicators of seasonal wetland hydrology patterns

APPENDIX B – Wetland Rating Worksheets



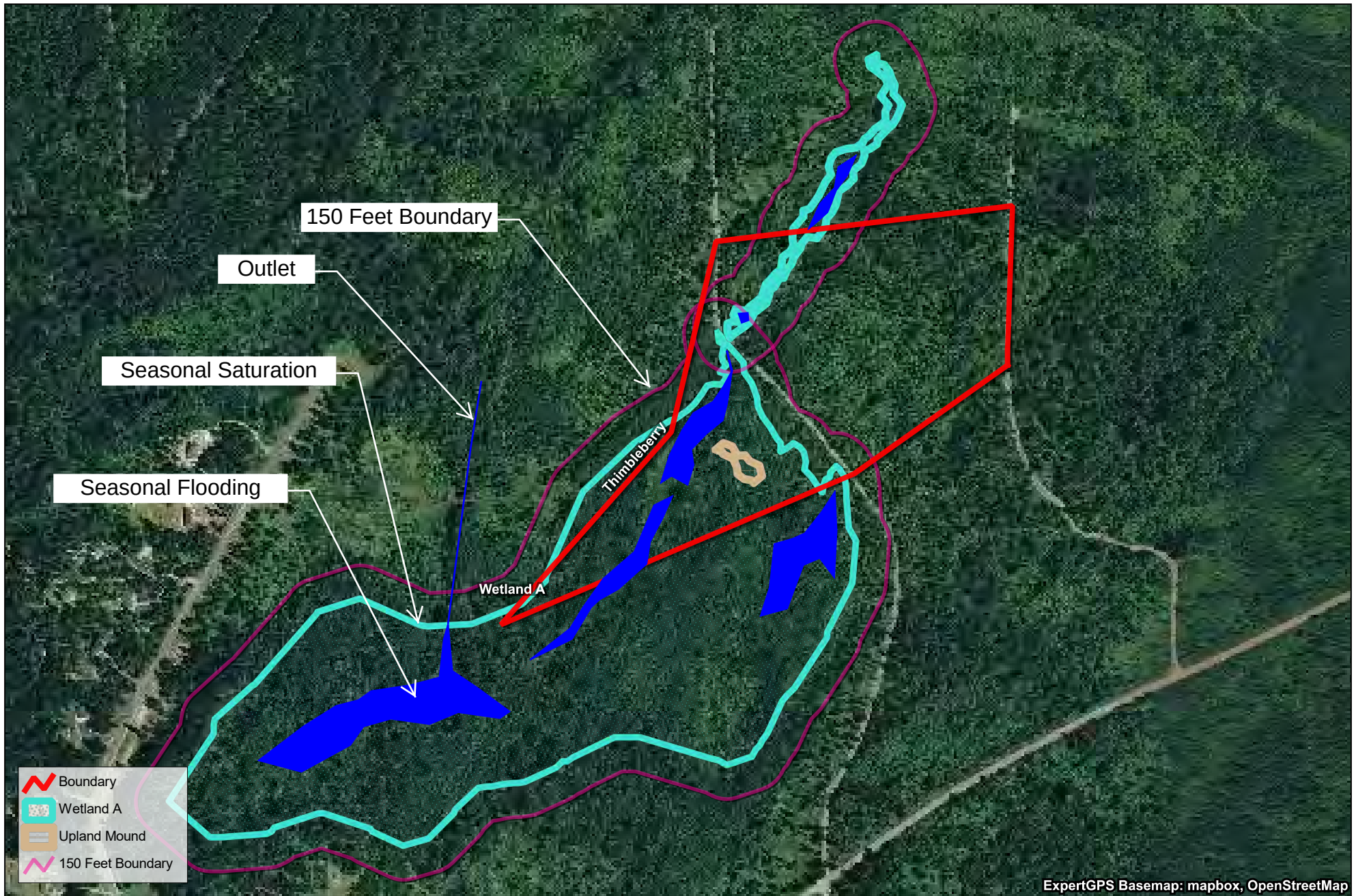




Figure A3

500 ft

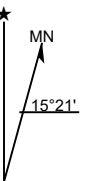


Figure A5

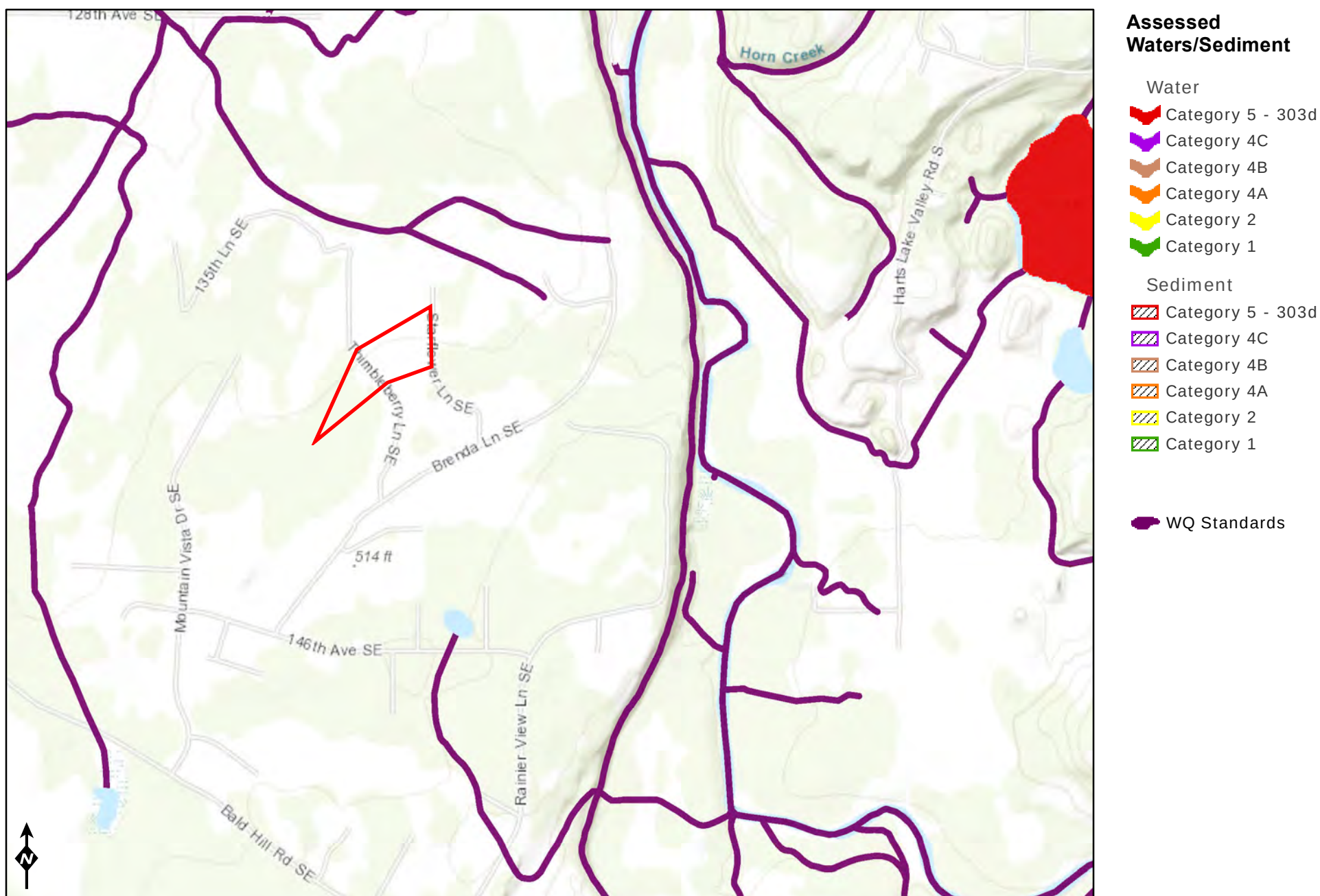
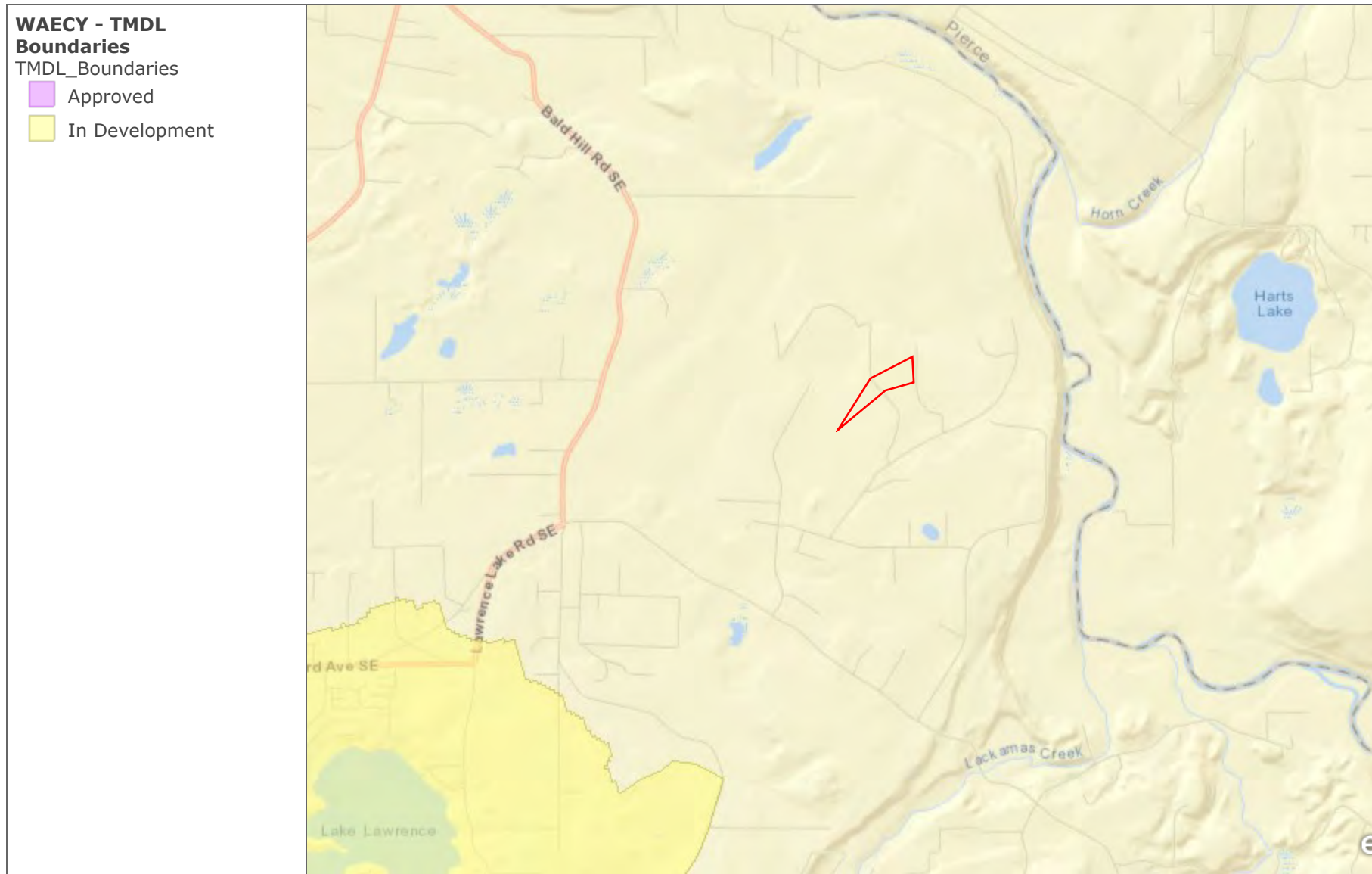


Figure A6

WAECY - TMDL Boundaries



A map depicting the boundaries of the Total Maximum Daily Load (TMDL) projects within Washington State.

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Yelm Meadows Lot 7 Date of site visit: 09 JUL 2019

Rated by Habitat Technologies Trained by Ecology? ☒ Yes ☐ No Date of training 2014

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

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

Source of base aerial photo/map Expert GPS

OVERALL WETLAND CATEGORY 2 (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

 Category I – Total score = 23 - 27

☒ Category II – Total score = 20 - 22

 Category III – Total score = 16 - 19

 Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	H ☐ M ☒ L	H ☐ M ☒ L	H ☐ M ☒ L	
Landscape Potential	H ☐ M ☒ L	H ☐ M ☒ L	☒ H ☐ M ☐ L	
Value	☒ H ☐ M ☐ L	H ☐ M ☒ L	H ☐ M ☒ L	TOTAL
Score Based on Ratings	7	6	7	20

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	A1
Hydroperiods	D 1.4, H 1.2	A2
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	A2
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	A2
Map of the contributing basin	D 4.3, D 5.3	A3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	A4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	A5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	A6

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

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

NO – go to 2

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

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

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

YES – **Freshwater Tidal Fringe**

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

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

NO – go to 3

YES – The wetland class is **Flats**

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

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

- ___ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
___ At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4

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

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

- ___ The wetland is on a slope (*slope can be very gradual*),
___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
___ The water leaves the wetland **without being impounded**.

NO – go to 5

YES – The wetland class is **Slope**

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

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

- ___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
___ The overbank flooding occurs at least once every 2 years.

Wetland name or number A

NO – go to 6

YES – The wetland class is Riverine

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

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

NO – go to 7

YES – The wetland class is Depressional

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

NO – go to 8

YES – The wetland class is Depressional

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

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

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

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

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	2
Total for D 1	9

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

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

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

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	2
Total for D 3	3

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

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

Record the rating on the first page

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

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

Record the rating on the first page

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

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

Record the rating on the first page

Wetland name or number A

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

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

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

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

H 1.2. Hydroperiods

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

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

H 1.3. Richness of plant species

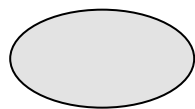
Count the number of plant species in the wetland that cover at least 10 ft².

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

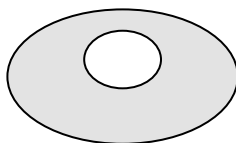
- | | | |
|------------------------------|------------|---|
| If you counted: > 19 species | points = 2 | 2 |
| 5 - 19 species | points = 1 | |
| < 5 species | points = 0 | |

H 1.4. Interspersion of habitats

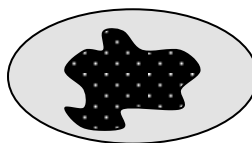
Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



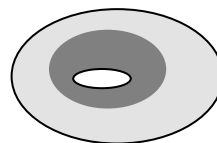
None = 0 points



Low = 1 point

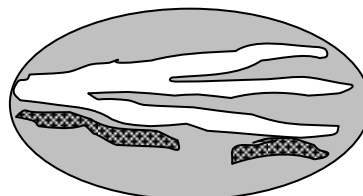
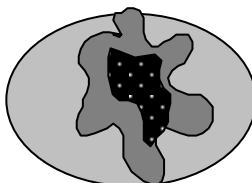
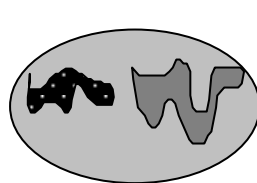


Moderate = 2 points



1

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



Wetland name or number A

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

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

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). Calculate: % undisturbed habitat <u>15</u> + [(% moderate and low intensity land uses)/2] <u>30</u> = <u>45</u> % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0		3
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat <u>20</u> + [(% moderate and low intensity land uses)/2] <u>30</u> = <u>0</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0		3
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0		0
Total for H 2	Add the points in the boxes above	6

Rating of Landscape Potential If score is: X 4-6 = H 1-3 = M < 1 = L

Record the rating on the first page

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

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

Record the rating on the first page

WDFW Priority Habitats

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

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

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

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

PHOTOS



View of Wetland A south of Sample Plot A7.



View of upland area adjacent to Wetland A.



View of the forested character of Wetland A with a dense, mixed understory.



View of prominent field indicators (i.e. algae, stained leaves) of seasonal wetland hydrology.