

WETLAND DELINEATION AND STREAM ASSESSMENT: ADDENDUM TO CRITICAL AREAS REPORT

Nisqually State Park
PIERCE COUNTY, WASHINGTON

Final July 20, 2025



Prepared for:
WA State Parks



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INTRODUCTION

EcoAssets Environmental, LLC was retained by Bob Droll Landscape Architects, under contract with Washington State Parks, to complete wetland delineation and rating assessments for Nisqually State Park (NSP). The objective of this project is to conduct a delineation and assessment of wetlands to document existing conditions, proposed site developments, applicable critical area regulations, and preliminary conceptual mitigation planning for the Nisqually State Park – New Full-Service Park. All wetland work will follow the revised *Washington State Wetland Rating System for Western Washington: 2014 Update* (Hruby 2014), and the *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers [USACE] 1987) and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys, Coastal Region (Version 2.0)* (USACE 2008). The results will be used to support a USACE Jurisdictional Determination for all jurisdictional wetlands within the installation.

EcoAssets and Washington State Parks and Recreation Commission (WSPRC) utilized information on wetland site constraints during the design process to avoid and minimize impacts to critical areas in accordance with federal, state, and local regulations. This document also details compliance with Pierce County critical area regulations and shoreline no-net-loss requirements.

This report is an addendum to a 2021 critical areas report and concurs with other are findings, and approach to mitigation strategies (The Watershed Company 2021).

1.1 PROJECT LOCATION

Nisqually State Park is located off Highway 7 (National Park Highway) in Pierce County, Washington (WA) (Figure 1, Figure 2). The State Park is approximately 1,300 acres in size and the nearest incorporated city is Eatonville, located around 1.5 miles east of the park entrance.

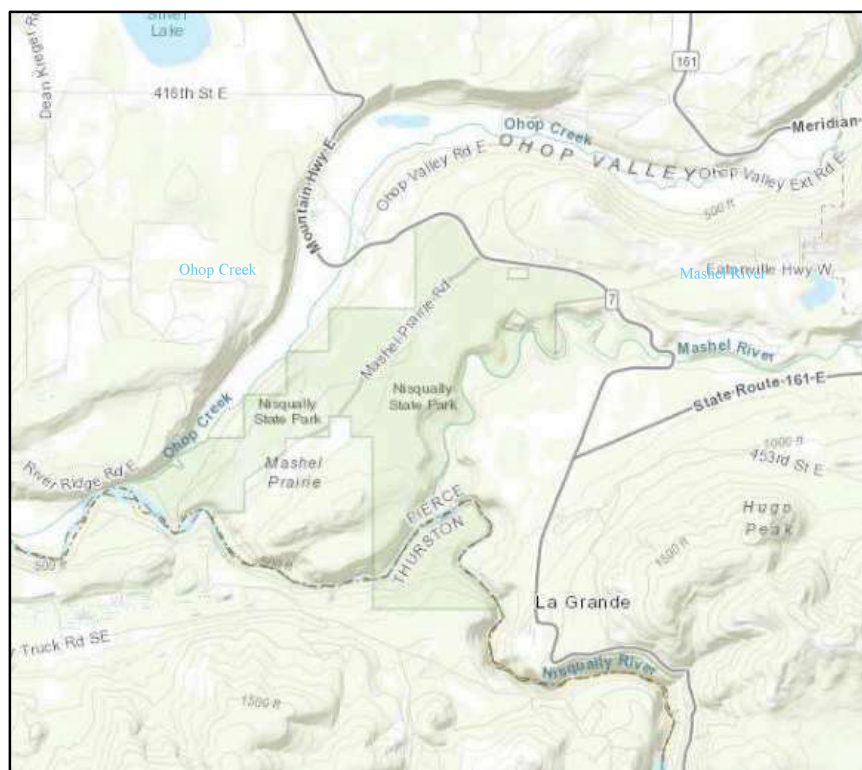


Figure 1. Nisqually State Park boundary and location

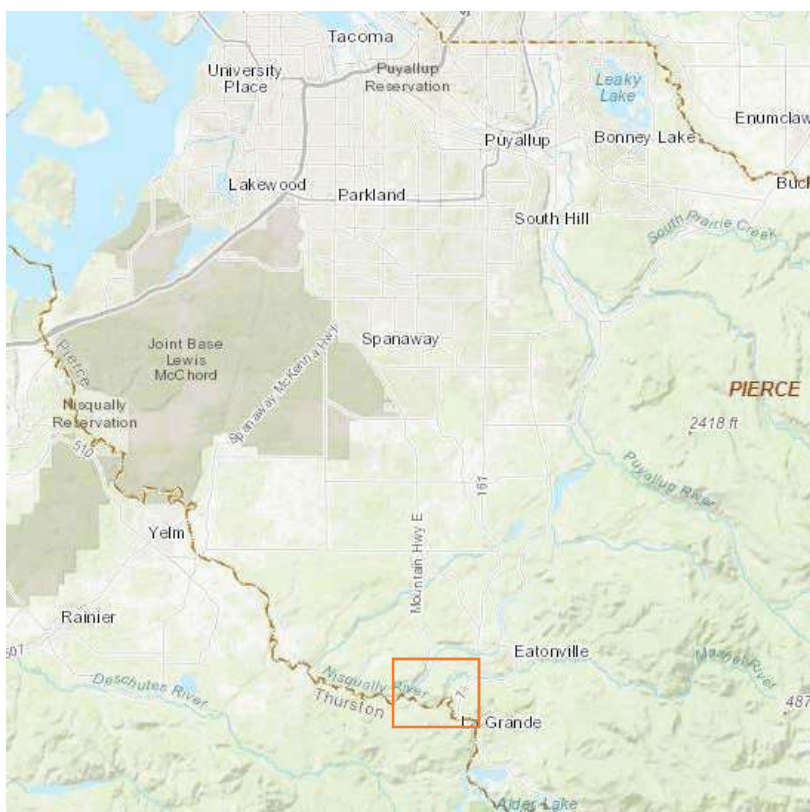


Figure 2. General vicinity of Nisqually State Park

2 METHODS

2.1 LITERATURE AND PUBLICLY AVAILABLE DATA REVIEW

Prior to the field assessment, EcoAssets researched existing information on wetlands and other surface waters documented within the project boundary. The list below includes available literature which was reviewed:

- USFWS National Wetlands Inventory (NWI) maps
- USDA NRCS Web Soil Survey – Custom Soil Resource Report for Pierce County, WA
- USDA NRCS WES hydrologic data
- Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) on the Web
- WDFW SalmonScape
- Pierce County’s Public GIS
- Washington State Department of Natural Resources Forest Practices Application and Mapping Tool
- Washington State DNR Washington Light Detection and Ranging (LiDAR) Portal
- Washington State DNR Washington Natural Heritage Program (WNHP) Data Explorer
- Wetlands of High Conservation Value (WHCV) mapping
- Washington State Department of Ecology Water Quality Atlas
- WSDOE Washington State Water Quality Assessment 303(d)/305(b) List, Version 5.0.1.
- U.S. Geological Survey (USGS) StreamStats
- USGS National Hydrography Dataset
- Satellite imagery available from Google Earth, ESRI, and Pierce County

2.2 WETLAND DELINEATION

The wetland delineation and assessment was conducted through October and November 2023 in accordance with the guidance set forth in the *Corps of Engineers Wetland Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys, and Coast Region* (Version 2.0) (USACE 2008). To maintain consistency between the state and federal delineations of wetlands, the WSDOE repealed the state delineation manual (Washington Administrative Code [WAC] 173-22-080). It replaced it with a revision of WAC 173-22-035 that states delineations should be completed according to the currently approved federal manual and supplements. The changes were effective March 14, 2011.

For regulatory purposes, wetlands are distinguished from uplands by the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. Wetlands throughout the site were delineated and assessed by EcoAssets staff using the identification of hydrophytic vegetation, hydric soils, and wetland hydrology, and findings were recorded on a USACE *Wetland Determination Data Form – Western Mountains, Valleys, and Coast Region (Version 2.0)* at two sample plots for each delineated feature – one within the wetland, and one in the upland. A map is provided in the Appendix of plot locations. The completed forms are included in The Appendix, Wetland Determination Data Forms – Western Mountains, Valleys, and Coast Region.

Delineated wetland boundaries were recorded using a submeter global positioning system (GPS) and an Arrow GPS receiver paired with ArcGIS Field Maps application for subsequent mapping. The boundaries provided are reasonable representations from aerial imagery and reconnaissance in the early part of the assessment. While 27 wetlands were identified and delineated, 16 were selected by the client to be rated for buffers. These were ones that had proposed trails within 150 ft. of wetland boundaries. This conservative distance was used to prioritize the Ratings (In the final analysis all buffers were less distance than these. Delineation Forms are provided for the remaining 11 wetlands.

2.2.1 VEGETATION

Hydrophytic vegetation is defined as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present (USACE 1987). For each wetland identified, aerial vegetation coverage was recorded in the field on USACE wetland determination forms, which specify the sampling of plants in each stratum present in the plot. For this study, vegetation was observed in relation to the soil sample pits taken at each delineated wetland.

The most abundant coverage was typically found in the herb stratum, as observed in a sample plot measuring a five-foot radius from each soil pit. Tree and sapling/shrub strata were measured within 30- and 15-foot radii from wetland soil sample pits, respectively. Plant species were analyzed according to their regional wetland indicator status, with dominance or prevalence tests used as needed to determine the overall presence of hydrophytic vegetation in each sample plot. Each species' wetland indicator status was recorded based on its listing for the Western Mountains, Valleys, and Coast Region in the *National Wetland Plant List, version 3.5* (USACE 2020). Each plot's hydrophytic vegetation status was calculated using methods as described in the *Corps of Engineers Wetland Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys, and Coastal Region (Version 2.0)* (USACE 2008).

2.2.2 SOILS

Hydric soils are soils that form under saturation conditions, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. These soils are occasionally shallow in the study area, with visible depletions or gleyed matrices below dark surface horizons containing organic material. Soil sample pits were used to confirm the presence of hydric soils and to verify the extent of wetland areas. Pits were excavated inside each wetland and upland from the delineated areas. Soils from each sample pit were evaluated for color, texture, and field indicators of hydric soils as described in the *Corps of Engineers Wetland Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys, and Coastal Region (Version 2.0)* (USACE 2008). Soil colors were determined using the Munsell Soil Color Chart (2009). A soil profile description of each sample pit up to 16 inches in depth, with no restrictive layer, was recorded on the *USACE Wetland Determination Data Form – Western Mountains, Valleys, and Coastal Region (Version 2.0)*, along with indicators of hydric soils present.

2.2.3 HYDROLOGY

Wetland hydrology is defined as all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season (USACE 1987). Hydrologic indicators used by field biologists to assist in wetland identification are listed in the *Corps of Engineers Wetland Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys, and Coastal Region (Version 2.0)* (USACE 2008). Hydrologic indicators are divided into Primary and Secondary categories within four separate groups: Group A – Observation of Surface Water or Saturated Soils, Group B – Evidence of Recent Inundation, Group C – Evidence of Current or Recent Soil Saturation, and Group D – Evidence from Other Site Conditions or Data. At least one primary indicator confirms hydrology; in less obvious situations, secondary indicators may be combined to verify the presence of wetland hydrology.

2.3 WETLAND CLASSIFICATION RATING

Wetlands were rated according to the *Washington State Wetland Rating System for Western Washington: 2014 Update*, using a set of tiered questions based on the hydrogeomorphic (HGM) classification of each wetland to assess its water quality, hydrology, and habitat functions (Hruby 2014). HGM classification is a functional index designed to inform wetland management decisions by accounting for geomorphic and hydrologic attributes (Brinson 1993). At the highest level of HGM classification, wetlands are separated into seven classes; only one of these is represented in the study area, Depressional & Flats. All wetlands delineated in NSP are classified as Depressional & Flats because, although they appear to exist in flat areas, they actually occur in extensive topographic depressions, allowing surface water accumulation. The dominant hydrodynamics in depressional wetlands are vertical fluctuations which are typically seasonal.

Most wetlands were assigned a category based on wetland function, which was assessed by responses to questions resulting in a numerical score. As discussed in the subsections below, questions were answered using field observations and spatial analysis. The completed Western Washington Wetland Rating Forms are available as an Appendix.

2.3.1 COWARDIN CLASSIFICATION

Wetland parameters were characterized using the wetland classes defined by the Cowardin system (Cowardin et al. 1979). The Cowardin system describes wetlands by the plant communities, soils, and hydrologic regimes present. Cowardin plant classes are distinguished by the uppermost layer of plants that provide more than 30% surface cover within all or part of a wetland. Using this guidance, wetland areas were identified based on field observations as Forested, Scrub-Shrub, Emergent, Aquatic Bed, or Open Water pursuant to definitions in Section 5.2 of the *Washington State Wetland Rating System for Western Washington: 2014 Update* (Hruby 2014). Cowardin plant classifications were digitized into polygons for subsequent mapping.

2.3.2 HYDROPERIOD

Areas within wetlands of occasional, seasonal, and permanent ponding were identified through field observations such as visible surface water; watermarks on vegetation, sediment, or debris; water-stained vegetation lying on the wetland surface; algal mats; and distinct changes in

vegetation; as well as a review of aerial imagery. These areas were digitized into polygons for subsequent mapping. Surface water outlets, if present, were identified in the field.

2.3.3 CONTRIBUTING BASIN

Nisqually State Park topography includes isolated depressions and extensive low-slope areas resulting in most of the delineated wetlands having isolated contributing basins. Contributing basins for each wetland were delineated based on field observations and digitized for subsequent mapping.

2.3.4 SOURCES OF POLLUTANTS AND RUNOFF

Land uses that are sources of pollutants and runoff were identified within a 150-foot buffer surrounding all wetlands. The primary pollutant associated with the trail system is manure.

2.3.5 LAND USE INTENSITY AND HABITAT

Land use intensity and undisturbed and accessible habitat were identified within a 1-kilometer buffer surrounding all wetlands. High-intensity land uses include commercial areas, urban areas, industrial areas, institutional uses, retail sales, residential areas with a density greater than one unit per acre, high-intensity agriculture, and high-intensity recreation. Low- to moderate-intensity uses include residential areas with a density of less than one unit per acre, parks, moderate-intensity agriculture, pastures, trails, forestry, and utility corridors. Relatively undisturbed habitat includes areas free of regular disturbances like tilling and cropping, residential and urban development, grazing, paved roads, mowing, pet use, boating, and fishing. Accessible habitat includes areas of relatively undisturbed habitat and low to moderate-intensity uses adjacent to a wetland without crossing any high-intensity uses (Hruby 2014).

2.3.6 WATER QUALITY

Impaired waters regulated by Section 303(d) of the Clean Water Act (CWA) within the same basin or within one mile downstream of any wetland were identified using the WSDOE Washington State Water Quality Assessment 303(d)/305(b) List, Version 5.0.1. Total Maximum Daily Loads within the Water Resource Inventory Area (WRIA) for all wetlands were also considered for the Rating.

2.3.7 PLANT COVER

For Depressional & Flats wetlands, plant cover was assessed through field observations and placed in the tree, shrub, or herb stratum. The indicator status of each species was recorded as obligate (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), or upland (UPL). Absolute % cover was measured to determine the extent to which each species contributes to the overall vegetation composition, and the dominant species within each stratum was identified.

3 RESULTS AND DISCUSSION

3.1 DESCRIPTION OF THE STUDY AREA

3.1.1 LANDSCAPE CHARACTERISTICS

Nisqually State Park has a diverse landscape including large river flood terraces, slopes, ravines and marshy bottomland. Wetlands are distributed throughout and when isolated they appeared in small hummocks or terraced areas. The forested area is natural and managed secondary growth coniferous forests, wetlands, lakes, rivers, riparian corridors, prairies, abandoned logging roads, agricultural lands, rural residential properties, and utility easements. The vegetation within the park is largely native with Douglas-fir dominating the canopy. Around 80% of the wildlife habitat within a 1-kilometer radius of the action area is undisturbed or moderately disturbed.

3.1.2 VEGETATION

Nisqually State Park contains large areas of past commercial Douglas-fir (*Pseudotsuga menziesii*) timberlands. Other predominant tree species include Big Leaf Maple (*Acer macrophyllum*), Black Cottonwood (*Populus trichocarpa*), Oregon ash (*Fraxinus latifolia*), Red Alder (*Alnus rubra*), Vine Maple (*Acer circinatum*), and Western Red Cedar (*Thuja plicata*). The assessment noted several areas of the park undergoing diversity restoration practices including thinning and planting of Western Red Cedar, Lodgepole Pine (*Pinus contorta*), and Western White Pine (*Pinus monticola*).

The most commonly observed shrubs included Big Leaf Maple (*Acer macrophyllum*), Oregon ash (*Fraxinus latifolia*), Oregon grape (*Mahonia aquifolium*), Red Alder (*Alnus rubra*), Salmonberry (*Rubus spectabilis*), and Vine Maple (*Acer circinatum*). Common herbaceous species included Salal (*Gaultheria shallon*), Slough Sedge (*Carex obnupta*), Sword Fern (*Polystichum munitum*), Trailing Blackberry (*Rubus ursinus*), and Water Parsley (*Oenanthe sarmentosa*).

Invasive plant species observed included Reed Canarygrass (*Phalaris arundinacea*), Himalayan Blackberry (*Rubus armeniacus*), Scotch Broom (*Cytisus scoparius*). A complete list of all the species identified in wetlands can be found in Table 3-1.

Table 3-1. Plant species observed in wetlands.

Vegetation Observed in Nisqually State Park Wetlands	
Common Name	Scientific Name
Trees	
Beaked Hazelnut	<i>Corylus cornuta</i>
Big Leaf Maple	<i>Acer macrophyllum</i>
Black Cottonwood	<i>Populus trichocarpa</i>
Black Hawthorne	<i>Crataegus douglasii</i>
Cascara Buckthorn	<i>Rhamnus purshiana</i>
Douglas Fir	<i>Pseudotsuga menziesii</i>

Oregon Ash	<i>Fraxinus latifolia</i>
Red Alder	<i>Alnus rubra</i>
Vine Maple	<i>Acer circinatum</i>
Western Red Cedar	<i>Thuja plicata</i>
Shrubs	
Big Leaf Maple	<i>Acer macrophyllum</i>
Beaked Hazelnut	<i>Corylus cornuta</i>
Black Cottonwood	<i>Populus trichocarpa</i>
Cascara Buckthorn	<i>Rhamnus purshiana</i>
Douglas Fir	<i>Pseudotsuga menziesii</i>
Douglas Spirea	<i>Spiraea douglasii</i>
English Holly	<i>Ilex aquifolium</i>
Himalayan Blackberry	<i>Rubus armeniacus</i>
Nettle	<i>Urtica dioica</i>
Nootka Rose	<i>Rose nutkana</i>
Ocean Spray	<i>Holodiscus discolor</i>
Oregon Ash	<i>Fraxinus latifolia</i>
Oregon Grape	<i>Mahonia aquifolium</i>
Osoberry	<i>Oemleria cerasiformis</i>
Pacific Dogwood	<i>Cornus nuttallii</i>
Pacific Nineback	<i>Physocarpus capitatus</i>
Red Alder	<i>Alnus rubra</i>
Red Current	<i>Ribes rubrum</i>
Red Huckleberry	<i>Vaccinium parvifolium</i>
Salal	<i>Gaultheria shallon</i>
Salmonberry	<i>Rubus spectabilis</i>
Scotch Broom	<i>Cytisus scoparius</i>
Snowberry	<i>Symphoricarpos albus</i>
Spiny Sow Thistle	<i>Sonchus asper</i>
Sword Fern	<i>Polystichum munitum</i>
Thimbleberry	<i>Rubus parviflorus</i>
Trailing Blackberry	<i>Rubus ursinus</i>
Twin Berry	<i>Lonicera incolucrata</i>
Vine Maple	<i>Acer circinatum</i>
Western Red Cedar	<i>Thuja plicata</i>
Herbs	
Alpine Ladyfern	<i>Athyrium distentifolium</i>
Common Soft Rush	<i>Juncus effusus</i>
Deer Fern	<i>Blechnum spicant</i>

Giant Horsetail Fern	<i>Equisetum telmateia</i>
Herb Robert	<i>Geranium robertianum</i>
Oregon Grape	<i>Mahonia aquifolium</i>
Piggyback Plant	<i>Tolmiea menziesii</i>
Pinnacled Bulrush	<i>Schoenoplectus pungens</i>
Reed Canary Grass	<i>Phalaris arundinacea</i>
Salal	<i>Gaultheria shallon</i>
Slough Sedge	<i>Carex obnupta</i>
Sword Fern	<i>Polystichum munitum</i>
Trailing Blackberry	<i>Rubus ursinus</i>
Water Parsley	<i>Oenanthe sarmentosa</i>
Water Speedwell	<i>Veronica anagallis-aquatica</i>
Western Bracken Fern	<i>Pteridium aquilinum</i> var. <i>pubescens</i>
Wild Strawberry	<i>Fragaria virginiana</i>

3.1.4 SOILS

The Pierce County, WA Web Soils Survey identified 26 soil map units within the project boundary (Appendix). Field investigations confirmed that the common gravelly loam and sand were a predominant characteristic across the landscape, having moderate and well-drained conditions.

3.1.5 HYDROLOGY

Hydrologic indicators were present within the delineated wetlands. The precipitation for the period leading up to the field work was normal (see Appendix Hydrology Tools). Analysts noted secondary hydrology indicators in the wetland determination form, but all wetlands contained qualifying primary indicators.

The WDNR FPARS map in the Appendix provides stream layout. The Mashel and Nisqually Rivers are Type S Waters (See Water Type Maps in Appendix). The National Hydrography Data (NHD) indicates Type N (non-fish-bearing) and Type U (unknown) Waters within the NSP. The streams appear on maps since they are modeled and predicted, not observed. The well drained upland soils and loam soils within the wetlands infiltrate uplands readily and maintain water in depressional areas. Thus across the landscape are many isolated wetlands with no outlets. Analysts did not observe channels that would qualify as streams under minimum flow, channel characteristics (scour, floodplain) and therefore do not provide riparian buffers for streams. In instances where wetlands were in series or mosaic, connections were either topographic depressions or swales. If associated with the connectivity of wetlands they were assigned wetland buffers which exceeds Type N stream buffer width. Trailside ditches were delineated as wetlands if prominent and met vegetation, hydrology and soil indicators.

External stormwater drainage is maintained outside of NSP boundaries. All of the wetlands are depressional and have localized contributing basins.

3.2 WETLANDS DELINEATED IN STUDY AREA

Field investigations confirmed the presence of and delineated 27 wetlands within the study area. Sixteen of these 27 were selected for Rating and further evaluation due to their proximity to the proposed trail network. The characteristics of each wetland are summarized in Appendices by Rating Forms, Determination Forms and Images. The Following Table provides an overview of the 16 wetlands that were given full delineation and rating.

Table 3-2 Wetlands in the Study Area

Wetland	Wetland Rating							Wetland Size (sq ft) based on 150 ft	Base Buffer Width (ft) based on Rating	Adjusted Buffer Width (ft)	Adjustment Rationale
	Cowardin _a	HGM _b	Total Habitat Score _c	Hydro Period _d	Ecology	Local Jurisdiction	WDOE Habitat Score	Land Use Intensity			
W13 (complex)	PSS, PEM	Depressional & Flats	13	SF SO	III	III	7	Low	50	75	Plant Diversity, Size
W23	AB, PEM	Depressional & Flats	13	SF OF SO	II	II	7	Low	100	100	N/A
W15	PFO	Depressional & Flats	13	SF SO	III	III	7	Low	50	75	Multi Cowardin, Hydro
W7	PEM, PSS	Depressional & Flats	14	SF SO	III	III	7	Low	50	75	Multi Cowardin
W21	AB, PEM, PSS	Depressional & Flats	16	SF OF SO	III	III	7	Low	50	75	Multi Cowardin, Habitat Score
W24	PEM, PSS, PFO	Depressional & Flats	16	SF OF SO	III	III	7	Low	50	75	Multi Cowardin, Habitat Score
W26	PEM, PSS, PFO	Depressional & Flats	15	SO	III	III	7	Low	50	75	Multi Cowardin

W8	PEM, PSS, PFO	Depressional & Flats	19	SF SO	III	III	7	Low	60085	50	100	Multi Cowardin, Habitat Score
W11	PFO	Depressional & Flats	11	SF SO	III	III	6	Low	19617	50	75	Size
W14	PSS	Depressional & Flats	6	SF SO	IV	IV	5	Low	794	25	50	N/A
W25	PEM, PSS	Depressional & Flats	13	OF SO	III	III	7	Low	2790	50	50	N/A
W12	PSS	Depressional & Flats	5	SF	III	III	6	Low	509	50	50	N/A
W20	PEM, PSS	Depressional & Flats	8	OF	IV	IV	5	Low	1812	25	25	N/A
W5	PEM, PSS, PFO	Depressional & Flats	16	SF OF SO	III	III	7	Low	14730	50	100	Multi Cowardin, Habitat Score, Size
W17	PEM	Depressional & Flats	6	SF OF	III	III	5	Low	1106	50	50	N/A
W16	PSS, PFO	Depressional & Flats	9	OF	III	III	6	Low	3145	50	50	N/A

a Cowardin Class: PEM palustrine emergent, PFO palustrine forested, PSS palustrine scrub shrub

b HGM Hydrogeomorphic class

c Total score from the wetland rating system

d PF: Permanently Flooded; SF: Seasonally Flooded; OF: Occasionally Flooded; SO: Saturated Only; PFS: Permanently Flowing Stream; SFS Seasonally Flowing Stream

3.2.1 VEGETATION HIGHLIGHTS

Within NSP, Scrub-Shrub is the most common Cowardin class, having been observed in 12 of the 16 delineated wetlands. Scrub-Shrub wetlands are defined as being “dominated by woody vegetation less than 20 feet tall. Plant species include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions”.

The Emergent Cowardin class was also well represented, having been documented in 10 of the 16 delineated wetlands. Emergent wetlands are those “characterized by rooted herbaceous and grasslike plants which stand erect above the water or ground surface (excluding lichen and moss). Vegetation is present for most of the growing season in most years.

Forested areas were found in 8 of the 16 wetlands in NSP. These are defined as a “wetland dominated by woody vegetation 20 feet or taller. They are fairly complex, usually containing an over story of trees, an understory of young trees and shrubs, and an herbaceous layer”. In many cases, forest vegetation was not sufficient to classify the entire wetland accordingly, and sample plots were chosen to accurately represent the top layer of plants having greater than 30% cover.

Aquatic bed wetlands were observed in 2 of the 16 NSP wetlands. They are described as “areas of water dominated by plants that grow principally on or below the surface of water for most of the growing season”.

4 LIMITATIONS

Wetland delineations and functional assessments are provided to inform management decisions, including the determination of jurisdictional authority regarding permitting procedures. The USACE issues jurisdictional determinations to assert regulation under CWA Section 404; this assessment does not assume the jurisdiction of any delineated wetlands.

5 REFERENCES

- *Brinson, Mark M. 1993. Wetlands Research Program Technical Report WRP-DE-4 A Hydrogeomorphic Classification for Wetlands. U.S. Army Engineer Waterways Experiment Station: Vicksburg, MS. Available from: [WRP-DE-4 \(tulane.edu\)](http://www.tulane.edu/wrp-de-4).
- *Cowardin L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Prepared for: U.S. Department of the Interior, FWS.
- * Hruby, T. (2014). Washington State Wetland Rating System for Western Washington: 2014 Update. (Publication #14-06-029). Olympia, WA: Washington Department of Ecology.
- *Munsell Color. 2009. Munsell soil-color charts: with genuine Munsell color chips. Grand Rapids, MI: Munsell Color.
- *The Watershed Company. January 2021. Nisqually State Park – New Full Service Park, Critical Areas Report
- *United States Army Corps of Engineers. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1.
- * United States Army Corps of Engineers. 2020. National Wetland Plant List, version 3.5.

6 APPENDICES

Wetland Images

Wetland Determination Forms

Wetland Rating Forms

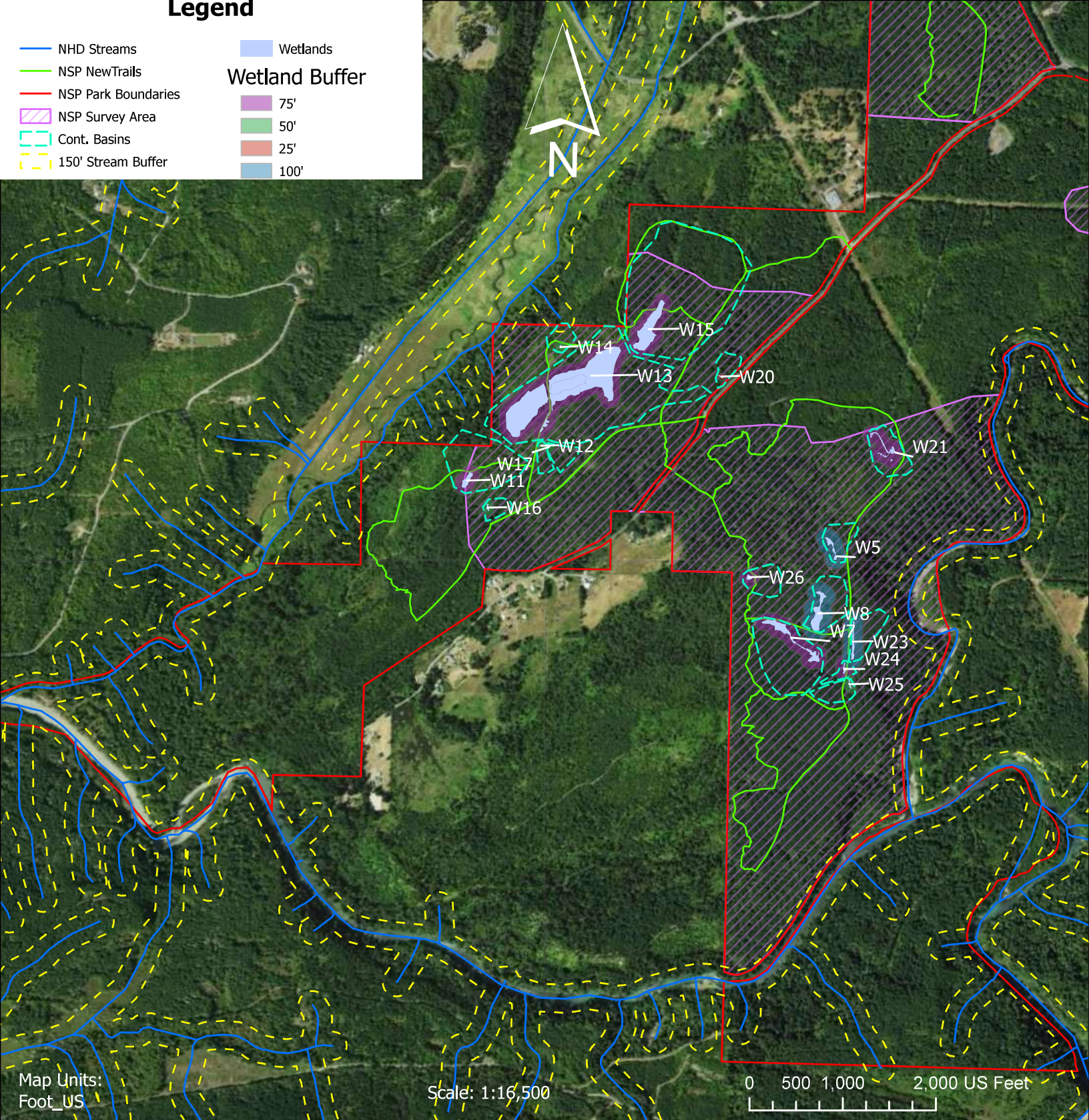
Wetland Support Maps

Auxiliary Supporting Information

Legend

- NHD Streams
- NSP NewTrails
- NSP Park Boundaries
- NSP Survey Area
- Cont. Basins
- 150' Stream Buffer

- Wetlands
- Wetland Buffer
 - 75'
 - 50'
 - 25'
 - 100'



Site Overview



Nisqually State Park
44501 Medical
Springs Road
Eatonville, WA
98328

Figure: Fig. A

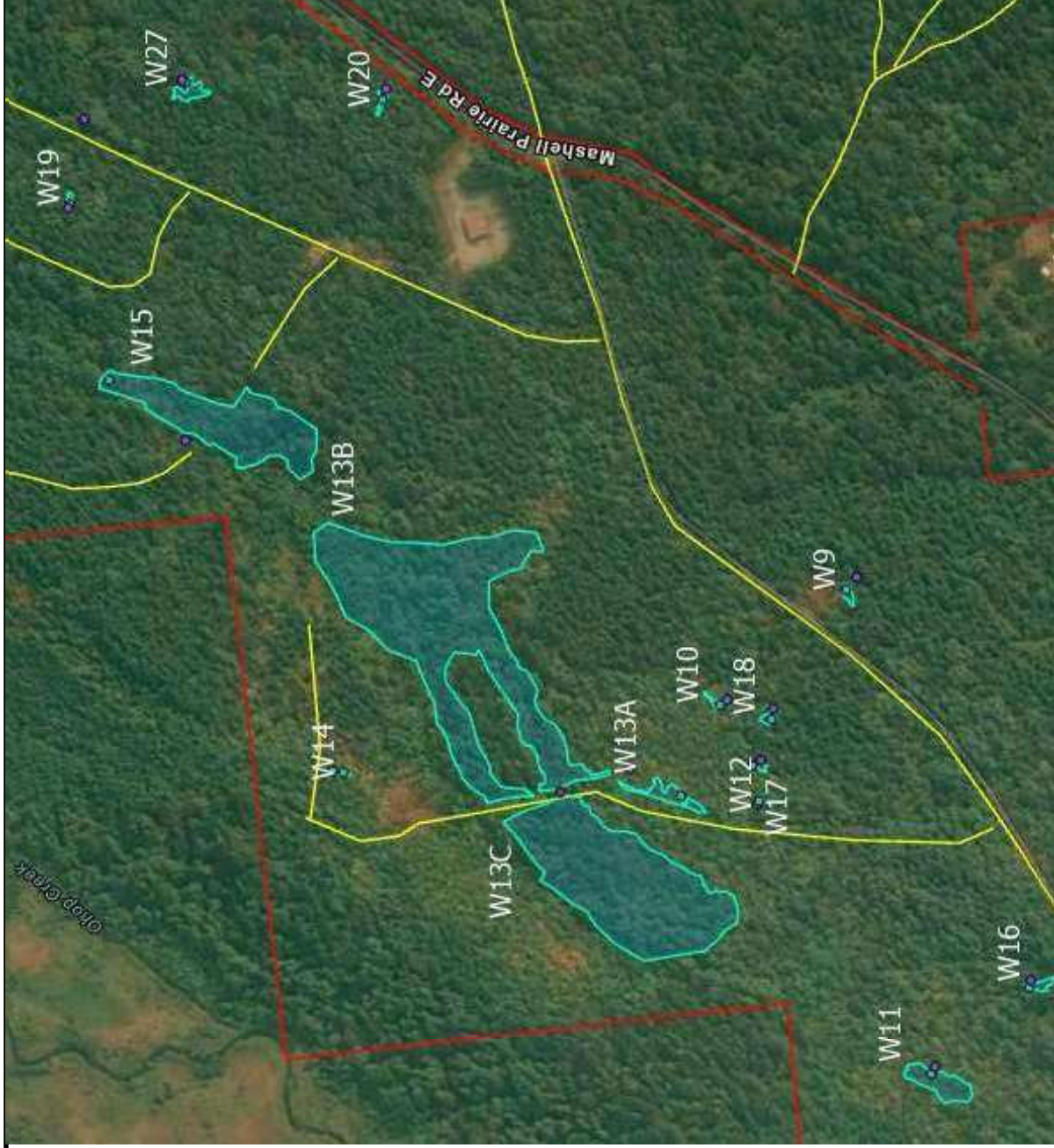


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Each wetland contains soil pits that are co-incident with wetland determination forms. A “within wetland” and “outside wetland”. Each point is labeled with a point identifier in which Pit 1 (pale green point) is inside and Pit 2 is outside (purple point).

For example:
 Wetland 20 is labeled W20 and the corresponding soil pits are:
 W20 SP1 – inside wetland
 W20 SP2 – outside wetland

The characterization is used to identify the boundary. Auxiliary red points are exploratory pits that verify uplands.



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Wetland Locations with
 Soil Pit locations (west)

Nisqually State Park



Each wetland contains soil pits that are co-incident with wetland determination forms. A “within wetland” and “outside wetland”. Each point is labeled with a point identifier in which Pit 1 (pale green point) is inside and Pit 2 is outside (purple point).

For example:

Wetland 23 is labeled W23 and the corresponding soil pits are:
W23 SP1 – inside wetland
W23 SP2 – outside wetland

The characterization is used to identify the boundary. Auxiliary red points are exploratory pits that verify uplands.

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



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www.ecoassets.us

Wetland Locations with
Soil Pit locations (east)

Nisqually State Park

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 10/31/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W1 SP1
 Investigator(s): Dominguez, Hearsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Roadside Ditch Local relief (concave, convex, none): Concave Slope (%): 6
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Managed roadside ditch creating & maintains hydrology.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of:
1. <u>RUSP Salmonberry</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Multiply by:
2. _____	_____	_____	_____	OBL species <u>3</u> x 1 = <u>3</u>
3. _____	_____	_____	_____	FACW species <u>3</u> x 2 = <u>6</u>
4. _____	_____	_____	_____	FAC species <u>25</u> x 3 = <u>75</u>
5. _____	_____	_____	_____	FACU species <u>2</u> x 4 = <u>8</u>
= Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: <u>5'</u>)				Column Totals: <u>33</u> (A) <u>92</u> (B)
1. <u>EQTE Giant Horsetail Fern</u>	<u>3</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = <u>2.78</u>
2. <u>TOME Piggyback Plant</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. <u>RVUR Trailing Blackberry</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
4. <u>OESA Water Parsley</u>	<u>3</u>	<u>N</u>	<u>OBL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: <u>-</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>75</u>				
Remarks:				

SOIL

Sampling Point: W1 SP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 7	10 YR 2/1	100					Muck	Sandy, Muck
7 -16	5 YR 4/1	100					Si Sn	Silt, Sand

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) |

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|---|--|
| ☒ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☒ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☒ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☒ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☒ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☒ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 1

Water Table Present? Yes ☒ No ☐ Depth (inches): 0

Saturation Present? Yes ☒ No ☐ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 10/31/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W1 SP2
 Investigator(s): Dominguez, Hearsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Sloped Slope (%): 15
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Upland characterized by Evergreen Maple, sand fern community. Horse manure.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	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>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.5</u> (A/B)
1. <u>ACMA3 Big Leaf Maple</u>	<u>30</u>		<u>FACU</u>	
2. _____	_____		_____	
3. _____	_____		_____	
4. _____	<u>30</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>30</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>RVAR Himalayan Blackberry</u>	<u>15</u>		<u>FACU</u>	
2. <u>RUSP Salmonberry</u>	<u>10</u>		<u>FAC</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. <u>ACCI Vine Maple</u>	<u>5</u>		<u>FAC</u>	
4. _____	_____		_____	
5. _____	_____		_____	
<u>30</u> = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>EQTE Giant Horsetail Fern</u>	<u>40</u>		<u>FACW</u>	
2. <u>PTAQ Westernbracken Fern</u>	<u>30</u>		<u>FACU</u>	
3. <u>TOME Piggyback Plant</u>	<u>10</u>		<u>FAC</u>	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
4. <u>TOMU Sword Fern</u>	<u>30</u>		<u>FACU</u>	
5. _____	_____		_____	
6. _____	_____		_____	
<u>30</u> = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____		_____	
2. _____	_____		_____	
<u>5</u> = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
% Bare Ground in Herb Stratum <u>5</u>				
Remarks: 15% MOSS				

SOIL

Sampling Point: W1 SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 3	10 YR 2/1	100					Sa Lo	
3 - 15	5 YR 4/1	100					Lo Sn	

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? Yes _____ No _____ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 10/31/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W2-SP1
 Investigator(s): Dominguez, Hearsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): < 1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>FRLA Oregon Ash</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2. <u>ALRU Red Alder</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. <u>POBA2 Cottonwood</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____				Prevalence Index worksheet:
	<u>20</u>		= Total Cover	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of:
1. _____				OBL species <u>80</u> x 1 = <u>80</u>
2. _____				FACW species <u>5</u> x 2 = <u>10</u>
3. _____				FAC species <u>15</u> x 3 = <u>45</u>
4. _____				FACU species _____ x 4 = _____
5. _____				UPL species _____ x 5 = _____
			= Total Cover	Column Totals: <u>100</u> (A) <u>235</u> (B)
Herb Stratum (Plot size: <u>5</u>)				Prevalence Index = B/A = <u>2.35</u>
1. <u>CAOB3 Slough Sedge</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	<u>80</u>		= Total Cover	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____				
2. _____				
% Bare Ground in Herb Stratum <u>20</u>				
Remarks:				

SOIL

Sampling Point: W2-SP1**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 10	10 YR 3/1	100					Lo	Loam
10 -16	2.5 YR 4/1	65	7.5 YR 4/4	35	C	M	Si, Cl	Silt, Clay

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.)****Indicators for Problematic Hydric Soils³:**

☐ Histosol (A1)	☐ Sandy Redox (S5)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ Red Parent Material (TF2)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA 1)	☐ Very Shallow Dark Surface (TF12)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	☐ Other (Explain in Remarks)
☒ 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)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

3" higher layer top surface

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2)	☐ Salt Crust (B11)
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)
☐ Inundation Visible on Aerial Imagery (B7)	
☐ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (2 or more required)

☒ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☒ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☒ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (LRR A)
☐ Frost-Heave Hummocks (D7)

Field Observations:Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☐ No ☒ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

FAC Nutral Test Passed

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 10/31/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W2-SP2
 Investigator(s): Dominguez, Hearsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Woodland Local relief (concave, convex, none): None Slope (%): 3
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>ALRU Red Alder</u>	<u>20</u>		<u>FAC</u>	
2. <u>FRLA Oregon Ash</u>	<u>15</u>		<u>FACW</u>	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. <u>PSME Douglas Fir</u>	<u>20</u>		<u>FACU</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.6</u> (A/B)
4. _____				Prevalence Index worksheet:
	<u>55</u>		= Total Cover	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>ACCI Vine Maple</u>	<u>40</u>		<u>FAC</u>	
2. _____				
3. _____				Total % Cover of: _____ Multiply by: _____
4. _____				OBL species _____ x 1 = _____
5. _____				FACW species <u>15</u> x 2 = <u>30</u>
	<u>40</u>		= Total Cover	FAC species <u>60</u> x 3 = <u>180</u>
Herb Stratum (Plot size: <u>5'</u>)				FACU species <u>55</u> x 4 = <u>220</u>
1. <u>GASH Salal</u>	<u>90</u>		<u>OBL</u>	UPL species _____ x 5 = _____
2. <u>POMU Sword Fern</u>	<u>10</u>		<u>FACU</u>	Column Totals: <u>130</u> (A) <u>430</u> (B)
3. _____				Prevalence Index = B/A = <u>3.3</u>
4. _____				Hydrophytic Vegetation Indicators:
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. <u>Seasonal Ponding</u>				
	<u>100</u>		= Total Cover	
Woody Vine Stratum (Plot size: <u>"</u>)				
1. _____				
2. _____				
			= Total Cover	
% Bare Ground in Herb Stratum <u>20</u>				
Remarks:				

SOIL

Sampling Point: W2-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 4	10 YR 2/1	100					Lo	
4 -16	7.5 YR 4/3	100					Sa, Si	

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

3" higher layer top surface

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 10/31/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W3-SP1
 Investigator(s): Dominguez, Hearsey Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): None Slope (%): 1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: No Outlets. Forded Wetland. Water depth 21"					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>FRLA Oregon Ash</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>ALRU Red Alder</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
	<u>30</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of:
1. <u>PHCA II Pacific Ninebark</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>90</u> x 1 = <u>90</u>
2. <u>ACCI Vine Maple</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	FACW species <u>20</u> x 2 = <u>40</u>
3. _____	_____	_____	_____	FAC species <u>55</u> x 3 = <u>165</u>
4. _____	_____	_____	_____	FACU species _____ x 4 = _____
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
	<u>45</u>	= Total Cover		Column Totals: <u>165</u> (A) <u>295</u> (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = <u>1.78</u>
1. <u>CAOB3 Slough Sedge</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>90</u>	= Total Cover		Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	_____	= Total Cover		
% Bare Ground in Herb Stratum <u>10</u>				
Remarks:				

SOIL

Sampling Point: W3-SP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10 YR 3/1	100					Lo	Loam
6 -13	15 Y 5/1	75	10 YR 4/6		C	M	Cl, Si	

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) |

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

Restrictive Layer (if present):

Type: Roots
Depth (inches): 13"

Hydric Soil Present? Yes ☒ No ☐

Remarks:

2" duff on top of soil. Refusal at roots @ 13"

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|--|
| ☒ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☒ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Water Table Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Saturation Present?	Yes ☐ No ☒	Depth (inches): <u> </u>

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Passed FAC Neutral Test

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 10/30/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W3-SP2
 Investigator(s): Dominguez, Hearsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Woodland Slope Local relief (concave, convex, none): Side Slope Slope (%): 5
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. THPL Red Cedar	70	Y	FAC	
2. POBAZ Black Cottonwood	15	Y	FACW	Total Number of Dominant Species Across All Strata: <u>6</u> (B)
3. PSME Douglas Fir	5	N	FACU	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.6</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
90 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of: _____ Multiply by: _____
1. ACCI Vine Maple	5	Y	FAC	OBL species _____ x 1 = _____
2. RVSP Salmonberry	5	Y	FAC	FACW species <u>10</u> x 2 = <u>20</u>
3. _____	_____	_____	_____	FAC species <u>95</u> x 3 = <u>285</u>
4. _____	_____	_____	_____	FACU species <u>55</u> x 4 = <u>220</u>
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
10 = Total Cover				Column Totals: <u>160</u> (A) <u>525</u> (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = <u>3.28</u>
1. POMU Sword Fern	30	Y	FACU	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. GASH Salal	20	Y	FACU	
3. RVUR Trailing Blackberry	5	N	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
55 = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot size: <u>5'</u>)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>50</u>				
Remarks:				

SOIL

Sampling Point: W3-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 7	7.5 YR 2/1	100					Si, Lo	
7 - 12	10 YR 5/3	100					Si	

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) |

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

Restrictive Layer (if present):

Type: Root
Depth (inches): 12

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Top 3" Duff

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Water Table Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Saturation Present?	Yes ☐ No ☒	Depth (inches): <u> </u>

(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 10/31/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W4-SP1
 Investigator(s): Dominguez, Harsey Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Woodlands Local relief (concave, convex, none): Concave Slope (%): < 1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. THPL Western Red Cedar	15	Y	FAC	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
15 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of: _____ Multiply by: _____
1. _____	_____	_____	_____	OBL species <u>30</u> x 1 = <u>30</u>
2. _____	_____	_____	_____	FACW species _____ x 2 = _____
3. _____	_____	_____	_____	FAC species <u>15</u> x 3 = <u>45</u>
4. _____	_____	_____	_____	FACU species _____ x 4 = _____
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
45 = Total Cover				Column Totals: <u>45</u> (A) <u>75</u> (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = <u>1.6</u>
1. CAO3 Slough Sedge	30	Y	OBL	Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
30 = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>70</u>				
Remarks: Also in width: Beaked Hazelnut, salmonberry. Outside plot: Sword fern on hummocks/logs.				

SOIL

Sampling Point: W4-SP1**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10 YR 2/2	100					Lo	Loam
8 -14	2.5 Y 5/2	75	7.5 YR 4/6	30	C	M	Si, Lo	

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.)****Indicators for Problematic Hydric Soils³:**

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**Type: RockDepth (inches): 14"Hydric Soil Present? Yes ☒ No ☐

Remarks:

2" duff on top of soil. Refusal at rock @ 14"

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2)	☐ Salt Crust (B11)
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)
☐ Inundation Visible on Aerial Imagery (B7)	
☐ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (2 or more required)

☒ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☒ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (LRR A)
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Water Table Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Saturation Present? (includes capillary fringe)	Yes ☐ No ☒	Depth (inches): <u> </u>

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 10/30/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W4-SP2
 Investigator(s): Dominguez, Hearsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Atop Hill Local relief (concave, convex, none): None Slope (%): 1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.5</u> (A/B)
1. <u>THPL Red Cedar</u>	<u>95</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	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. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____	<u>95</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>FRLA Oregon Ash</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____	<u>5</u>	= Total Cover		
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>GASH Salal</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. <u>POMU Sword Fern</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____	<u>20</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>-</u>)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
% Bare Ground in Herb Stratum <u>80</u>				
Remarks:				

SOIL

Sampling Point: W4-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 4	10 YR 2/1	100					Si, Lo	
4 -14	10 YR 4/3	100					Si, Lo	

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) |

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

1" Duff

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/21/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W5-SP1
 Investigator(s): Dominguez, Allen Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>ALRU Red Alder</u>	<u>15</u>		<u>FAC</u>	
2. <u>ACCI Vine Maple</u>	<u>30</u>		<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>CAOB3 Slough Sedge</u>	<u>25</u>		<u>OBL</u>	
2. <u>PHAR3 Reed Canary Grass</u>	<u>30</u>		<u>FACW</u>	
3. <u>OESA Water Parsley</u>	<u>10</u>		<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>"</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>40</u>				Hydrophytic Vegetation Present? Yes _____ No _____
Remarks:				

SOIL

Sampling Point: W5-SP1

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

[illegible]

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.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|---|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) | ☐ 2 cm Muck (A10) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) | ☐ Red Parent Material (TF2) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) | ☐ Very Shallow Dark Surface (TF12) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) | ☐ Other (Explain in Remarks) |
| ☐ 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) | |
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|---|---|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except |
| ☒ High Water Table (A2) | MLRA 1, 2, 4A, and 4B) |
| ☒ Saturation (A3) | ☐ Salt Crust (B11) |
| ☐ Water Marks (B1) | ☐ Aquatic Invertebrates (B13) |
| ☐ Sediment Deposits (B2) | ☒ Hydrogen Sulfide Odor (C1) |
| ☐ Drift Deposits (B3) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Surface Soil Cracks (B6) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☒ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes X No Depth (inches): 3

Saturation Present? Yes X No Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Surface water in adjacent pond

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/21/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W5-SP2
 Investigator(s): Dominguez, Allen Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>ALMA Big Leaf Maple</u>	<u>25</u>		<u>FACU</u>	
2. <u>ALRU Red Alder</u>	<u>10</u>		<u>FAC</u>	
3. _____				
4. _____				
	<u>35</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>RUSP Salmonberry</u>			<u>FAC</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
		= Total Cover		
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>PHAR3 Reed Canary Grass</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>RUUR Trailing Blackberry</u>	<u>15</u>		<u>FACU</u>	
3. <u>POMU Sword Fern</u>	<u>25</u>		<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	<u>90</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____				Hydrophytic Vegetation Present? Yes _____ No _____
2. _____				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>10</u>				
Remarks: <u>Moss on bare ground 75%</u>				

SOIL

Sampling Point: W5-SP2

[illegible]

HYDROLOGY

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

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/1/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W6-SP1
 Investigator(s): Dominguez, Hearsey Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Small Depression Local relief (concave, convex, none): Concave Slope (%): < 1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____	Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>15</u></td> <td>x 1 = <u>15</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>15</u> (A)</td> <td><u>15</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1</u>	Total % Cover of:	Multiply by:	OBL species <u>15</u>	x 1 = <u>15</u>	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: <u>15</u> (A)	<u>15</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>15</u>	x 1 = <u>15</u>																	
FACW species _____	x 2 = _____																	
FAC species _____	x 3 = _____																	
FACU species _____	x 4 = _____																	
UPL species _____	x 5 = _____																	
Column Totals: <u>15</u> (A)	<u>15</u> (B)																	
= Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
= Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>CAOB3 Slough Sedge</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
= Total Cover																		
Woody Vine Stratum (Plot size: <u>-</u>)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____														
2. _____	_____	_____	_____															
= Total Cover																		
% Bare Ground in Herb Stratum <u>85</u>																		
Remarks:																		

SOIL

Sampling Point: W6-SP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 9	10 YR 3/1	100					Lo	Loam
9 -16	2.5 Y 5/2	70	10 YR 5/6	30	C	M	Si, Lo	

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|---|---|
| ☐ Surface Water (A1) | ☒ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☒ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☒ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☒ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/1/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W6-SP2
 Investigator(s): Dominguez, Harsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Sloped Slope (%): 6
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.25</u> (A/B)
1. THPL Red Cedar	50	Y	FAC	
2. FRLA Oregon Ash	2	N	FACW	
3. POBAZ Black Cottonwood	4	N	FAC	
4. ALRU Red Alder	5	N	FAC	
	61	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. COCO6 Beaked Hazelnut	70	Y	FACU	
2. RONU Nootka Rose	4	N	FAC	
3. RVSP Salmonberry	10	N	FAC	
4. _____				
5. _____				
	84	= Total Cover		
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: ____ 1 - Rapid Test for Hydrophytic Vegetation ____ 2 - Dominance Test is >50% ____ 3 - Prevalence Index is ≤3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ 5 - Wetland Non-Vascular Plants ¹ ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. GASH Salal	2	N	FACU	
2. MAAQ Oregon Grape	25	Y	UPL	
3. POMU Sword Fern	30	Y	FACU	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	57	= Total Cover		
Woody Vine Stratum (Plot size: <u>"</u>)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____				
2. _____				
		= Total Cover		
% Bare Ground in Herb Stratum <u>32</u>				
Remarks: Moss Present				

SOIL

Sampling Point: W6-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 2	10 YR 3/2	100					Si, Lo	
2 - 16	10 YR 4/3	100					Sa, Lo	

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) |

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/1/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W7-SP1
 Investigator(s): Dominguez, Hearsey Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: <u>Invasive reed canary grass.</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>POBA2 Black Cottonwood</u>	<u>4</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____	<u>4</u>	_____	_____	Prevalence Index worksheet:
<u>4</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of: _____ Multiply by: _____
1. <u>LOIN5 Twin Berry</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	OBL species _____ x 1 = _____
2. <u>THPL Red Cedar</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	FACW species <u>96</u> x 2 = <u>192</u>
3. <u>ACMA3 Big Leaf Maple</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	FAC species <u>15</u> x 3 = <u>45</u>
4. <u>FRLA Oregon Ash</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	FACU species <u>2</u> x 4 = <u>2</u>
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
<u>14</u> = Total Cover				Column Totals: <u>113</u> (A) <u>239</u> (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = <u>2.11</u>
1. <u>PHAR3 Reed Canary Grass</u>	<u>95</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>95</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks:				

SOIL

Sampling Point: W7-SP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 9	10 YR 3/1	100					Lo	Loam
9 -16	2.5 Y 5/2	70	10 YR 5/6	30	C	M	Si, Lo	

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) |

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☒ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☒ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☒ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☒ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present?	Yes _____ No ☒	Depth (inches): _____
Water Table Present?	Yes _____ No ☒	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____ No ☒	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No _____

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/1/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W7-SP2
 Investigator(s): Dominguez, Hearsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Sloped Hill Local relief (concave, convex, none): Convex Slope (%): 4
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.5</u> (A/B)
1. <u>PSME Douglas Fir</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
2. <u>ALRU Red Alder</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. <u>ACMA3 Big-Leaf Maple</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
	<u>55</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>GASH Salal</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>31</u> x 3 = <u>93</u> FACU species <u>110</u> x 4 = <u>440</u> UPL species _____ x 5 = _____ Column Totals: <u>141</u> (A) <u>533</u> (B) Prevalence Index = B/A = <u>3.78</u>
2. <u>POMU Sword Fern</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>85</u>	= Total Cover		
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>BLSP Deer Fern</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: ____ 1 - Rapid Test for Hydrophytic Vegetation ____ 2 - Dominance Test is >50% ____ 3 - Prevalence Index is ≤3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ 5 - Wetland Non-Vascular Plants ¹ ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>1</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. _____	_____	_____	_____	
	_____	= Total Cover		
% Bare Ground in Herb Stratum <u>10</u>				
Remarks:				

SOIL

Sampling Point: W7-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 3	Duff	100					Si, Lo	
3 -16	10 YR 4/3	100					Sa, Lo	

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/1/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W8-SP1
 Investigator(s): Dominguez, Hearsey Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil Y, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Loamy muck, really saturated, not meeting soil indication.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
1. FRPU7 Cascara	5	Y	FAC	
2. ALRU Red Alder	1	N	FAC	
3. THPL Red Cedar	2	Y	FAC	
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>90</u> x 1 = <u>90</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>135</u> (A) <u>185</u> (B) Prevalence Index = B/A = <u>1.37</u>
8 = Total Cover	8			
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ 5 - Wetland Non-Vascular Plants ¹ ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. SPH14 Spirea	40	Y	FAC	
2. FRPU7 Cascara	5	N	FAC	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
3. CONU4 Pacific Dogwood	5	N	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
50 = Total Cover	50			
Herb Stratum (Plot size: <u>5'</u>)				
1. OESA Water Parsley	90	Y	OBL	
2. VEAM2 Water Speedwell	1	N	OBL	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
91 = Total Cover	91			
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover	0			
% Bare Ground in Herb Stratum <u>9</u>				
Remarks:				

SOIL

Sampling Point: W8-SP1**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	7.5 YR 2.5/1	100					Lo	Loamy Muck

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.)****Indicators for Problematic Hydric Soils³:**

☐ Histosol (A1)	☐ Sandy Redox (S5)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ Red Parent Material (TF2)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA 1)	☐ Very Shallow Dark Surface (TF12)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	☒ Other (Explain in Remarks)
☐ 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)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

High organic content saturate to surface during dig. 3-month period, muck texture.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2)	☐ Salt Crust (B11)
☒ Saturation (A3)	☐ Aquatic Invertebrates (B13)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)
☐ Inundation Visible on Aerial Imagery (B7)	
☐ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (2 or more required)

☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☒ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (LRR A)
☐ Frost-Heave Hummocks (D7)

Field Observations:Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☒ No ☐ Depth (inches): 0
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/1/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W8-SP2
 Investigator(s): Dominguez, Hearsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hamocky Woods Local relief (concave, convex, none): Convex Slope (%): 1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	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>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.5</u> (A/B)
1. <u>ALRU Red Alder</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u>PSME Douglas Fir</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
3. <u>THPL Red Cedar</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
			<u>56</u> = Total Cover	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>ACCI Vine Maple</u>	<u>85</u>	<u>Y</u>	<u>FAC</u>	
2. <u>RUAR Himalayan Blackberry</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
3. <u>GASH Salal</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
			<u>146</u> = Total Cover	
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>GASH Salal</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>	
2. <u>ATAM Alpine Ladyfern</u>	<u>1</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
			<u>3</u> = Total Cover	
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
			_____ = Total Cover	
% Bare Ground in Herb Stratum <u>82</u>				
Remarks: <u>15% Moss Cover</u>				

SOIL

Sampling Point: W8-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 1	10 YR 2/1	100					Lo	
1 -16	10 YR 3/1	100					Si, Lo	

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

8" Duff

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/1/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W9-SP1
 Investigator(s): Dominguez, Harsey Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Small Depression Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>POBAZ Black Cottonwood</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
	<u>15</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of: _____ Multiply by: _____
1. <u>ALRU Red Alder</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>30</u> x 1 = <u>30</u>
2. _____	_____	_____	_____	FACW species _____ x 2 = _____
3. _____	_____	_____	_____	FAC species <u>20</u> x 3 = <u>60</u>
4. _____	_____	_____	_____	FACU species _____ x 4 = _____
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
	<u>5</u> = Total Cover			Column Totals: <u>50</u> (A) <u>90</u> (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = <u>1.8</u>
1. <u>CAOB3 Slough Sedge</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>30</u> = Total Cover			Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	<u>0</u> = Total Cover			
% Bare Ground in Herb Stratum <u>15</u>				
Remarks: 55% Moss ground cover.				

SOIL

Sampling Point: W9-SP1**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 2	10 YR 3/2	100					Lo	W/ roots
2 - 16	10 YR 5/2	40	5Y 5/1	35	D	M	Silt	
			7.5 YR 4/6	25	C	M	Silt	

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.)****Indicators for Problematic Hydric Soils³:**

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

High organic content saturate to surface during dig. 3-month period, muck texture.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2)	☐ Salt Crust (B11)
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)
☒ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☒ Stunted or Stressed Plants (D1) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)
☐ Inundation Visible on Aerial Imagery (B7)	
☐ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (2 or more required)

☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☒ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☒ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (LRR A)
☐ Frost-Heave Hummocks (D7)

Field Observations:Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☐ No ☒ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/1/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W9-SP2
 Investigator(s): Dominguez, Hearsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 60
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: <u>Excavated Area</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	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>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>PSME Douglas Fir</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	
2. <u>ACMA3 Big Leaf Maple</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
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>62</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>FRLA Oregon Ash</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
2. <u>SYAL Common Snowberry</u>	<u>90</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. <u>HODI Ocean Spray</u>	<u>3</u>	<u>N</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>96</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>MAAQ Oregon Grape</u>	<u>75</u>	<u>Y</u>	<u>UPL</u>	
2. <u>GASH Salal</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
3. <u>RUUR Trailing Blackberry</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>91</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks: <u>30% Moss Cover</u>				

SOIL

Sampling Point: W9-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 2	10 YR 2/1	100					Lo	Loam
2 - 5	10 YR 3/2	100					Si, Lo	Silt/Loam
5 - 13	7.5 YR 4/3	100					Si, Sa	Silt/Sand

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/11/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W10-SP1
 Investigator(s): Dominguez x2 Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Small Depression Local relief (concave, convex, none): Concave Slope (%):
 Subregion (LRR): Lat: Long: Datum:
 Soil Map Unit Name: NWI classification:

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>POBA2 Black Cottonwood</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. <u> </u>	<u>40</u>	<u> </u>	<u> </u>	Prevalence Index worksheet:
<u>40</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of:
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>
<u> </u> = Total Cover				<u>85</u>
Herb Stratum (Plot size: <u>5'</u>)				<u>85</u>
1. <u>CAOB3 Slough Sedge</u>	<u>85</u>	<u>Y</u>	<u>OBL</u>	<u>85</u>
2. <u>RUUR Tailing BB</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	<u>85</u>
3. <u>POMU Sword Fern</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	<u>85</u>
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>
<u>30</u> = Total Cover				Column Totals: <u>135</u> (A) <u>245</u> (B)
Woody Vine Stratum (Plot size: <u> </u>)				Prevalence Index = B/A = <u>1.81</u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Indicators:
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>0</u> = Total Cover				<u> </u> 1 - Rapid Test for Hydrophytic Vegetation
% Bare Ground in Herb Stratum <u>10</u>				<u>X</u> 2 - Dominance Test is >50%
Remarks:				<u>X</u> 3 - Prevalence Index is ≤3.0 ¹
				<u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				<u> </u> 5 - Wetland Non-Vascular Plants ¹
				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>

SOIL

Sampling Point: W10-SP1**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10 YR 4/2	100					Silt/Clay	

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:**Primary Indicators (minimum of one required; check all that apply)**

- ☒ Surface Water (A1) ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
☒ High Water Table (A2) ☐ Salt Crust (B11)
☒ Saturation (A3) ☐ Aquatic Invertebrates (B13)
☐ Water Marks (B1) ☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2) ☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5) ☐ Stunted or Stressed Plants (D1) (**LRR A**)
☐ Surface Soil Cracks (B6) ☐ Other (Explain in Remarks)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☒ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (**LRR A**)
☐ Frost-Heave Hummocks (D7)

Field Observations:Surface Water Present? Yes _____ No X Depth (inches): _____Water Table Present? Yes X No _____ Depth (inches): 2Saturation Present? Yes X No _____ Depth (inches): 0
(includes capillary fringe)Wetland Hydrology Present? Yes X No _____

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/11/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W10-SP2
 Investigator(s): Dominguez x2 Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): Convex Slope (%): 4
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Excavated Area		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.4</u> (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 = _____
1. POBA2 Black Cottonwood	30	Y	FAC	
2. PSME Doug Fir	15	Y	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	45	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. ACCI Vine Maple	10	Y	FAC	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	10	= Total Cover		
Herb Stratum (Plot size: <u>5'</u>)				
1. PTAQ Western Bracken Fern	10	Y	FACU	
2. RUUR Tailing BB	10	Y	FACU	
3. POMU Sword Fern	30	Y	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	50	= Total Cover		
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	0	= Total Cover		
% Bare Ground in Herb Stratum <u>50</u>				
Remarks:				

SOIL

Sampling Point: W10-SP2

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

[illegible]

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.)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except |
| ☐ High Water Table (A2) | MLRA 1, 2, 4A, and 4B) |
| ☐ Saturation (A3) | ☐ Salt Crust (B11) |
| ☐ Water Marks (B1) | ☐ Aquatic Invertebrates (B13) |
| ☐ Sediment Deposits (B2) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Drift Deposits (B3) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Surface Soil Cracks (B6) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes No ☒

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/1/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W11-SP1
 Investigator(s): Dominguez, Hearsey Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Convex Slope (%): 0
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: Reed Canary grass. Abuts marked trail.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	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>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.6</u> (A/B)														
1. <u>POBAZ Black Cottonwood</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	<u>20</u>	_____	_____	Prevalence Index worksheet: <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>52</u></td> <td>x 1 = <u>52</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>46</u></td> <td>x 3 = <u>138</u></td> </tr> <tr> <td>FACU species <u>45</u></td> <td>x 4 = <u>180</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>153</u> (A)</td> <td><u>390</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2.54</u>	Total % Cover of:	Multiply by:	OBL species <u>52</u>	x 1 = <u>52</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>46</u>	x 3 = <u>138</u>	FACU species <u>45</u>	x 4 = <u>180</u>	UPL species _____	x 5 = _____	Column Totals: <u>153</u> (A)	<u>390</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>52</u>	x 1 = <u>52</u>																	
FACW species <u>10</u>	x 2 = <u>20</u>																	
FAC species <u>46</u>	x 3 = <u>138</u>																	
FACU species <u>45</u>	x 4 = <u>180</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>153</u> (A)	<u>390</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>SYAL Common Snowberry</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
2. <u>PHCAII Pacific Ninebark</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	<u>45</u>	_____	_____	Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>CAOB3 Slough Sedge</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>															
2. <u>SCMI2 Pinacled Bulrush</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
3. <u>GASH Salal</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>															
4. <u>JUEF Common Rush</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____														
5. <u>RUUR Trailing Blackberry</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
6. <u>TOME Piggyback Plant</u>	<u>1</u>	<u>N</u>	<u>FAC</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____														
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	<u>83</u>	_____	_____															
Woody Vine Stratum (Plot size: <u>-</u>)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	<u>0</u>	_____	_____															
% Bare Ground in Herb Stratum <u>18</u>																		
Remarks:																		

SOIL

Sampling Point: W11-SP1

[illegible]

HYDROLOGY

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

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/1/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W11-SP2
 Investigator(s): Dominguez, Harsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: <u>Excavated Area</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. POBAZ Black Cottonwood	50	Y	FAC	
2. PSME Douglas Fir	20	N	FACU	Total Number of Dominant Species Across All Strata: <u>11</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.46</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
	70	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of: _____ Multiply by: _____
1. PHCAII Pacific Ninebark	25	Y	FAC	OBL species _____ x 1 = _____
2. ACCI Vine Maple	25	Y	FAC	FACW species _____ x 2 = _____
3. OECE Osoberry	5	N	FACU	FAC species _____ x 3 = _____
4. RUAR Himalayan Blackberry	5	N	FAC	FACU species _____ x 4 = _____
5. FRPU7 Cascara Buckthorn	5	N	FAC	UPL species _____ x 5 = _____
	65	= Total Cover		Column Totals: _____ (A) _____ (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = _____
1. GASH Salal	35	Y	FACU	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. POMU Sword Fern	40	Y	FACU	
3. PTAQ Western Brackenfern	1	N	FACU	
4. RUUR Trailing Blackberry	5	N	FACU	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	81	= Total Cover		Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
		= Total Cover		
% Bare Ground in Herb Stratum <u>19</u>				
Remarks:				

SOIL

Sampling Point: W11-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 9	10 YR 3/2	100					Si, Lo	Silt/Loam
9 - 16	10 YR 4/3	100					Si, Sa	Silt/Sand

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/1/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W12-SP1
 Investigator(s): Dominguez, Hearsey Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Flat Lowland Local relief (concave, convex, none): Concave Slope (%): < 1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. POBA2 Black Cottonwood	90	Y	FAC	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
90 = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				
1. POAN Grass	20	Y		
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
20 = Total Cover				
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>80</u>				
Remarks:				
Field presumed FAC due to location.				
15% moss. Wetland overall 23% herbal vegetation.				

SOIL

Sampling Point: W12-SP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 11	10 YR 2/1	100					Lo	
11 - 16	10 YR 4/1	80	7.5 YR 5/6	20	C	M		

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|---|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☒ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☒ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (**LRR A**)
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/2/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W12-SP2
 Investigator(s): Dominguez, Hearsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hammocky Woods Local relief (concave, convex, none): Convex Slope (%): 20
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Reference NRCS Hydrotol		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.4</u> (A/B)
1. <u>PSME Douglas Fir</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	<u>15</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>15</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>POBA2 Black Cottonwood</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2. <u>THPL Red Cedar</u>	<u>35</u>	<u>N</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>85</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>GASH Salal</u>	<u>75</u>	<u>Y</u>	<u>FACU</u>	
2. <u>POMU Sword Fern</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>-</u>)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>20</u>				
Remarks:				

SOIL

Sampling Point: W11-SP2**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 1	10 YR 2/2	100					Lo	Loam
1 - 16	10 YR 5/3	100					Si	Silt

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) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

1 - 16" : Relic redox concentrations as concretions, ~20%

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:Surface Water Present? Yes _____ No X Depth (inches): _____Water Table Present? Yes _____ No X Depth (inches): _____Saturation Present? Yes _____ No X Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/1/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W13-SP1
 Investigator(s): Dominguez, Hearsey Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Forest Bottomland Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.6</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
0 = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>20</u></td> <td>x 1 = <u>20</u></td> </tr> <tr> <td>FACW species <u>65</u></td> <td>x 2 = <u>130</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>12</u></td> <td>x 4 = <u>48</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>117</u> (A)</td> <td><u>258</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.2</u>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20</u>	FACW species <u>65</u>	x 2 = <u>130</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>12</u>	x 4 = <u>48</u>	UPL species _____	x 5 = _____	Column Totals: <u>117</u> (A)	<u>258</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>20</u>	x 1 = <u>20</u>																	
FACW species <u>65</u>	x 2 = <u>130</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>12</u>	x 4 = <u>48</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>117</u> (A)	<u>258</u> (B)																	
1. <u>THPL Red Cedar</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
2. <u>ACMA3 Big Leaf Maple</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
3. <u>POBAZ Black Cottonwood</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
4. <u>GASH Salal</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
32 = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. <u>PHAR3 Reed Canary Grass</u>	<u>65</u>	<u>Y</u>	<u>FACW</u>															
2. <u>CAOB3 Slough Sedge</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
85 = Total Cover																		
Woody Vine Stratum (Plot size: <u>-</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
0 = Total Cover																		
% Bare Ground in Herb Stratum <u>15</u>																		
Remarks:																		

SOIL

Sampling Point: W13-SP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 7	10 YR 2/2	100					Lo	
7 - 16	2.5 YR 4/1	80	5 YR 3/4	10	C	M	Sa, Si	
			2.5 Y 6/1	10	D	M	Sa	

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☒ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☒ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☒ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/2/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W13-SP2
 Investigator(s): Dominguez, Hearsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hammocky Woods Local relief (concave, convex, none): Convex Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>		
Wetland Hydrology Present?	Yes _____	No <u>X</u>		
Remarks: Reference NRCS Hydrotol				

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	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>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.6</u> (A/B)
1. POBA2 Black Cottonwood	15	Y	FAC	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
15 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>55</u> x 3 = <u>165</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species _____ x 5 = _____ Column Totals: <u>135</u> (A) <u>485</u> (B) Prevalence Index = B/A = <u>3.6</u>
1. ALRU Red Alder	20	Y	FAC	
2. POBAZ Black Cottonwood	15	N	FAC	
3. ACCI Vine Maple	5	Y	FAC	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
40 = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. GASH Salal	40	Y	FACU	
2. POMU Sword Fern	40	Y	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
80 = Total Cover				
Woody Vine Stratum (Plot size: <u>-</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>20</u>				
Remarks: Moss 10%, Hydrophytic Veg. Present				

SOIL

Sampling Point: W13-SP2

[illegible]

HYDROLOGY

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

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/2/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W14-SP1
 Investigator(s): Dominguez, Hearsey Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Terraced Upland Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.6</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
0 = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>10</u></td> </tr> <tr> <td>FACU species <u>25</u></td> <td>x 4 = <u>100</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>75</u> (A)</td> <td><u>170</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.26</u>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species _____	x 2 = _____	FAC species <u>10</u>	x 3 = <u>10</u>	FACU species <u>25</u>	x 4 = <u>100</u>	UPL species _____	x 5 = _____	Column Totals: <u>75</u> (A)	<u>170</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>40</u>	x 1 = <u>40</u>																	
FACW species _____	x 2 = _____																	
FAC species <u>10</u>	x 3 = <u>10</u>																	
FACU species <u>25</u>	x 4 = <u>100</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>75</u> (A)	<u>170</u> (B)																	
1. <u>ACMA3 Big Leaf Maple</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>															
2. <u>SPDO Rose Spirea</u>	<u>1</u>	<u>N</u>	<u>FACW</u>															
3. <u>POBA2 Cottonwood</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
26 = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. <u>CAOB3 Slough Sedge</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>															
2. _____	_____	☒	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
85 = Total Cover																		
Woody Vine Stratum (Plot size: <u>-</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
0 = Total Cover																		
% Bare Ground in Herb Stratum <u>50</u>																		
Remarks: Moss 10%																		

SOIL

Sampling Point: W14-SP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 1	10 YR 2/1	100					Sa, Lo	
1 - 16	10 YR 4/1	75	7.5 YR 5/6	10	C	M	Si, Cl	With sand gravel

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) |

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|---|--|
| ☒ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☒ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☒ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☒ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☒ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|--|
| ☒ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☒ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☒ No ☐ Depth (inches): 5"

Saturation Present? Yes ☒ No ☐ Depth (inches): 3"

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/2/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W14-SP2
 Investigator(s): Dominguez, Hearsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hammocky Woods Local relief (concave, convex, none): Convex Slope (%): 6
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Reference NRCS Hydrotol		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.5</u> (A/B)
1. <u>PSME Douglas Fir</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. <u>POBAZ Black Cottonwood</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
3. <u>FRLA Oregon Ash</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>85</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>HODI Ocean Spray</u>	<u>3</u>	<u>N</u>	<u>UPL</u>	
2. <u>ACCI Vine Maple</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
3. <u>ACMA3 Big Leaf Maple</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>48</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>GASH Salal</u>	<u>85</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. <u>POMU Sword Fern</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>95</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>1'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks:				

SOIL

Sampling Point: W14-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 5	10 YR 3/2	100					Sa, Lo	
5 - 16	10 YR 3/3	100					Sa, Lo	

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) |

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/2/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W15-SP1
 Investigator(s): Dominguez, Hearsey Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Sloped Bottomland Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.75</u> (A/B)														
1. POBA2 Black Cottonwood	55	Y	FAC															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
0 = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>80</u></td> <td>x 1 = <u>80</u></td> </tr> <tr> <td>FACW species <u>1</u></td> <td>x 2 = <u>2</u></td> </tr> <tr> <td>FAC species <u>135</u></td> <td>x 3 = <u>405</u></td> </tr> <tr> <td>FACU species <u>35</u></td> <td>x 4 = <u>140</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>251</u> (A)</td> <td><u>627</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2.49</u>	Total % Cover of:	Multiply by:	OBL species <u>80</u>	x 1 = <u>80</u>	FACW species <u>1</u>	x 2 = <u>2</u>	FAC species <u>135</u>	x 3 = <u>405</u>	FACU species <u>35</u>	x 4 = <u>140</u>	UPL species _____	x 5 = _____	Column Totals: <u>251</u> (A)	<u>627</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>80</u>	x 1 = <u>80</u>																	
FACW species <u>1</u>	x 2 = <u>2</u>																	
FAC species <u>135</u>	x 3 = <u>405</u>																	
FACU species <u>35</u>	x 4 = <u>140</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>251</u> (A)	<u>627</u> (B)																	
1. THPL Red Cedar	25	N	FAC															
2. SYAL Common Snowberry	1	N	FACW															
3. ACCI Vine Maple / ACMA3 Big Leaf Maple	30/5	Y	FACU/FAC															
4. COCO6 Beaked Hazlenut	5	N	FACU															
5. POBA2 Black Cottonwood	40	Y	FAC															
106 = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. CAO3 Slough Sedge	80	Y	OBL															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
80 = Total Cover																		
Woody Vine Stratum (Plot size: <u>-</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No _____														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
0 = Total Cover																		
% Bare Ground in Herb Stratum <u>20</u>																		
Remarks: Moss 10%																		

SOIL

Sampling Point: W15-SP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 9	10 YR 2/1	100					Lo	
9 - 16	10 YR 4/1	85	7.5 YR 4/4		C	M		
			2.5 Y 6/3		D	M		

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
☒ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☒ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (**LRR A**)
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☒ No _____ Depth (inches): _____

Water Table Present? Yes ☒ No _____ Depth (inches): _____

Saturation Present? Yes ☒ No _____ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 11/2/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W15-SP2
 Investigator(s): Dominguez, Hearsey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hammocky Woods Local relief (concave, convex, none): Convex Slope (%): 5
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>		
Wetland Hydrology Present?	Yes _____	No <u>X</u>		
Remarks: Reference NRCS Hydrotool				

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. PSME Douglas Fir	10	N	FACU	
2. POBAZ Black Cottonwood	30	Y	FAC	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.6</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
	40	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of: _____ Multiply by: _____
1. SYAL Common Snowberry	30	Y	FACU	OBL species <u>1</u> x 1 = <u>1</u>
2. PHCAII Pacific Nineback	40	Y	FAC	FACW species _____ x 2 = _____
3. POBAZ Black Cottonwood	20	Y	FAC	FAC species <u>90</u> x 3 = <u>270</u>
4. _____	_____	_____	_____	FACU species <u>90</u> x 4 = <u>360</u>
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
	90	= Total Cover		Column Totals: <u>181</u> (A) <u>631</u> (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = <u>3.49</u>
1. CAOB3 Slough Sedge	1	N	OBL	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. POMU Sword Fern	40	Y	FACU	
3. RUUR Trailing Blackberry	10	N	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	51	= Total Cover		
Woody Vine Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	0	= Total Cover		
% Bare Ground in Herb Stratum <u>15</u>				
Remarks:				

SOIL

Sampling Point: W15-SP2

[illegible]

HYDROLOGY

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

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/11/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W16-SP1
 Investigator(s): Dominguez x2 Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Sloped Bottomland Local relief (concave, convex, none): Concave Slope (%): <1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.8</u> (A/B)														
1. POBA2 Black Cottonwood	15	Y	FAC															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
15 = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>25</u></td> <td>x 1 = <u>25</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species <u>65</u></td> <td>x 3 = <u>195</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>260</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.6</u>	Total % Cover of:	Multiply by:	OBL species <u>25</u>	x 1 = <u>25</u>	FACW species _____	x 2 = _____	FAC species <u>65</u>	x 3 = <u>195</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species _____	x 5 = _____	Column Totals: <u>100</u> (A)	<u>260</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>25</u>	x 1 = <u>25</u>																	
FACW species _____	x 2 = _____																	
FAC species <u>65</u>	x 3 = <u>195</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>100</u> (A)	<u>260</u> (B)																	
1. POBA2 Black Cottonwood	10	Y	FAC															
2. ALRU Red Alder	40	Y	FAC															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
50 = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. CAOB3 Slough Sedge	25	Y	OBL															
2. POMU Sword Fern	10	Y	FACU															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
35 = Total Cover																		
Woody Vine Stratum (Plot size: <u>-</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No _____														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
0 = Total Cover																		
% Bare Ground in Herb Stratum <u>50</u>																		
Remarks:																		

SOIL

Sampling Point: W16-SP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 10	7.5 YR 3/1	100					Si/Lo	
10 - 16	7.5 YR 3/1	80	7.5 YR 5/2	17	D	M		
			7.5 YR 4/6	3	C	M		

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) |

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|---|---|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☒ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|--|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☒ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☒ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present?	Yes _____ No ☒	Depth (inches): _____
Water Table Present?	Yes _____ No ☒	Depth (inches): _____
Saturation Present?	Yes _____ No ☒	Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/11/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W16-SP2
 Investigator(s): Dominguez x2 Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 7
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.33</u> (A/B)
1. <u>ACMA3 Big Leaf Maple</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	<u>20</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: <u>15'</u>)				
1. <u>ALRU Red Alder</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	<u>25</u>	<u>= Total Cover</u>		
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>POMU Sword Fern</u>	<u>65</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
11. _____	<u>65</u>	<u>= Total Cover</u>		
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. _____	_____	_____	_____	
_____	<u>0</u>	<u>= Total Cover</u>		
% Bare Ground in Herb Stratum _____				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Remarks:				
Significant moss on ground				

SOIL

Sampling Point: W16-SP2

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:			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 ☒	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/11/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W17-SP1
 Investigator(s): Dominguez x2 Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): <1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of: _____ Multiply by: _____
1. <u>ALRU Red Alder</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>40</u> x 1 = <u>40</u>
2. _____	_____	_____	_____	FACW species _____ x 2 = _____
3. _____	_____	_____	_____	FAC species <u>15</u> x 3 = <u>45</u>
4. _____	_____	_____	_____	FACU species _____ x 4 = _____
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
= Total Cover				Column Totals: <u>55</u> (A) <u>85</u> (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = <u>1.55</u>
1. <u>CAOB3 Slough Sedge</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
= Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>60</u>				
Remarks:				

SOIL

Sampling Point: W17-SP1

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

[illegible]

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.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|---|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) | ☐ 2 cm Muck (A10) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) | ☐ Red Parent Material (TF2) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) | ☐ Very Shallow Dark Surface (TF12) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) | ☐ Other (Explain in Remarks) |
| ☐ 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) | |
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☒ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except |
| ☒ High Water Table (A2) | MLRA 1, 2, 4A, and 4B) |
| ☒ Saturation (A3) | ☐ Salt Crust (B11) |
| ☐ Water Marks (B1) | ☐ Aquatic Invertebrates (B13) |
| ☐ Sediment Deposits (B2) | ☒ Hydrogen Sulfide Odor (C1) |
| ☐ Drift Deposits (B3) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Surface Soil Cracks (B6) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): <1

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

May be old road

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/11/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W17-SP2
 Investigator(s): Dominguez x2 Section, Township, Range: None
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Convex Slope (%): 10
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.25</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. ACCI Vine Maple	20	Y	FAC	
2. PSME Doug Fir	65	Y	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
85 = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. POMU Sword Fern	30	Y	FACU	
2. GASH Salal	20	Y	FACU	
3. RUUR Trailing BB	5	N	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
55 = Total Cover				
Woody Vine Stratum (Plot size: <u>"</u>)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>30</u>				
Remarks:				
Moss covering remainder of bare ground				

SOIL

Sampling Point: W17-SP2

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

[illegible]

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.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|---|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) | ☐ 2 cm Muck (A10) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) | ☐ Red Parent Material (TF2) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) | ☐ Very Shallow Dark Surface (TF12) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) | ☐ Other (Explain in Remarks) |
| ☐ 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) | |
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except |
| ☐ High Water Table (A2) | MLRA 1, 2, 4A, and 4B) |
| ☐ Saturation (A3) | ☐ Salt Crust (B11) |
| ☐ Water Marks (B1) | ☐ Aquatic Invertebrates (B13) |
| ☐ Sediment Deposits (B2) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Drift Deposits (B3) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Surface Soil Cracks (B6) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☒ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☒ Drainage Patterns (B10)
- ☒ Dry-Season Water Table (C2)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☒ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes No ☒

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/11/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W18-SP1
 Investigator(s): Dominguez x2 Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): <1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. POBA2 Cottonwood	60	Y	FAC	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.75</u> (A/B)
= Total Cover				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. POBA2 Cottonwood	30	Y	FAC	Total % Cover of: <u>40</u> Multiply by: <u>85</u>
2. _____	_____	_____	_____	OBL species <u>40</u> x 1 = <u>85</u>
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species <u>90</u> x 3 = <u>270</u>
5. _____	_____	_____	_____	FACU species <u>15</u> x 4 = <u>60</u>
= Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: <u>5'</u>)				Column Totals: <u>145</u> (A) <u>415</u> (B)
1. CAO3 Slough Sedge	85	Y	OBL	Prevalence Index = B/A = <u>2.86</u>
2. RUUR Trailing BB	5	N	FACU	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. POMU	10	Y	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: <u>-</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

Sampling Point: W18-SP1

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

[illegible]

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.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|---|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) | ☐ 2 cm Muck (A10) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) | ☐ Red Parent Material (TF2) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) | ☐ Very Shallow Dark Surface (TF12) |
| ☒ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) | ☐ Other (Explain in Remarks) |
| ☐ 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) | |
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): <1

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present? Yes X No

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/11/2023
Applicant/Owner: WA State Parks State: WA Sampling Point: W18-SP2
Investigator(s): Dominguez x2 Section, Township, Range: None
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Convex Slope (%): 5
Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.25</u> (A/B)
1. <u>PSME Doug Fir</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	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. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____	<u>25</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: ____ 1 - Rapid Test for Hydrophytic Vegetation ____ 2 - Dominance Test is >50% ____ 3 - Prevalence Index is ≤3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ 5 - Wetland Non-Vascular Plants ¹ ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>ACCI Vine Maple</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____	<u>20</u>	= Total Cover		
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>POMU Sword Fern</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
2. <u>GASH Salal</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
3. <u>MAAQ Oregon Grape</u>	<u>35</u>	<u>Y</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____	<u>90</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>-</u>)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>15</u>				
Remarks:				

SOIL

Sampling Point: W18-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	7.5 YR 4/3	60					Si/Lo	

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1) ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
☐ High Water Table (A2) ☐ Salt Crust (B11)
☐ Saturation (A3) ☐ Aquatic Invertebrates (B13)
☐ Water Marks (B1) ☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2) ☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5) ☐ Stunted or Stressed Plants (D1) (**LRR A**)
☐ Surface Soil Cracks (B6) ☐ Other (Explain in Remarks)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (**LRR A**)
☐ Frost-Heave Hummocks (D7)

Field Observations:Surface Water Present? Yes _____ No X Depth (inches): _____Water Table Present? Yes _____ No X Depth (inches): _____Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/11/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W19-SP1
 Investigator(s): Dominguez x2 Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): <1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of: _____ Multiply by: _____
1. _____	_____	_____	_____	OBL species <u>70</u> x 1 = <u>70</u>
2. _____	_____	_____	_____	FACW species _____ x 2 = _____
3. _____	_____	_____	_____	FAC species _____ x 3 = _____
4. _____	_____	_____	_____	FACU species <u>10</u> x 4 = <u>40</u>
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
_____ = Total Cover	<u>50</u>			Column Totals: <u>80</u> (A) <u>110</u> (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = <u>1.37</u>
1. CAOB3 Slough Sedge	<u>70</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. GASH Salal	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. POMU Sword Fern	<u>5</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover	<u>80</u>			Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot size: <u>-</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover	<u>0</u>			
% Bare Ground in Herb Stratum <u>20</u>				
Remarks:				

SOIL

Sampling Point: W19-SP1

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

[illegible]

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.)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Gravel Present

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except |
| ☒ High Water Table (A2) | MLRA 1, 2, 4A, and 4B) |
| ☒ Saturation (A3) | ☐ Salt Crust (B11) |
| ☐ Water Marks (B1) | ☐ Aquatic Invertebrates (B13) |
| ☐ Sediment Deposits (B2) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Drift Deposits (B3) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Surface Soil Cracks (B6) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes X No Depth (inches): 3"

Saturation Present? Yes X No Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/11/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W19-SP2
 Investigator(s): Dominguez x2 Section, Township, Range: None
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 5
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.4</u> (A/B)
1. POBA2 Cottonwood	30	Y	FAC	
2. ALRU Red Alder	10	Y	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
40 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. PSME Doug Fir	25	Y	FACU	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
25 = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. POMU Sword Fern	20	Y	FACU	
2. GASH Salal	80	Y	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100 = Total Cover				
Woody Vine Stratum (Plot size: <u>-</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

Sampling Point: W19-SP2

[illegible]

HYDROLOGY

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

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/11/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W20-SP1
 Investigator(s): Dominguez x2 Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): <1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>POBA2 Cottonwood</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.66</u> (A/B)
	<u>20</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet:
1. <u>ACCI Vine Maple</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
3. _____	_____	_____	_____	OBL species <u>60</u> x 1 = <u>60</u>
4. _____	_____	_____	_____	FACW species _____ x 2 = _____
5. _____	_____	_____	_____	FAC species <u>20</u> x 3 = <u>60</u>
	<u>50</u>	= Total Cover		FACU species <u>30</u> x 4 = <u>120</u>
Herb Stratum (Plot size: <u>5'</u>)				UPL species _____ x 5 = _____
1. <u>CAOB3 Slough Sedge</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	Column Totals: <u>110</u> (A) <u>240</u> (B)
2. _____	_____	_____	_____	Prevalence Index = B/A = <u>2.18</u>
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>60</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>"</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>40</u>				
Remarks:				

SOIL

Sampling Point: W20-SP1

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

[illegible]

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.)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|---|---|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except |
| ☐ High Water Table (A2) | MLRA 1, 2, 4A, and 4B) |
| ☒ Saturation (A3) | ☐ Salt Crust (B11) |
| ☐ Water Marks (B1) | ☐ Aquatic Invertebrates (B13) |
| ☐ Sediment Deposits (B2) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Drift Deposits (B3) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Surface Soil Cracks (B6) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☒ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): 0

Water Table Present? Yes _____ No X Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 12"
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/11/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W20-SP2
 Investigator(s): Dominguez x2 Section, Township, Range: None
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope (%): 4
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.33</u> (A/B)
1. <u>PSME Doug Fir</u>	<u>45</u>	<u>Y</u>	<u>FAC</u>	
2. <u>ALRU Red Alder</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
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 = _____
55 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>) 1. <u>ACCI Vine Maple</u> <u>40</u> <u>Y</u> <u>FACU</u>				
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
40 = Total Cover				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>POMU Sword Fern</u> <u>40</u> <u>Y</u> <u>FACU</u>				
2. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
11. _____	_____	_____	_____	
40 = Total Cover				
Woody Vine Stratum (Plot size: <u>-</u>) 1. _____ 2. _____ 0 = Total Cover				
% Bare Ground in Herb Stratum <u>20</u>				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Remarks:				
Moss 20%				

SOIL

Sampling Point: W20-SP2

[illegible]

HYDROLOGY

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

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/21/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W21-SP1
 Investigator(s): Dominguez, Allen Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Forested Bottomland Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																								
1. <u>ACMA3 Big Leaf Maple</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)																							
2. <u>POBAZ Cottonwood</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>5</u> (B)																								
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.8</u> (A/B)																								
4. _____	_____	_____	_____	Prevalence Index worksheet:																								
	<u>55</u>	= Total Cover																										
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of:																								
1. <u>RUSP Salmon Berry</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<table border="0"> <tr> <td>OBL species</td> <td><u>40</u></td> <td>x 1 =</td> <td><u>40</u></td> </tr> <tr> <td>FACW species</td> <td><u>25</u></td> <td>x 2 =</td> <td><u>50</u></td> </tr> <tr> <td>FAC species</td> <td><u>20</u></td> <td>x 3 =</td> <td><u>60</u></td> </tr> <tr> <td>FACU species</td> <td><u>40</u></td> <td>x 4 =</td> <td><u>160</u></td> </tr> <tr> <td>UPL species</td> <td>_____</td> <td>x 5 =</td> <td>_____</td> </tr> <tr> <td>Column Totals:</td> <td><u>125</u></td> <td>(A)</td> <td><u>310</u> (B)</td> </tr> </table>	OBL species	<u>40</u>	x 1 =	<u>40</u>	FACW species	<u>25</u>	x 2 =	<u>50</u>	FAC species	<u>20</u>	x 3 =	<u>60</u>	FACU species	<u>40</u>	x 4 =	<u>160</u>	UPL species	_____	x 5 =	_____	Column Totals:	<u>125</u>	(A)	<u>310</u> (B)
OBL species	<u>40</u>	x 1 =	<u>40</u>																									
FACW species	<u>25</u>	x 2 =	<u>50</u>																									
FAC species	<u>20</u>	x 3 =	<u>60</u>																									
FACU species	<u>40</u>	x 4 =	<u>160</u>																									
UPL species	_____	x 5 =	_____																									
Column Totals:	<u>125</u>	(A)	<u>310</u> (B)																									
2. _____	_____	_____	_____	Prevalence Index = B/A = <u>2.48</u>																								
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																								
4. _____	_____	_____	_____																									
5. _____	_____	_____	_____																									
6. _____	_____	_____	_____																									
7. _____	_____	_____	_____																									
8. _____	_____	_____	_____																									
9. _____	_____	_____	_____																									
10. _____	_____	_____	_____																									
11. _____	_____	_____	_____																									
	<u>65</u>	= Total Cover																										
Woody Vine Stratum (Plot size: <u>-</u>)																												
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____																								
2. _____	_____	_____	_____																									
	<u>0</u>	= Total Cover																										
% Bare Ground in Herb Stratum <u>50</u>																												
Remarks:																												

SOIL

Sampling Point: W21-SP1

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

[illegible]

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.)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☒ Water-Stained Leaves (B9) (except |
| ☒ High Water Table (A2) | MLRA 1, 2, 4A, and 4B) |
| ☒ Saturation (A3) | ☐ Salt Crust (B11) |
| ☐ Water Marks (B1) | ☐ Aquatic Invertebrates (B13) |
| ☐ Sediment Deposits (B2) | ☒ Hydrogen Sulfide Odor (C1) |
| ☐ Drift Deposits (B3) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Surface Soil Cracks (B6) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes X No Depth (inches): 2

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/21/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W21-SP2
 Investigator(s): Dominguez, Allen Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.16</u> (A/B)
1. <u>PSME Douglas Fir</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
2. <u>POBAZ Cottonwood</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
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>70</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>) 1. <u>GASH Salal</u> <u>30</u> <u>Y</u> <u>FACU</u> 2. <u>ACCI Vine Maple</u> <u>10</u> <u>N</u> <u>FAC</u> 3. <u>COCO6 Beaked Hazelnut</u> <u>20</u> <u>Y</u> <u>FACU</u> 4. _____ 5. _____				
<u>60</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>POMU Sword Fern</u> <u>50</u> <u>Y</u> <u>FACU</u> 2. <u>RUUR Trailing Blackberry</u> <u>15</u> <u>Y</u> <u>FACU</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>65</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>-</u>) 1. _____ 2. _____				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>40</u>				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Remarks:				

SOIL

Sampling Point: W21-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 4	10 YR 3/1	100					Silt/Loam	
4 - 16	10 YR 4/2	100					Silt/Clay	

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) |

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/21/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W22-SP1
 Investigator(s): Dominguez, Allen Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>ACMA3 Big Leaf Maple</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2. <u>THPL Red Cedar</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>6</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
	<u>55</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of:
1. <u>ALRU Red Alder</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Multiply by:
2. <u>ACCI Vine Maple</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>10</u> x 1 = <u>10</u>
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species <u>90</u> x 3 = <u>270</u>
5. _____	_____	_____	_____	FACU species <u>20</u> x 4 = <u>80</u>
	<u>50</u>	= Total Cover		UPL species _____ x 5 = _____
Herb Stratum (Plot size: <u>5'</u>)				Column Totals: <u>120</u> (A) <u>360</u> (B)
1. <u>CAOB3 Slough Sedge</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	Prevalence Index = B/A = <u>3</u>
2. <u>POMU Sword Fern</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>15</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>-</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>85</u>				
Remarks: Moss on elevated area.				

SOIL

Sampling Point: W22-SP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 14	10 YR 2/1	100					SI/Lo	Some clay at depth
14 - 16	GLE Y1 3/N	100					Si/Cl	

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☒ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☒ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (**LRR A**)
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☒ No ☐ Depth (inches): 4

Saturation Present? Yes ☒ No ☐ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/21/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W22-SP2
 Investigator(s): Dominguez, Allen Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Sloped Slope (%): 3
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>ACMA3 Big Leaf Maple</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2. <u>THPL Red Cedar</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. <u>PSME Douglas Fir</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.25</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
	<u>95</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of: _____ Multiply by: _____
1. <u>GASH Salal</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	OBL species _____ x 1 = _____
2. <u>ALRU Red Alder</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	FACW species _____ x 2 = _____
3. _____	_____	_____	_____	FAC species _____ x 3 = _____
4. _____	_____	_____	_____	FACU species _____ x 4 = _____
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
	<u>55</u>	= Total Cover		Column Totals: _____ (A) _____ (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = _____
1. <u>POMU Sword Fern</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>RUUR Trailing Blackberry</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Woody Vine Stratum (Plot size: <u>-</u>)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
% Bare Ground in Herb Stratum <u>20</u>				
Remarks:				

SOIL

Sampling Point: W22-SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10 YR 3/2	100					Lo/Gravel	

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)

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

Restrictive Layer (if present):

Hydric Soil Present? Yes _____ No X_____

Remarks:
Pea Gravel, 3" Duff

HYDROLOGY

Wetland Hydrology Indicators:			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 ☒	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/21/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W23-SP1
 Investigator(s): Dominguez, Allen Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Ditch-Flat Slope (%): 0
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.75</u> (A/B)														
1. <u>POBAZ Cottonwood</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	<u>10</u>	<u>= Total Cover</u>		Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>55</u> (A)</td> <td><u>140</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species _____	x 5 = _____	Column Totals: <u>55</u> (A)	<u>140</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species <u>30</u>	x 2 = <u>60</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>55</u> (A)	<u>140</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>ACMAZ Big Leaf Maple</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	<u>5</u>	<u>= Total Cover</u>																
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>JUEF Common Rush</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>POA</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	<u>40</u>	<u>= Total Cover</u>																
Woody Vine Stratum (Plot size: <u>-</u>)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____														
2. _____	<u>0</u>	<u>= Total Cover</u>																
% Bare Ground in Herb Stratum <u>85</u>																		
Remarks: Ditch is ppen water edge to edge. POA presumed FAC due to lack of inflorescence.																		

SOIL

Sampling Point: W23-SP1

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

[illegible]

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.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|---|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) | ☐ 2 cm Muck (A10) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) | ☐ Red Parent Material (TF2) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) | ☐ Very Shallow Dark Surface (TF12) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) | ☐ Other (Explain in Remarks) |
| ☐ 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) | |
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

Restrictive Layer (if present):

Type: Packed Gravel

Depth (inches): 8"

Hydric Soil Present? Yes X No

Remarks:

Gleyed matrix throughout subsurface saturation

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|---|
| ☒ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except |
| ☒ High Water Table (A2) | MLRA 1, 2, 4A, and 4B) |
| ☒ Saturation (A3) | ☐ Salt Crust (B11) |
| ☐ Water Marks (B1) | ☐ Aquatic Invertebrates (B13) |
| ☐ Sediment Deposits (B2) | ☒ Hydrogen Sulfide Odor (C1) |
| ☐ Drift Deposits (B3) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Surface Soil Cracks (B6) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 3"

Water Table Present? Yes X No Depth (inches): 0

Saturation Present? Yes X No Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present? Yes X No

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/21/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W23-SP2
 Investigator(s): Dominguez, Allen Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convez Slope (%): 10
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>POBAZ Cottonwood</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. <u>THPL Red Cedar</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>6</u> (B)
3. <u>PSME Douglas Fir</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.33</u> (A/B)
	<u>50</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet:
1. <u>GASH Salal</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	
2. <u>HODI Ocean Spray</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
	<u>50</u>	= Total Cover		UPL species _____ x 5 = _____
Herb Stratum (Plot size: <u>5'</u>)				Column Totals: _____ (A) _____ (B)
1. <u>POMU Sword Fern</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index = B/A = _____
2. <u>RUUR Trailing Blackberry</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>60</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>-</u>)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>20</u>				
Remarks: Roadside ditch impounding water				

SOIL

Sampling Point: W23-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10 YR 3/2	100					Lo	Small Gravel, Pea Size
8 - 16	10 YR 4/4	100					Lo	Small Gravel, Pea Size

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Pea Gravel, 3" Duff

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/21/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W24-SP1
 Investigator(s): Dominguez, Allen Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.33</u> (A/B)
1. <u>ACMA3 Big Leaf Maple</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>60</u> x 4 = <u>240</u> UPL species _____ x 5 = _____ Column Totals: <u>150</u> (A) <u>510</u> (B) Prevalence Index = B/A = <u>3.4</u>
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____	<u>30</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>ACCI Vine Maple</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>	
2. <u>ALRU Red Alder</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____	<u>90</u>	= Total Cover		
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>RUUR Trailing Blackberry</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
2. <u>POMU Sword Fern</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____	<u>30</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>"</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. _____	_____	_____	_____	
_____	<u>0</u>	= Total Cover		% Bare Ground in Herb Stratum _____ Moss mixed with bare ground
Remarks:				

SOIL

Sampling Point: W24-SP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 14	7.5 YR 3/1	100					Si, Lo	
14 - 16	7.5 YR 4/1	100					Si, Cl	

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) |

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|---|--|
| ☒ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☒ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☒ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☒ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present?	Yes ☒ No _____	Depth (inches): <u>1"</u>
Water Table Present?	Yes ☒ No _____	Depth (inches): <u>@ 0</u>
Saturation Present?	Yes ☒ No _____	Depth (inches): <u>@ 0</u>

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/21/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W24-SP2
 Investigator(s): Dominguez, Allen Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Upland Knob Local relief (concave, convex, none): Convex Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.25</u> (A/B)
1. <u>PSME Douglas Fir</u>	<u>75</u>	<u>Y</u>	<u>FACU</u>	
2. <u>ACMA3 Big Leaf Maple</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
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 = _____
85 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>) 1. <u>GASH Salal</u> 20 Y <u>FACU</u> 2. <u>ACCI Vine Maple</u> 50 Y <u>FAC</u> 3. _____ 4. _____ 5. _____				
70 = Total Cover				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>POMU Sword Fern</u> 5 Y <u>FACU</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5 = Total Cover				
Woody Vine Stratum (Plot size: <u>-</u>) 1. _____ 2. _____				
0 = Total Cover				
% Bare Ground in Herb Stratum <u>50</u>				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Remarks: All bare ground covered by moss.				

SOIL

Sampling Point: W24-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	7.5 YR 3/1	100					Si, Lo	Small Gravel, Pea Size

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) |

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/21/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W25-SP1
 Investigator(s): Dominguez, Allen Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of: _____ Multiply by: _____
1. RUSP Salmonberry	35	Y	FAC	OBL species <u>70</u> x 1 = <u>70</u>
2. RUAR Himalayan Blackberry	15	Y	FAC	FACW species _____ x 2 = _____
3. GASH Salal	5	N	FACU	FAC species <u>55</u> x 3 = <u>165</u>
4. _____	_____	_____	_____	FACU species <u>5</u> x 4 = <u>20</u>
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
= Total Cover				Column Totals: <u>130</u> (A) <u>255</u> (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = <u>1.96</u>
1. CAO3 Slough Sedge	70	Y	OBL	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. TOME Piggyback Plant	5	N	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: <u>"</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>25</u>				
Remarks: Moss where ground is bare.				

SOIL

Sampling Point: W25-SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0 - 16	2.5 Y 3/1	100					Si, Lo
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.							² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils³:	
☐ Histosol (A1)		☐ Sandy Redox (S5)		☐ 2 cm Muck (A10)			
☐ Histic Epipedon (A2)		☐ Stripped Matrix (S6)		☐ Red Parent Material (TF2)			
☐ Black Histic (A3)		☐ Loamy Mucky Mineral (F1) (except MLRA 1)		☐ Very Shallow Dark Surface (TF12)			
☐ Hydrogen Sulfide (A4)		☐ Loamy Gleyed Matrix (F2)		☐ Other (Explain in Remarks)			
☐ Depleted Below Dark Surface (A11)		☒ Depleted Matrix (F3)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
☐ Thick Dark Surface (A12)		☐ Redox Dark Surface (F6)					
☐ Sandy Mucky Mineral (S1)		☐ Depleted Dark Surface (F7)					
☐ Sandy Gleyed Matrix (S4)		☐ Redox Depressions (F8)					
Restrictive Layer (if present):							
Type: _____						Hydric Soil Present? Yes ☒ No ☐	
Depth (inches): _____							
Remarks: Clay starts @ 16"							

HYDROLOGY

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

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/21/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W25-SP2
 Investigator(s): Dominguez, Allen Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): < 1%
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. PSME Douglas Fir	25	Y	FACU	
2. POBAZ Cottonwood	15	N	FAC	
3. ACMA3 Big Leaf Maple	10	N	FACU	
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 = _____
85 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>) 1. GASH Salal 50 Y FACU 2. RUSP Salmon Berry 20 Y FAC 3. ALRU Red Alder 5 N FAC 4. ACCI Vine Maple 5 N FAC 5. _____				
80 = Total Cover				
Herb Stratum (Plot size: <u>5'</u>) 1. POMU Sword Fern 20 Y FACU 2. RUUR Trailing Blackberry 2 N FACU 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5 = Total Cover				
Woody Vine Stratum (Plot size: <u>-</u>) 1. _____ 2. _____				
0 = Total Cover				
% Bare Ground in Herb Stratum <u>15</u> Remarks: All bare ground covered by moss.				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>

SOIL

Sampling Point: W25-SP2

[illegible]

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

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/27/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W26-SP1
 Investigator(s): Dominguez Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Bottomland Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>ACMA3 Big Leaf Maple</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
2. <u>PSME Douglas Fir</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.6</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
<u>30</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of: _____ Multiply by: _____
1. <u>ACCI Vine Maple</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>90</u> x 1 = <u>90</u>
2. <u>ALRU Red Alder</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	FACW species _____ x 2 = _____
3. <u>GASH Salal</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	FAC species <u>20</u> x 3 = <u>60</u>
4. _____	_____	_____	_____	FACU species <u>35</u> x 4 = <u>140</u>
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
<u>25</u> = Total Cover				Column Totals: <u>145</u> (A) <u>290</u> (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = <u>2</u>
1. <u>CAOB3 Slough Sedge</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>90</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot size: <u>"</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks: Moss where ground is bare.				

SOIL

Sampling Point: W26-SP1

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		
☒ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	☐ Secondary Indicators (2 or more required)
☒ High Water Table (A2)	☐ Salt Crust (B11)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☒ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Drainage Patterns (B10)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Dry-Season Water Table (C2)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Geomorphic Position (D2)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Shallow Aquitard (D3)
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)	☐ FAC-Neutral Test (D5)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)	☐ Raised Ant Mounds (D6) (LRR A)
☐ Inundation Visible on Aerial Imagery (B7)		☐ Frost-Heave Hummocks (D7)
☒ Sparsely Vegetated Concave Surface (B8)		
Field Observations:		
Surface Water Present? Yes ☐ No ☒	Depth (inches):	Wetland Hydrology Present? Yes ☒ No ☐
Water Table Present? Yes ☒ No ☐	Depth (inches): 3"	
Saturation Present? Yes ☒ No ☐	Depth (inches): To surface	
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/27/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W26-SP2
 Investigator(s): Dominguez Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Hillslope/Hummock Local relief (concave, convex, none): Convex Slope (%): 5%
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. PSME Douglas Fir	40	Y	FACU	
2. ALRU Red Alder	20	Y	FAC	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. ACMA3 Big Leaf Maple	15	N	FACU	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>.25</u> (A/B)
4. THPL Western Red Cedar	5	N	FAC	
	80	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet:
1. GASH Salal	35	Y	FACU	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species <u>25</u> x 3 = <u>75</u>
5. _____	_____	_____	_____	FACU species <u>100</u> x 4 = <u>400</u>
	35	= Total Cover		UPL species _____ x 5 = _____
Herb Stratum (Plot size: <u>5'</u>)				Column Totals: <u>125</u> (A) <u>475</u> (B)
1. POMU Sword Fern	25	Y	FACU	Prevalence Index = B/A = <u>3.8</u>
2. RUUR Trailing Blackberry	10	N	FACU	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:
4. _____	_____	_____	_____	___ 1 - Rapid Test for Hydrophytic Vegetation
5. _____	_____	_____	_____	___ 2 - Dominance Test is >50%
6. _____	_____	_____	_____	___ 3 - Prevalence Index is ≤3.0 ¹
7. _____	_____	_____	_____	___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	_____	_____	_____	___ 5 - Wetland Non-Vascular Plants ¹
9. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)
10. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
11. _____	_____	_____	_____	
	35	= Total Cover		
Woody Vine Stratum (Plot size: <u>-</u>)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	0	= Total Cover		
% Bare Ground in Herb Stratum <u>15</u>				
Remarks: bare ground covered by moss.				

SOIL

Sampling Point: W26-SP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	7.5 YR 4/1	80					Si, Lo	

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.)****Indicators for Problematic Hydric Soils³:**

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:**Primary Indicators (minimum of one required; check all that apply)**

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2)	☐ Salt Crust (B11)
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)
☐ Inundation Visible on Aerial Imagery (B7)	
☐ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (2 or more required)

☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (LRR A)
☐ Frost-Heave Hummocks (D7)

Field Observations:Surface Water Present? Yes _____ No ☒ Depth (inches): _____Water Table Present? Yes _____ No ☒ Depth (inches): _____Saturation Present? Yes _____ No ☒ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/27/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W27-SP1
 Investigator(s): Dominguez Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Bottomland Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>POBA2 Black Cottonwood</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
	<u>30</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of: _____ Multiply by: _____
1. <u>ACCI Vine Maple</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>60</u> x 1 = <u>60</u>
2. _____	_____	_____	_____	FACW species _____ x 2 = _____
3. _____	_____	_____	_____	FAC species <u>35</u> x 3 = <u>105</u>
4. _____	_____	_____	_____	FACU species _____ x 4 = _____
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
	<u>5</u>	= Total Cover		Column Totals: <u>95</u> (A) <u>165</u> (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = <u>1.73</u>
1. <u>CAOB3 Slough Sedge</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>75</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>"</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>40</u>				
Remarks:				

SOIL

Sampling Point: W27-SP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 10	7.5 YR 3/1	100					Lo	
10-16	7.5YR 5/4	90	10YR 5/6	10	P	M		

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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|---|---|
| ☐ Surface Water (A1) | ☒ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☒ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☒ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☒ No ☐ Depth (inches): 11"
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Nisqually State Park City/County: Pierce Sampling Date: 12/21/2023
 Applicant/Owner: WA State Parks State: WA Sampling Point: W27-SP2
 Investigator(s): Dominguez Section, Township, Range: None
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): Concave Slope (%): < 1%
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>PSME Douglas Fir</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. <u>ACMA3 Big Leaf Maple</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>70</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>MAAQ Oregon-Grape</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>25</u>	= Total Cover		
Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ____ 1 - Rapid Test for Hydrophytic Vegetation ____ 2 - Dominance Test is >50% ____ 3 - Prevalence Index is ≤3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ 5 - Wetland Non-Vascular Plants ¹ ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>POMU Sword Fern</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2. <u>RUUR Trailing Blackberry</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>55</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>-</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>70</u>				
Remarks: <u>All bare ground covered by moss.</u>				

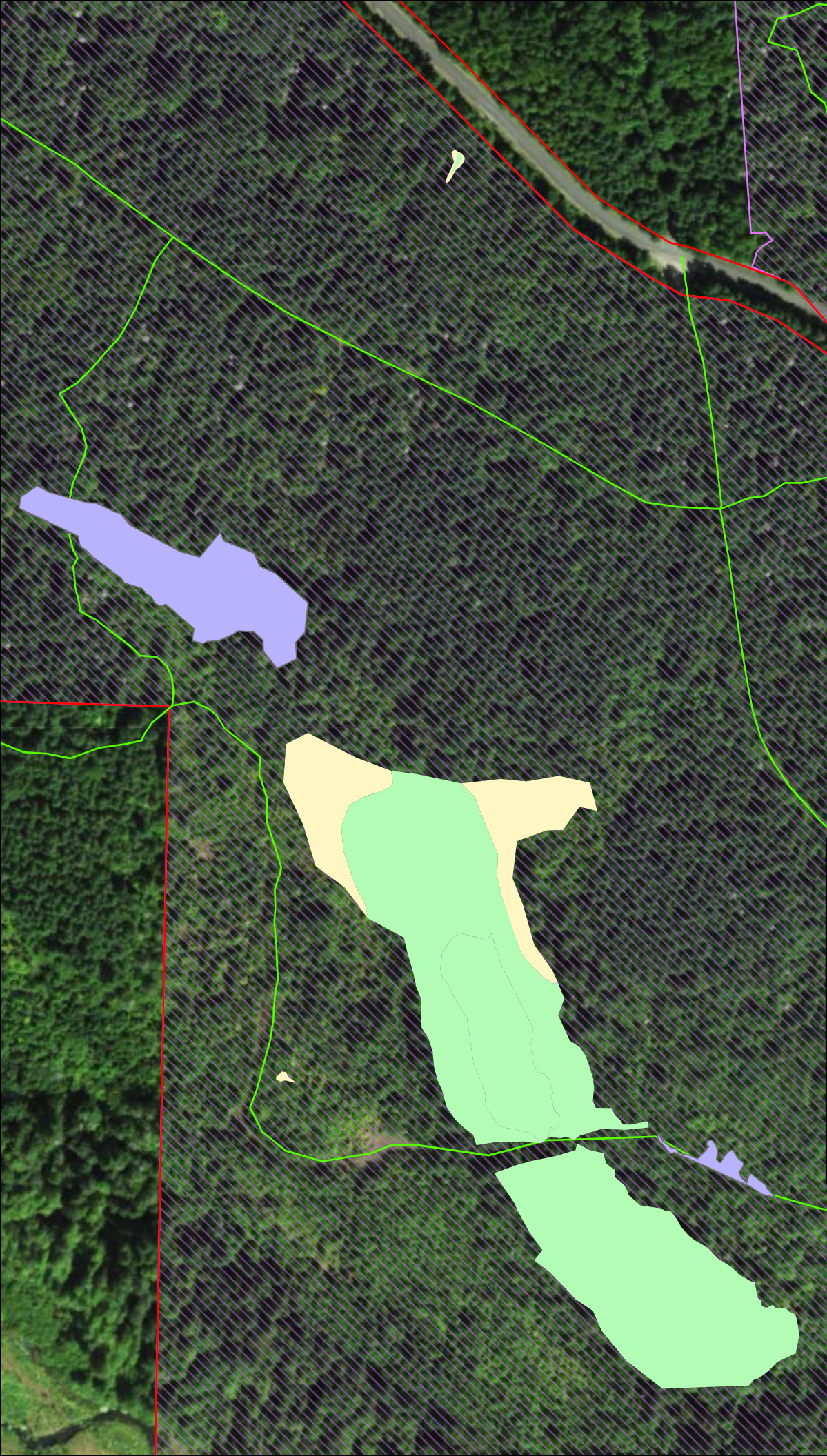
SOIL

Sampling Point: W27-SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	7.5 YR 4/1	100					Lo	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.							² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)							Indicators for Problematic Hydric Soils³:	
☐ Histosol (A1)			☐ Sandy Redox (S5)				☐ 2 cm Muck (A10)	
☐ Histic Epipedon (A2)			☐ Stripped Matrix (S6)				☐ Red Parent Material (TF2)	
☐ Black Histic (A3)			☐ Loamy Mucky Mineral (F1) (except MLRA 1)				☐ Very Shallow Dark Surface (TF12)	
☐ Hydrogen Sulfide (A4)			☐ Loamy Gleyed Matrix (F2)				☐ Other (Explain in Remarks)	
☐ 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)					
Restrictive Layer (if present):								
Type: _____								
Depth (inches): _____							Hydric Soil Present? Yes _____ No X _____	
Remarks:								

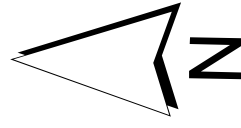
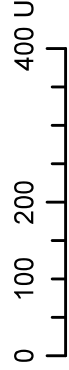
HYDROLOGY

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



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Scale: 1:3,000



Map Units:
Foot_US

Cowardin Plant Classes

Legend

- NSP New Trails
- NSP Park Boundaries
- NSP Survey Area
- Cowardin
 - Forested
 - Emergent
 - Aquatic Bed
 - 3 of 5 strata
 - Scrub Shrub

Nisqually State Park
44501 Medical
Springs Road
Eatonville, WA
98328

Figure: Fig. 1A
- NW





Map Units:
Foot_US

Scale: 1:2,000

0 65 130 260 US Feet

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Cowardin Plant Classes

Legend

- | | |
|---|---|
|  NSP NewTrails |  Forested |
|  NSP Park Boundaries |  Emergent |
|  NSP Survey Area |  Aquatic Bed |
|  Scrub Shrub |  3 of 5 strata |

Cowardin

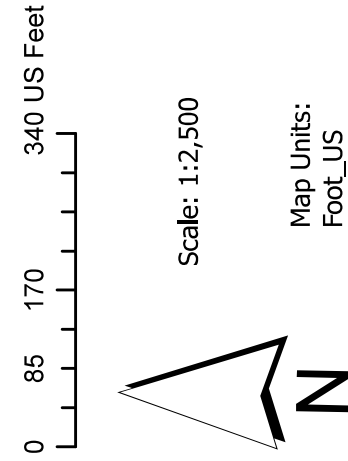
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Figure: Fig. 1B
- NE





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Cowardin Plant Classes

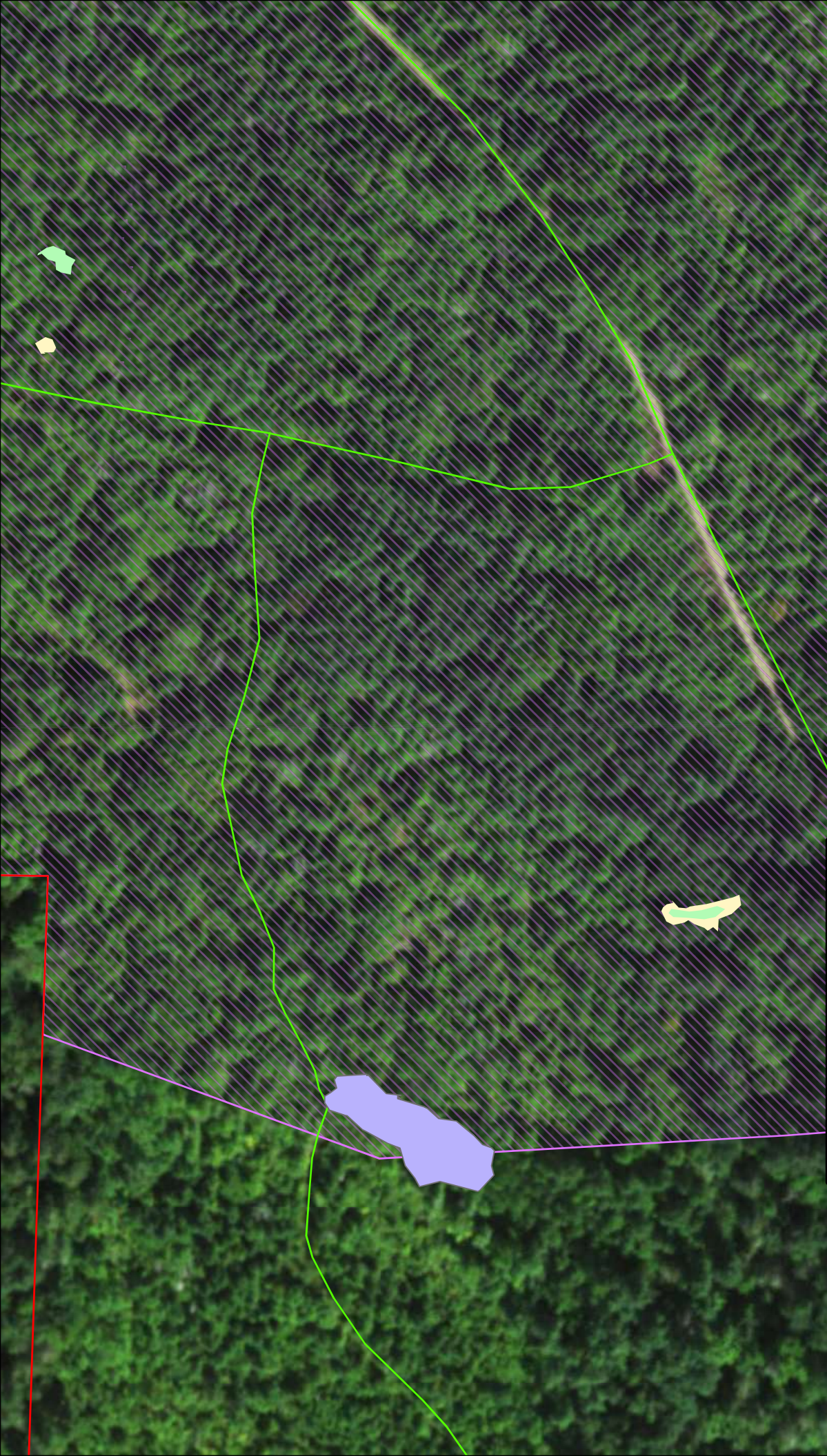
Legend

- NSP New Trails
- NSP Park Boundaries
- NSP Survey Area
- Cowardin
- Forested
- Emergent
- Aquatic Bed
- 3 of 5 strata
- Scrub Shrub

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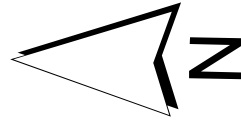
Figure: Fig. 1C
- SE





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0 55 110 220 US Feet



Scale: 1:1,600

Map Units:
Foot_US

Cowardin Plant Classes

Legend

- NSP New Trails
- NSP Park Boundaries
- NSP Survey Area
- Cowardin
 - Forested
 - Emergent
 - Aquatic Bed
 - 3 of 5 strata
 - Scrub Shrub

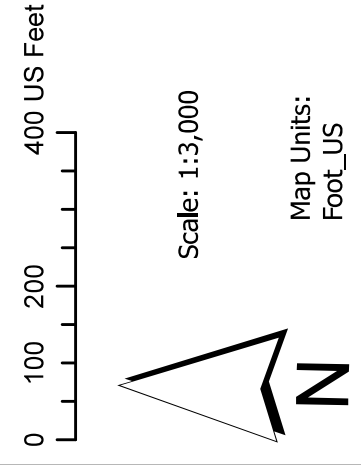
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Figure: Fig. 1D
- SW





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Scale: 1:3,000

Map Units:
Foot_US

Hydroperiod

Legend

- NSP New Trails
- NSP Park Boundaries
- NSP Survey Area
- Hydroperiod
 - Saturated Only
 - Occasionally Flooded or Inundated
 - Permanently Flooded or Inundated
 - Seasonally flooded or inundated

Nisqually State Park
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Figure: Fig. 2A
- NW





Map Units:
Foot_US

Scale: 1:2,000

0 65 130 260 US Feet

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Hydroperiod

Legend

- | | |
|---|---|
|  NSP NewTrails |  Occasionally Flooded or Inundated |
|  NSP Park Boundaries |  Permanently Flooded or Inundated |
|  NSP Survey Area |  Seasonally flooded or inundated |
|  Saturated Only | |

Hydroperiod

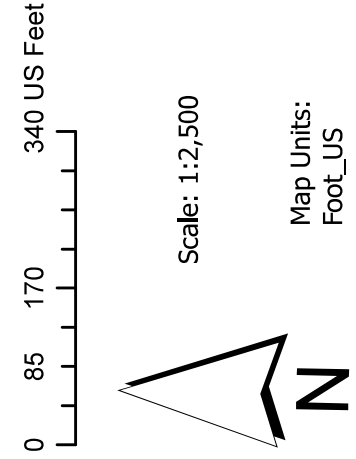
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**Figure: Fig. 2B
- NE**





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Hydroperiod

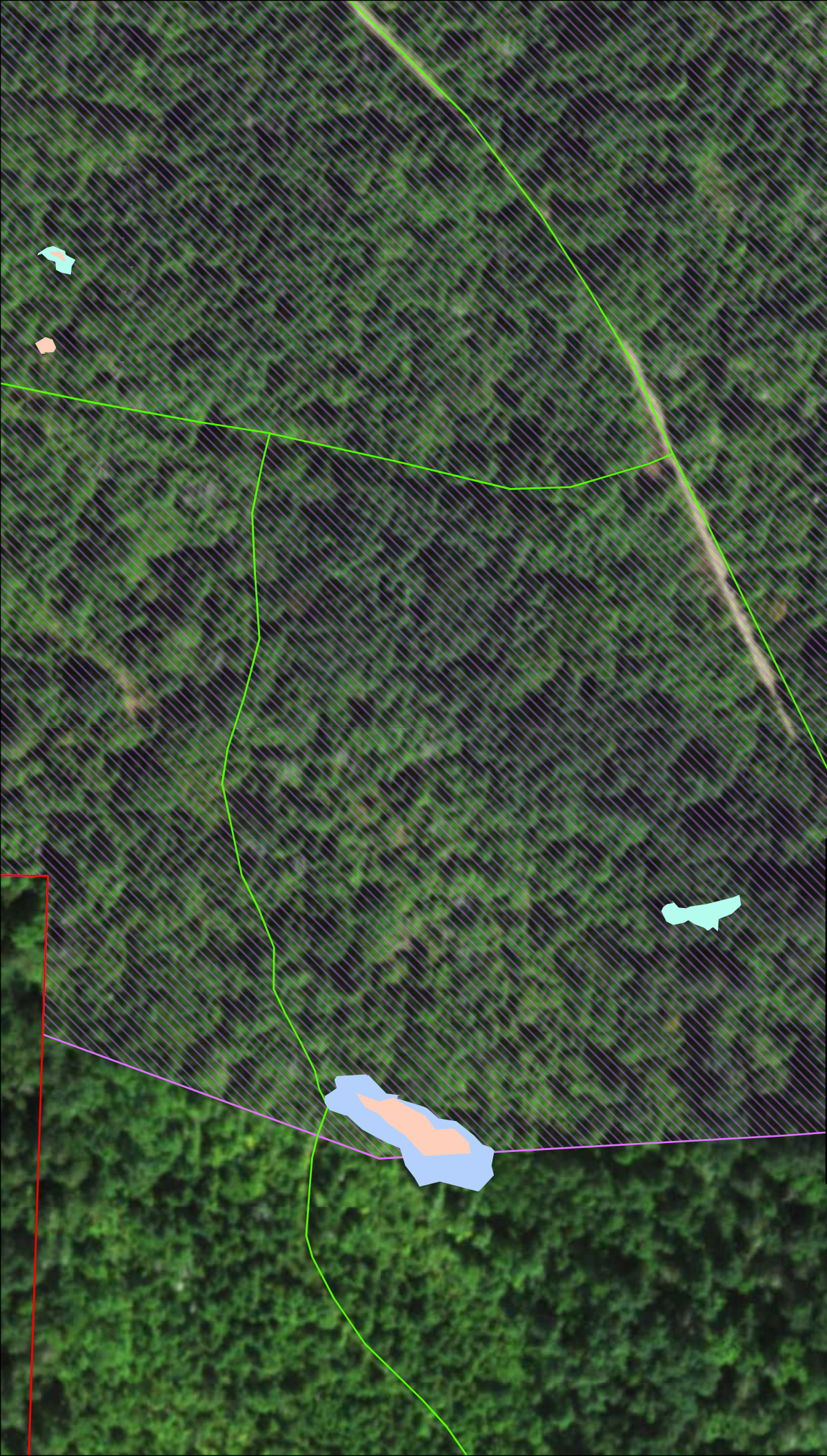
Legend

- NSP New Trails
- NSP Park Boundaries
- NSP Survey Area
- Hydroperiod
 - Saturated Only
 - Seasonally flooded or inundated
 - Permanently Flooded or Inundated
 - Occasionally Flooded or Inundated

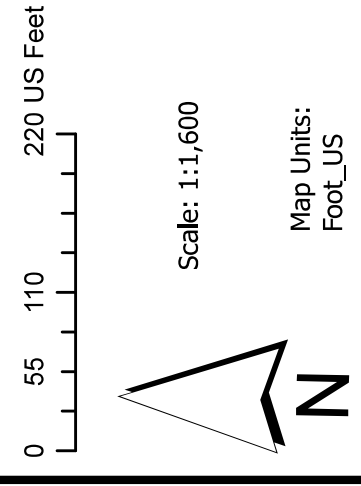
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Figure: Fig. 2C
- SE





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Hydroperiod

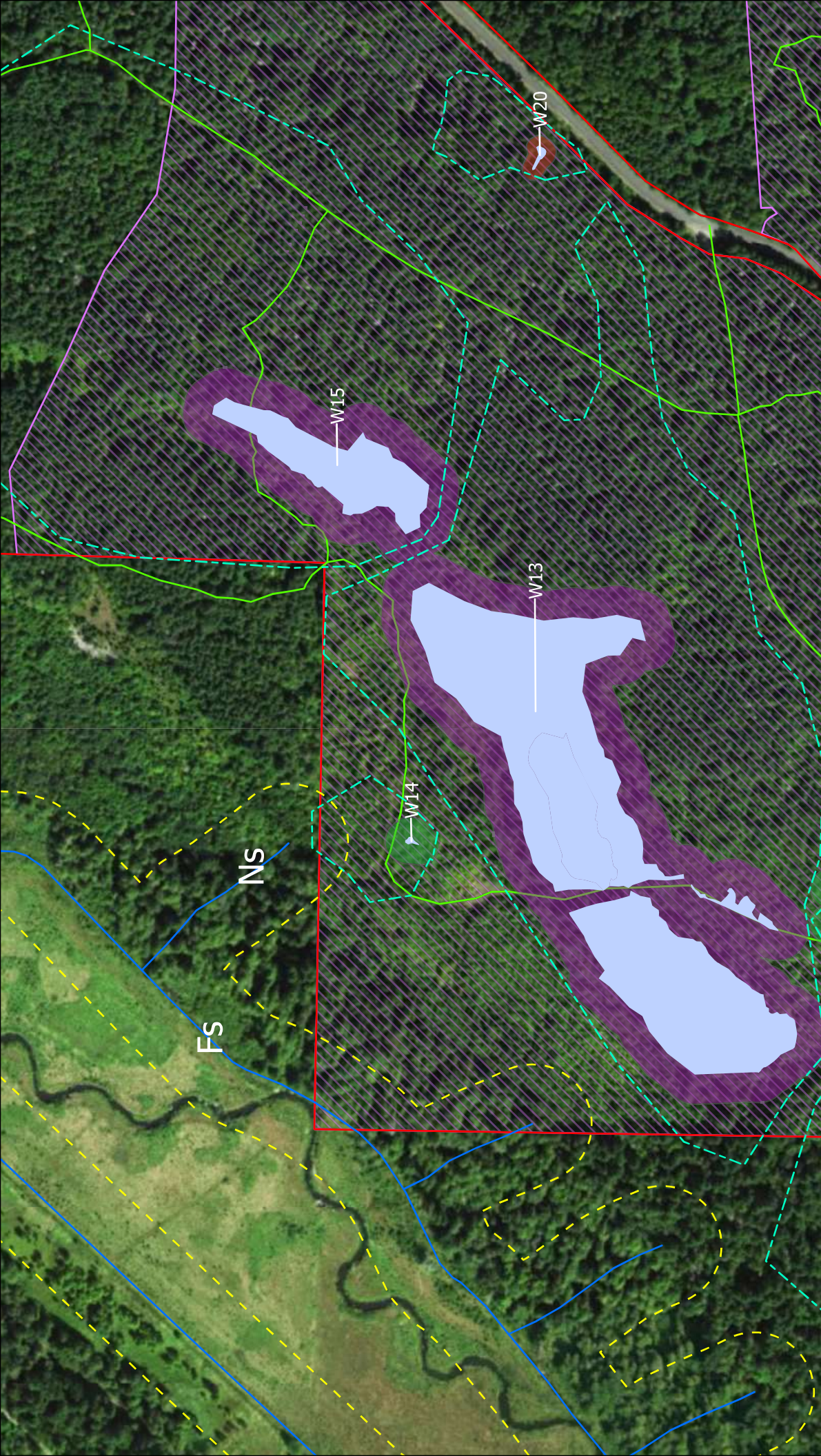
Legend

- NSP New Trails
- NSP Park Boundaries
- NSP Survey Area
- Hydroperiod
 - Saturated Only
 - Occasionally Flooded or Inundated
 - Permanently Flooded or Inundated
 - Seasonally flooded or inundated

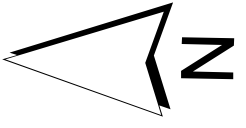
Figure: Fig. 2D
- SW

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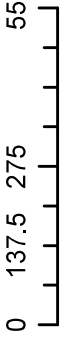


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Scale: 1:4,000

Map Units:
Foot_US



0 137.5 275 550 US Feet

Contributing Basin & Wetland Buffer

Legend

- NHD Streams
- NSP New Trails
- NSP Park Boundaries
- NSP Survey Area
- 150' Stream Buffer
- Cont. Basins

Wetlands

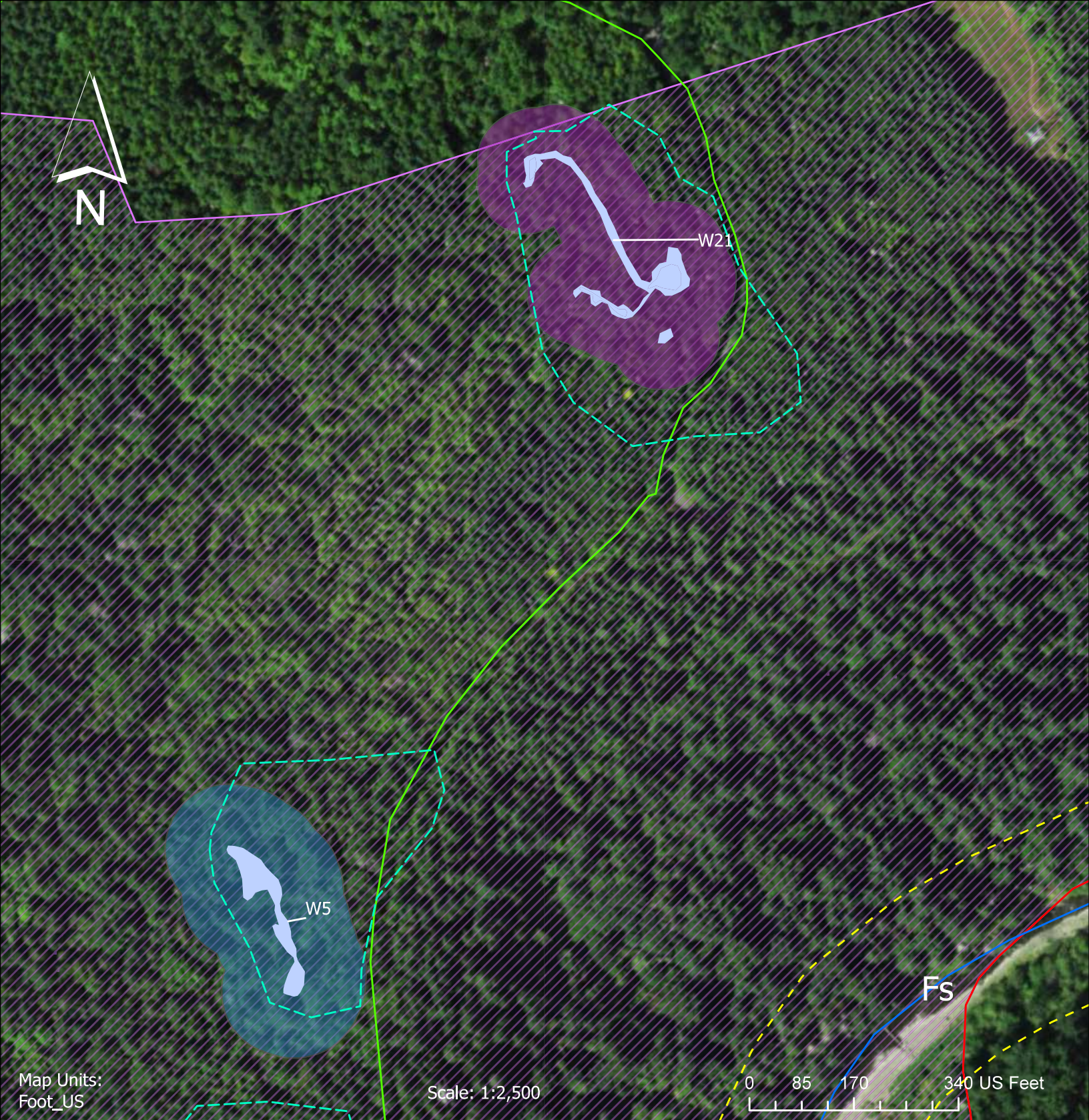
Wetland Buffer

- 75'
- 50'
- 25'
- 100'

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Figure: Fig. 3A
- NW





Map Units:
Foot_US

Scale: 1:2,500

0 85 170 340 US Feet

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Contributing Basin & Wetland Buffer

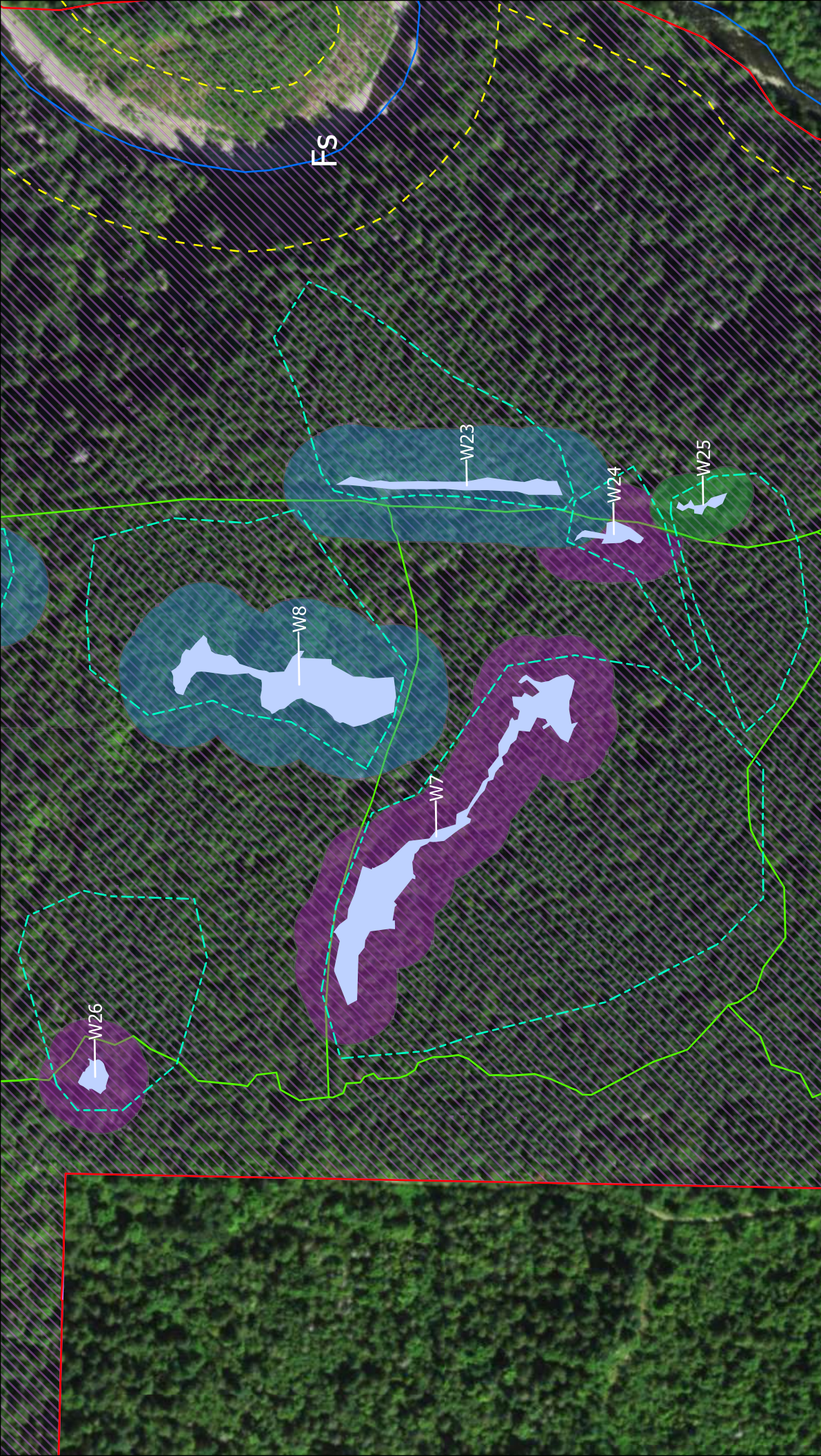
Legend

- | | |
|---------------------|-----------------------|
| NHD Streams | Wetlands |
| NSP NewTrails | Wetland Buffer |
| NSP Park Boundaries | 75' |
| NSP Survey Area | 50' |
| Cont. Basins | 25' |
| 150' Stream Buffer | 100' |

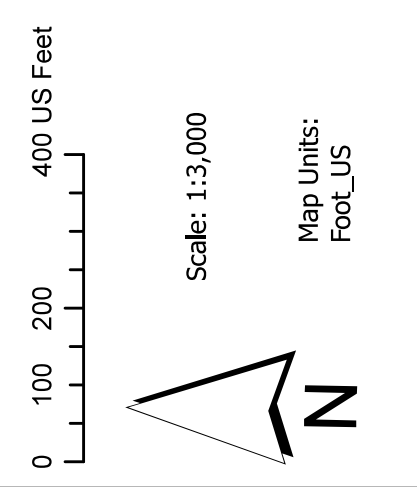
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Figure: Fig. 3B
- NE





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Contributing Basin & Wetland Buffer

Legend

- NHD Streams
- NSP New Trails
- NSP Park Boundaries
- NSP Survey Area
- Cont. Basins
- 150' Stream Buffer
- Wetlands
- Wetland Buffer
 - 75'
 - 50'
 - 25'
 - 100'

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Figure: Fig. 3C
- SE





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Scale: 1:1,750

Map Units:
Foot_US

Contributing Basin & Wetland Buffer

Legend

NSP New Trails

NSP Park Boundaries

NSP Survey Area

Cont. Basins

150' Stream Buffer

Wetlands

Wetland Buffer

75'

50'

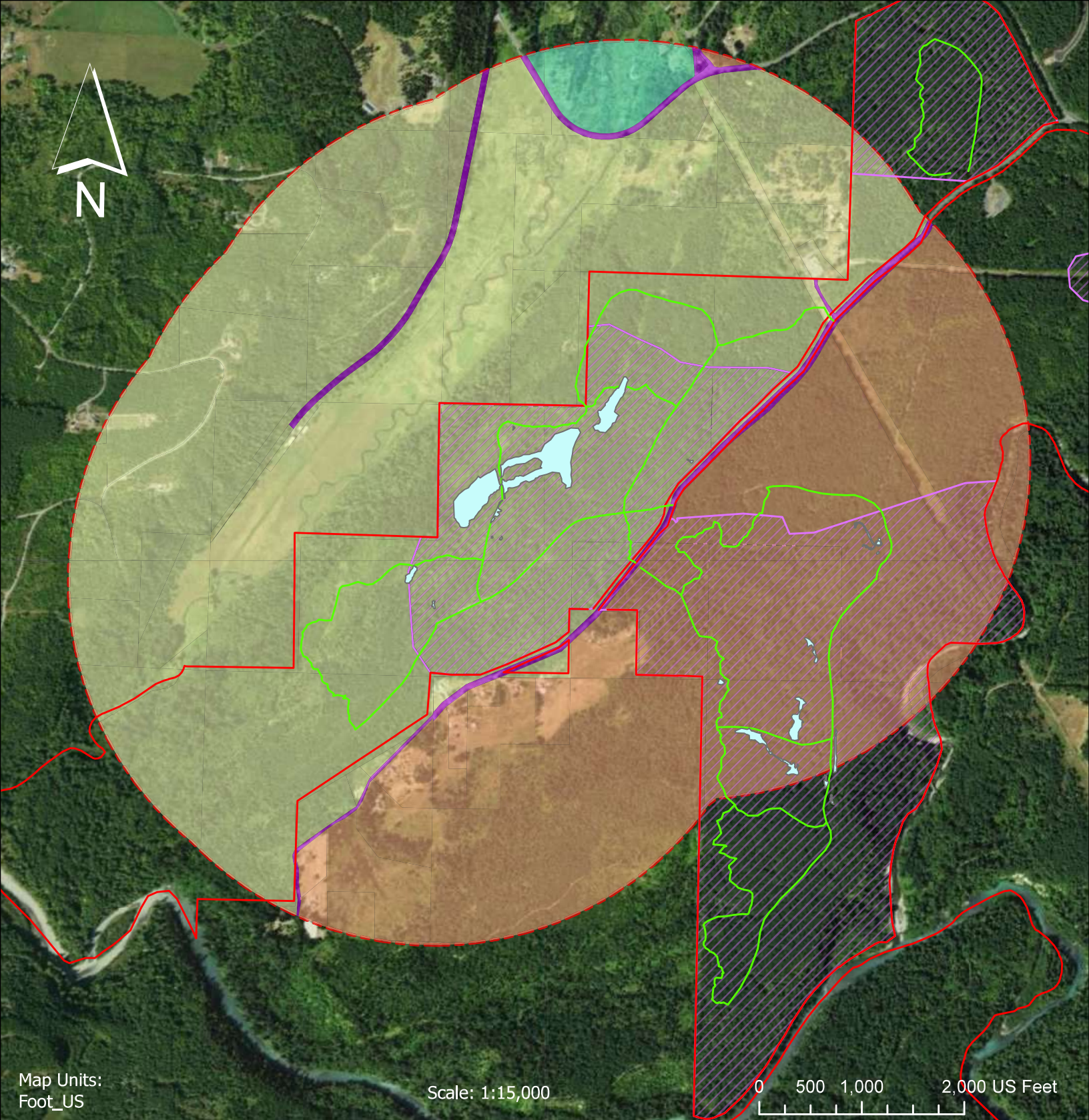
25'

100'

Nisqually State Park
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Figure: Fig. 3D
- SW





Map Units:
Foot_US

Scale: 1:15,000

0 500 1,000 2,000 US Feet

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1 km Land Use (NW Wetlands)

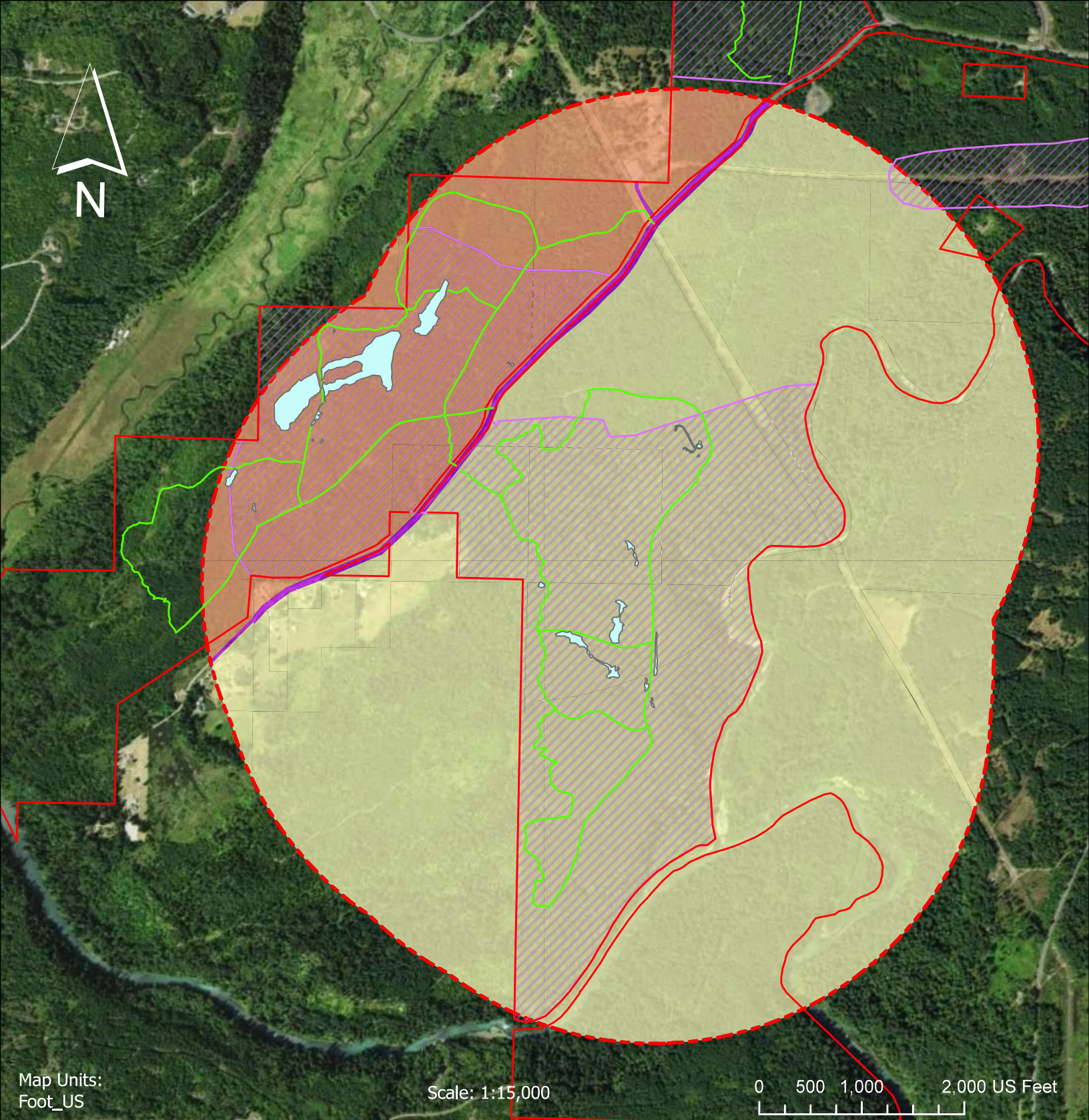
Legend

- | | |
|-------------------------|-----------------------------------|
| Wetlands | Accessible Low and Moderate (61%) |
| NSP NewTrails | High Intensity (2%) |
| NSP Park Boundaries | Low to Moderate Intensity (35%) |
| NSP Survey Area | Undisturbed (2%) |
| NW Land Use 1 km | |
| 1 km Landuse Buffer | |

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**Figure: Fig. 4A
- NW**





Map Units:
Foot_US

Scale: 1:15,000

0 500 1,000 2,000 US Feet

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1 km Land Use (SE Wetlands)

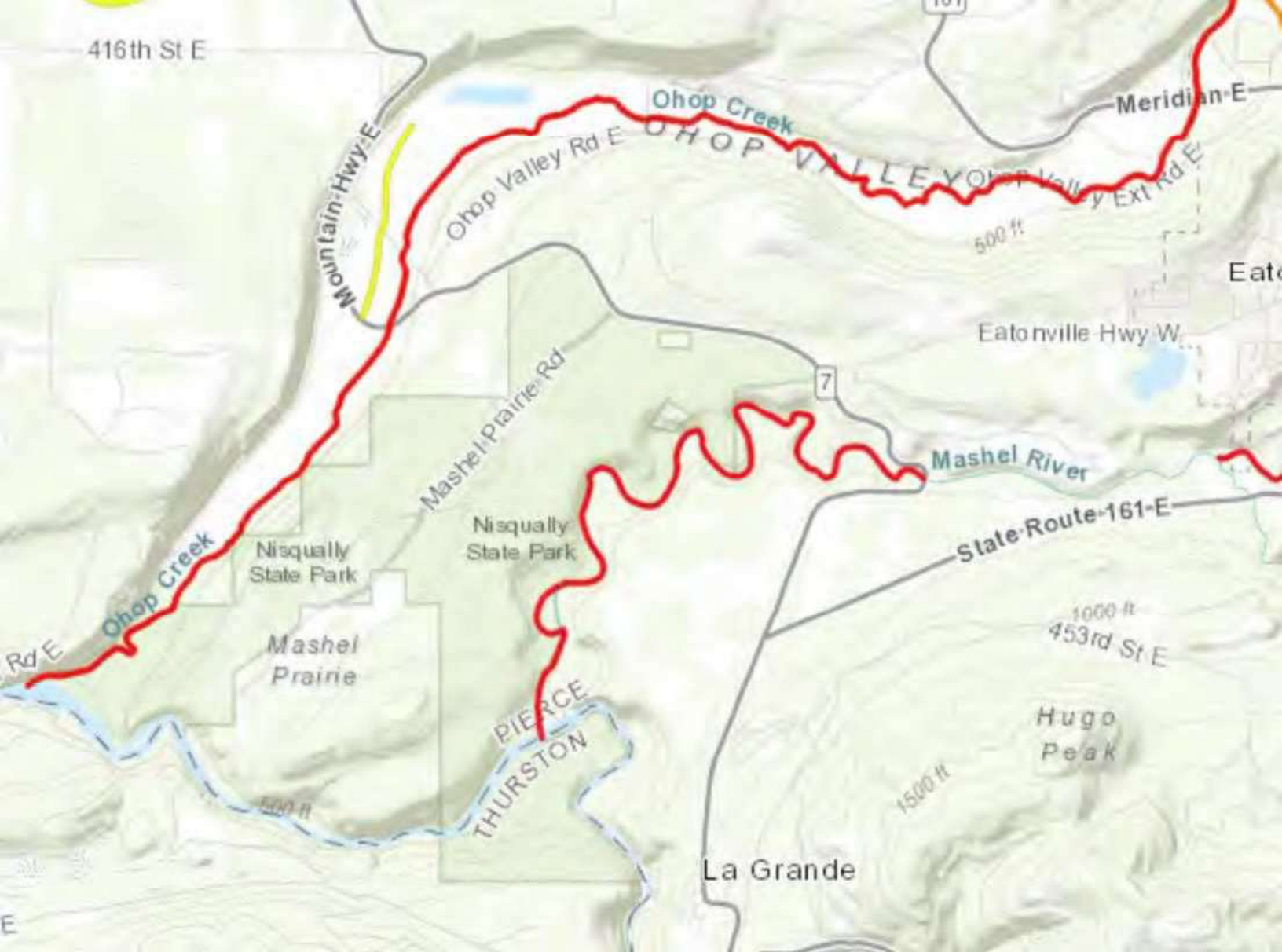
Legend

- | | |
|-------------------------|-----------------------------------|
| Wetlands | Accessible Low and Moderate (80%) |
| NSP New Trails | High Intensity (1%) |
| NSP Park Boundaries | Low to Moderate Intensity (19%) |
| NSP Survey Area | |
| SE Land Use 1 km | |
| 1 km Landuse Buffer | |

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**Figure: Fig. 4B
- SE**





Main Listing Information	
Listing ID: 34847	Current Category: 5 ■
Waterbody Name: MASHIEL RIVER	View Category History
Medium: Water	
Parameter: Temperature	
WQI Project: None	
Designated Use: Aquatic Life - Core Summer Salmonid Habitat	
Assessment Unit	
Assessment Unit ID: 17110015000161_001_003	County: Pierce, Thurston
Size: 5.605 Kilometers	WRIA: Nisqually
Associated Components(s): Reach: 17110015000161 0% - 75.1%, Type: Rivers/Streams	
Basis Table	
Basis Statement	
Historical Information	
Nisqually Indian Tribe unpublished data (submitted by Sayre Hodgson on 6 February 2003) at RM MR06 show a 7-day mean of maximum daily temperature of 19 degrees C, with a maximum daily temperature of 20.2 degrees C from continuous measurements collected in 1993. Nisqually Indian Tribe unpublished data (submitted by Sayre Hodgson on 6 February 2003) at RM MR06 show a 7-day mean of maximum daily temperature of 22.2 degrees C, with a maximum daily temperature of 23.9 degrees C from continuous measurements collected in 1994. Nisqually Indian Tribe unpublished data (submitted by Sayre Hodgson on 6 February 2003) at RM MR06 show a 7-day mean of maximum daily temperature of 20.6 degrees C, with a maximum daily temperature of 21.3 degrees C from continuous measurements collected in 2001.	
Remarks	
Assessment Cycle 2018 - A historic Category 5 determination was carried forward from a previous assessment or administrative decision. See Historic Basis Statement for previous assessment information.	

Main Listing Information	
Listing ID: 22379	Current Category: 5 ■
Waterbody Name: OHOP CREEK	View Category History
Medium: Water	
Parameter: Dissolved Oxygen	
WQI Project: None	
Designated Use: Aquatic Life - Core Summer Salmonid Habitat	
Assessment Unit	
Assessment Unit ID: 17110015000172_001_001	County: Pierce
Size: 10.426 Kilometers	WRIA: Nisqually
Associated Components(s): Reach: 17110015000172 0% - 100%, Type: Rivers/Streams	
Basis Table	
Basis Statement	
Historical Information	
Location ID [OHOPCR(RM01)] - none of the 4 sample values in 1997 showed an excursion of the criteria for this waterbody. (criterion = 9.5 mg/L). Location ID [OHOPCR(RM01)] - In 1996, 4 of 16 sample values (25.0%) showed an excursion of the criteria for this waterbody. (criterion = 9.5 mg/L). Nisqually River Education Project station Ohop Creek (0453rd St) show no excursions beyond the criterion from measurements collected in 2001 and 2002.	
Remarks	
Moved to Category 5 from 4A. SWRC staff confirmed only bacteria was approved under the Nisqually Watershed Bacteria and DO TMDL. Assessment Cycle 2018 - A historic Category 4A determination was carried forward from a previous assessment or administrative decision. See Historic Basis Statement for previous assessment information. Continued Listing. Listing ID 47618 was rolled into this listing. Ten percent or more of the samples collected in a single year were excursions of the criterion, and at least 3 excursions were from all data considered.	

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303d Listings

- Water**
- Category 5 - 303d
 - Category 4C
 - Category 4B
 - Category 4A
 - Category 2
 - Category 1

Nisqually State Park
44501 Medical
Springs Road
Eatonville, WA
98328

Figure: Fig. 5



Delineated / Rated Wetlands

Wetland: 5 Depressional Area (sq ft): 14730 Category: III	
Wetland: 7 Depressional Area (sq ft): 69686 Category: III	<i>Image Not Available</i>
Wetland: 8 Depressional Area (sq ft): 60085 Category: III	

Wetland: 11
Depressional
Area (sq ft): 19617
Category: III



Wetland: 12
Depressional
Area (sq ft): 509
Category: III



Wetland: 13
Depressional
Area (sq ft): 704265
Category: III



Wetland: 14
Depressional
Area (sq ft): 794
Category: IV



Wetland: 15
Depressional
Area (sq ft): 137178
Category: III



Wetland: 16
Depressional
Area (sq ft): 3145
Category: III



Wetland: 17
Depressional
Area (sq ft): 1106
Category: III



Wetland: 20
Depressional
Area (sq ft): 1812
Category: IV



Wetland: 21
Depressional
Area (sq ft): 21315
Category: III



Wetland: 23 Depressional Area (sq ft): 16158 Category: II	<i>Image Not Available</i>
Wetland: 24 Depressional Area (sq ft): 5844 Category: III	
Wetland: 25 Depressional Area (sq ft): 2790 Category: III	

Wetland: 26
Depressional
Area (sq ft): 5206
Category: III



Delineated / Not Rated Wetlands



W1



W2



W3



W4



W6



W10

W9



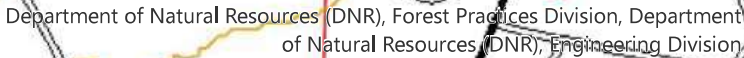
W18



W22



W27



Nisqually State Park North Fork Water Type

-  Landing
-  Waste Area
-  Clumped WRTS/GRTS
-  Existing Structure

S19 T16.0N R04.0E, S20 T16.0N
R04.0E, S17 T16.0N R04.0E, S30 T16.0N
R04.0E, S29 T16.0N R04.0E, S21 T16.0N
R04.0E, S28 T16.0N R04.0E, S18 T16.0N
R04.0E, S16 T16.0N R04.0E



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.

Approximate Scale : 1:12,000

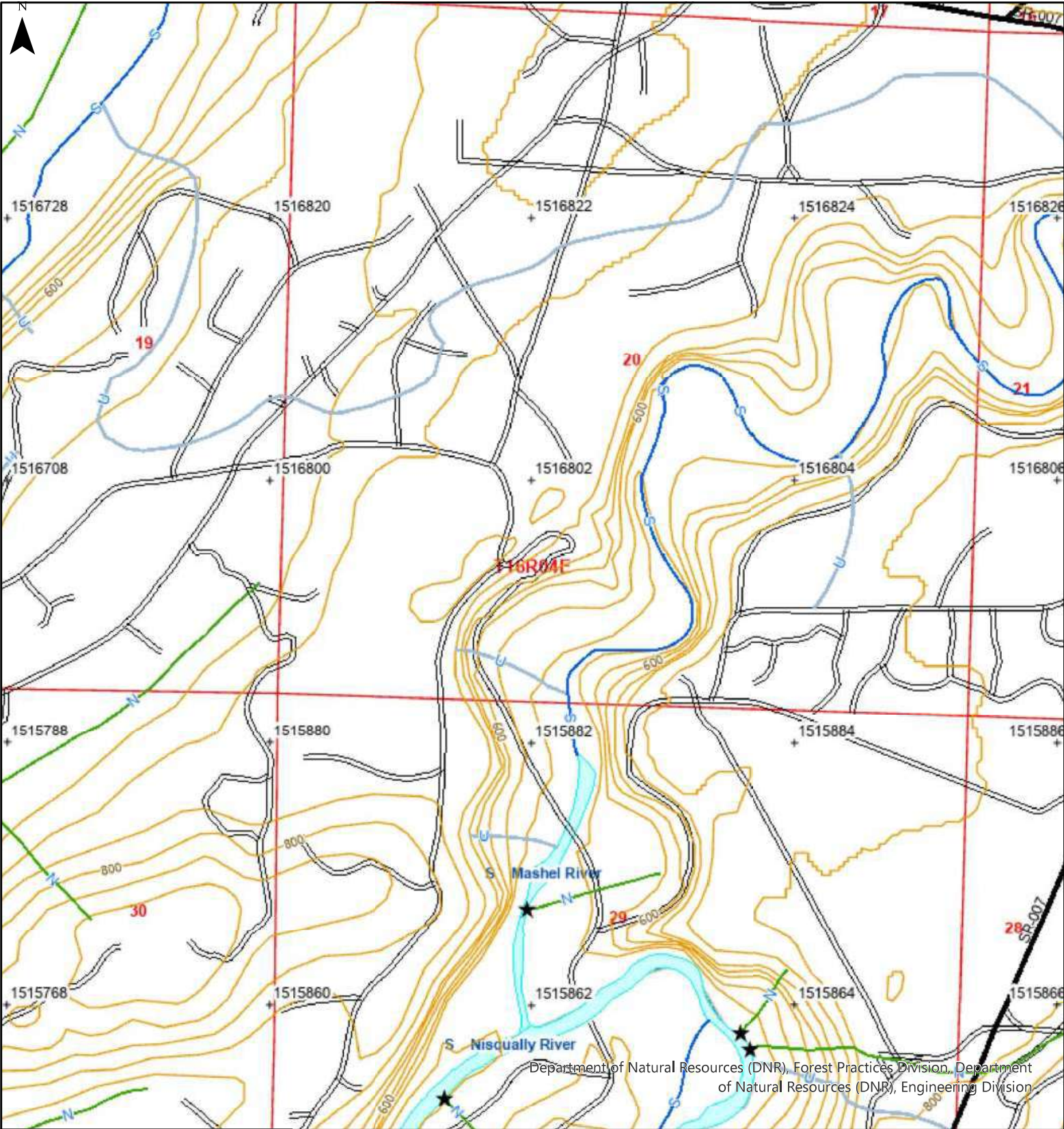
0 500 1,000 2,000 Feet

Date: 4/30/2024 Time: 12:28 PM

Legend

	Water Type Breaks (FP)
	Map Registration Tics
	Type S
	Type F
	Type N, Np, Ns
	U, unknown
	X, non-typed per WAC 222-16
	Trail
	Railroad
	Railroad Grade
	Abandoned
	Orphaned
	40 ft. Contours
	Paved Road
	Unpaved Road/Surface Unknown
	Other Impoundments
	Open Freshwater
	Subject to Inundation
	Glacier / Snowfield
	Wet Area
	Open Saltwater
	Artificial Feature
	Tribal Cultural Resource Contacts
	County Boundaries
	Public Land Survey Townships
	Public Land Survey Sections

Forest Practices Activity Map - Application # _____



Department of Natural Resources (DNR), Forest Practices Division, Department of Natural Resources (DNR), Engineering Division

Map Symbols	Nisqually State Park Water Type	Legal Description
- Harvest Boundary - Road Construction - Stream - RMZ / WMZ Buffers - Rock Pit - Landing - Waste Area - Clumped WRTS/GRTS - Existing Structure		S19 T16.0N R04.0E, S20 T16.0N R04.0E, S17 T16.0N R04.0E, S30 T16.0N R04.0E, S29 T16.0N R04.0E, S21 T16.0N R04.0E, S28 T16.0N R04.0E, S16 T16.0N R04.0E
	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.	Approximate Scale : 1:12,000 0 500 1,000 2,000 Feet Date: 4/30/2024 Time: 12:21 PM

Figure 19-7 Rainfall documentation worksheetRainfall Documentation
(use with photographs)

Date: 3/27/2023

Weather Station: Tacoma Narrows AP, WA

Landowner: Tract no.:

County: Pierce

State: WA

Soil Name:

Growing Season: March 13 - November 21

Photo Date:

		Long-term rainfall records							
	Month	3 yrs. In 10 less than	Normal	3 yrs. In 10 more than	Rainfall	Condition dry, wet, normal	Condition value	Month weight value	Product of previous two columns
1st month prior*	Oct	2.73	4.14	4.98	3.01	Normal	2	3	6
2nd month prior*	Sept	0.42	1.43	1.69	2.50	Wet	3	2	6
3rd month prior*	Aug	0.15	0.76	0.80	0.23	Normal	2	1	2
* Compared to photo date								Sum=	14

Note: if sum is

Conditon value:

6 - 9 then prior period has been drier
than normal

Dry =1

10 - 14 then prior period has been
normal

Normal =2

15 - 18 then prior period has been
wetter than normal

Wet =3

Conclusions: ***Prior period has been normal***

WETS Table

WETS Station: TACOMA NARROWS AP, WA													
Requested years: 1999 - 2023													
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall					
Jan	46.3	37.4	41.8	6.11	4.70	7.09	13	-					
Feb	47.8	36.9	42.3	3.82	2.53	4.58	9	-					
Mar	52.0	38.9	45.5	4.51	3.20	5.35	12	-					
Apr	57.2	41.9	49.5	2.95	2.09	3.50	9	-					
May	64.1	47.1	55.6	2.08	1.17	2.54	6	-					
Jun	69.6	51.5	60.6	1.40	0.75	1.71	4	-					
Jul	75.6	54.8	65.2	0.48	0.14	0.50	2	-					
Aug	75.7	55.5	65.6	0.76	0.15	0.80	2	-					
Sep	69.2	52.2	60.7	1.43	0.42	1.69	4	-					
Oct	58.7	46.5	52.6	4.14	2.73	4.98	8	-					
Nov	50.3	40.5	45.4	6.19	3.64	7.53	12	-					
Dec	45.1	36.8	41.0	5.75	4.18	6.78	13	-					
Annual:					34.43	43.95							
Average	59.3	45.0	52.2	-	-	-	-	-					
Total	-	-	-	39.63			92	-					
GROWING SEASON DATES													
Years with missing data:	24 deg = 1	28 deg = 1	32 deg = 0										
Years with no occurrence:	24 deg = 17	28 deg = 2	32 deg = 0										
Data years used:	24 deg = 24	28 deg = 24	32 deg = 25										
Probability	24 F or higher	28 F or higher	32 F or higher										
50 percent *	No occurrence	2/1 to 12/18: 320 days	3/13 to 11/21: 253 days										
70 percent *	No occurrence	1/22 to 12/29: 341 days	3/7 to 11/28: 266 days										
* Percent chance of the growing season occurring between the Beginning and Ending dates.													
STATS TABLE - total precipitation (inches)													
Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1999	M8.22	9.47	5.36	1.30	1.81	1.83	1.39	0.62	M0.20	2.77	M10.21	M5.87	49.05
2000	5.08	5.95	3.63	M1.71	M2.75	2.04	0.31	0.32	1.08	4.02	3.15	3.49	33.53
2001	3.07	2.18	3.24	3.68	1.87	3.35	0.22	3.26	0.70	3.46	10.45	7.52	43.00
2002	7.72	3.88	4.20	3.97	1.81	1.49	0.34	0.13	0.52	0.67	3.15	6.84	34.72
2003	8.69	1.61	6.09	3.77	0.69	0.27	0.01	0.26	0.83	10.20	6.52	4.21	43.15
2004	7.31	3.02	2.25	0.80	2.29	0.51	0.01	3.09	2.70	3.60	3.10	4.18	32.86
2005	5.33	1.01	4.61	3.89	3.30	1.21	1.03	0.04	1.04	3.85	6.05	7.37	38.73
2006	12.36	3.09	2.23	2.48	1.52	1.58	0.18	0.01	0.77	1.40	15.71	M7.24	48.57

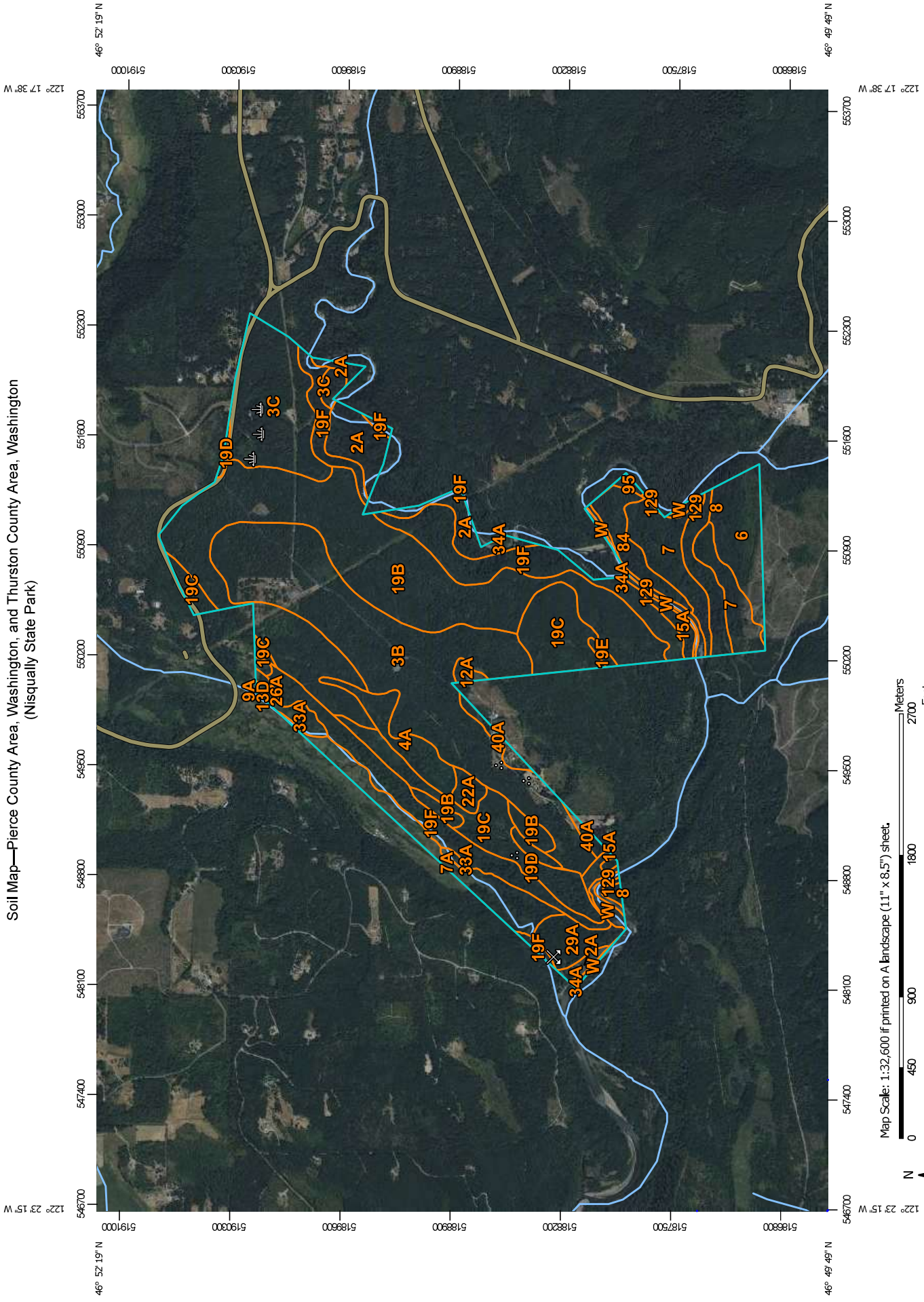
2007	6.40	3.84	6.09	M1.51	1.61	1.29	1.42	0.43	3.05	3.27	3.21	8.46	40.58
2008	5.58	2.37	3.41	1.58	0.70	1.31	0.46	2.06	0.01	M1.55	7.37	3.47	29.87
2009	7.02	1.44	4.07	3.21	3.90	0.36	0.09	0.89	1.27	M3.80	M4.38	3.21	33.64
2010	6.75	4.34	4.30	3.65	3.45	2.41	0.89	0.07	5.23	4.41	M2.35	8.04	45.89
2011	5.19	3.45	7.03	4.25	3.80	1.04	1.16	0.15	1.32	3.73	6.27	3.24	40.63
2012	M6.53	M3.36	M8.16	3.27	2.28	2.40	1.01	T	0.02	7.57	9.31	6.32	50.23
2013	2.66	2.07	2.59	3.91	2.81	1.33	T	0.70	M0.01	MT	M1.24	M0.85	18.17
2014	3.75	6.80	9.92	4.01	3.98	0.71	0.54	2.08	2.41	6.15	5.80	4.51	50.66
2015	4.73	4.76	4.39	1.52	0.50	0.13	0.13	2.54	1.20	6.09	7.52	11.61	45.12
2016	7.28	5.77	6.37	1.52	0.72	1.21	1.40	0.43	1.33	11.23	6.82	3.79	47.87
2017	2.97	7.89	9.28	5.22	3.15	1.43	T	M0.01	1.23	5.76	9.17	5.49	51.60
2018	8.12	2.01	2.05	5.61	0.19	1.00	0.03	0.15	0.75	3.14	3.40	4.25	30.70
2019	3.95	M3.75	1.44	2.29	0.52	0.14	0.95	1.20	1.55	M3.15	M0.33	7.67	26.94
2020	5.31	1.20	M3.55	1.94	2.64	1.90	0.16	0.21	2.09	3.04	6.60	7.35	35.99
2021	9.85	5.00	2.46	M1.24	1.29	2.28	0.00	0.07	3.82	5.65	10.72	5.70	48.08
2022	7.85	4.96	3.19	3.78	3.91	3.23	0.19	0.04	0.12	2.05	5.84	7.35	42.51
2023	3.05	2.32	2.89	3.66	0.57	0.48	0.11	0.23	2.50	M3.01	M1.60		20.42

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.

Data missing for all days in a month or year is blank.

Creation date: 2023-11-04

Soil Map—Pierce County Area, Washington, and Thurston County Area, Washington (Nisqually State Park)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

Special Line Features

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL: [Web Soil Survey](#)

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Pierce County Area, Washington
Survey Area Data: Version 19, Aug 29, 2023

Soil Survey Area: Thurston County Area, Washington
Survey Area Data: Version 17, Aug 29, 2023

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 26, 2023—Aug 14, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2A	Aquic Xerofluvents, level	66.4	4.1%
3B	Barneston gravelly ashy coarse sandy loam, 0 to 8 percent slopes	319.1	19.8%
3C	Barneston gravelly ashy coarse sandy loam, 8 to 15 percent slopes	114.6	7.1%
4A	Bellingham silty clay loam	34.7	2.1%
7A	Briscot loam, variant	59.1	3.7%
9A	Chehalis silt loam	0.0	0.0%
12A	Dupont muck	4.7	0.3%
13B	Everett very gravelly sandy loam, 0 to 8 percent slopes	2.1	0.1%
13D	Everett very gravelly sandy loam, 15 to 30 percent slopes	1.5	0.1%
15A	Greenwater loamy sand	10.3	0.6%
19B	Kapowsin gravelly ashy loam, 0 to 6 percent slopes	385.6	23.9%
19C	Kapowsin gravelly ashy loam, 6 to 15 percent slopes	133.2	8.3%
19D	Kapowsin gravelly ashy loam, 15 to 30 percent slopes	8.4	0.5%
19E	Kapowsin gravelly ashy loam, 30 to 65 percent slopes	3.3	0.2%
19F	Kapowsin gravelly loam, 50 to 70 percent slopes	181.0	11.2%
22A	McKenna gravelly loam	10.1	0.6%
26A	Norma fine sandy loam	2.2	0.1%
29A	Pilchuck fine sand	27.3	1.7%
33A	Reed silty clay	12.9	0.8%
34A	Riverwash	0.9	0.1%
40A	Spana loam	13.6	0.8%
W	Water	13.4	0.8%
Subtotals for Soil Survey Area		1,404.2	87.0%
Totals for Area of Interest		1,613.8	100.0%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
6	Baldhill very stony sandy loam, 3 to 15 percent slopes	55.1	3.4%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7	Baldhill very stony sandy loam, 15 to 30 percent slopes	77.1	4.8%
8	Baldhill very stony sandy loam, 30 to 60 percent slopes	30.2	1.9%
84	Pilchuck loamy sand	30.5	1.9%
95	Riverwash	2.7	0.2%
129	Water	14.0	0.9%
Subtotals for Soil Survey Area		209.5	13.0%
Totals for Area of Interest		1,613.8	100.0%