

### CRITICAL AREAS RECONNAISSANCE AND WET WEATHER REVIEW

April 2, 2024



**NK United** *Kingston, Washington* 

Prepared for

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### SIGNATURE PAGE

The information in this report was compiled and prepared under the supervision and direction of the undersigned.

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### **INTRODUCTION**

Ecological Land Services, Inc. (ELS) completed this Critical Areas Reconnaissance Report for the NK United project proposed on 400 acres that borders the east side of the Port Gamble Heritage Park (PGHP). The 400 acres are comprised of 20 properties ranging in size from 19.77 acres to 33.18 acres (Kitsap County Tax Parcel Nos. **192702**-4-003-2001, -4-004-2000, -4-005-2009, -3-005-2008, **302702-1**-013-2000, -1-012-2002, -1-011-2006, **302702-4**-009-2000, -4-010-2007, -4-011-2006, -4-012-2005, 4-013-2004, -4-014-2003, -4-015-2002, -4-016-2001, -4-017-2000, and **312702-1**-022-2008, -1-004-2000, -1-023-2007, 1-024-2006). These properties are in Section 19, 30, and 31, Township 27 North, Range 2 East of the Willamette Meridian. ELS biologists conducted a series of site reconnaissance site visits on October 10, 12, 18, 19, and 24, 2023.

### STUDY AREA DESCRIPTION

The roughly 400-acre study area is active forestland composed mostly of unharvested coniferous forest with large areas of harvested forested upland located west of Stottlemeyer Road on the south half and Port Gamble Road on the north half. The Port Gamble Heritage Park lies across the entire west edge of the study area (Figure 2). The topography is composed of a high ridge on the west side that slopes moderately down to the east (Figure 2). There are ravines and topographic troughs that have formed in the east slope that end at the east boundary of the study area (Figures 2, 2a, 2b, and 2c). The east end of the property is essentially the bottom of the bowl that forms the west side of the Gamble Creek Valley, which is primarily east of Bond Road (SR 307).

Logging and service roads provide access to most of the study area and are drivable to a certain degree. Many of these roads have become little more than hiking trails that cross these properties, and several are continuation of trails on the Port Gamble Heritage Park. The properties are oriented north to south beginning at residentially developed lots on the north adjacent properties and ending at the Stottlemeyer trailhead, which lies at the south end. The orientation lends the study area designation for discussion of onsite conditions (Figure 2). There are three smaller segments that include:

- North Segment is at the north end and is located on the west and north sides of the excluded parcels to be used as a sand mine (Figure 2a). This area is primarily composed of unharvested upland forest with harvested forest (harvested in 2018, 2022, and 2023) areas at the north end. This portion borders Port Gamble Road and there is a service road entering near the northeast corner. This road represents access to the harvested areas and will be used as access to the sand mine properties.
- Central Segment is as the name implies in the central portion of the study area (Figure 2b). It is located south of the excluded sand mine properties and is west of homes along Port Gamble Road. The southeastern portion borders Bond Road and is accessed via a service road that is gated to prevent unauthorized access. Most of this segment is also composed of unharvested forest with harvested forest (harvested in 2018) in the southeastern portion.
- South Segment is located at the south end and includes properties on both sides of Stottlemeyer Road and most of it is bordered by Bond Road on the east edge (Figure 2c). It includes an area east of Bond Road that is accessed from Stevens-Uhler Road. The trailhead to the Port Gamble Heritage Park is located on the east side of Stottlemeyer Road.

The trails in this segment cross mostly through unharvested forest with the area of harvested forest extending on the northeast corner where it is continuous with the harvested forest on the Central Segment.

### **METHODOLOGY**

### WETLAND IDENTIFICATION METHODOLOGY

The study area was evaluated for the presence of wetlands using the Routine Determination Method according to the U.S. Army Corps of Engineers' 1987 Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers' Wetland Delineation Manual (Environmental Laboratory 1987); Western Mountains, Valleys, and Coast Region (Version 2.0) (Corps 2010). The Routine Determination Method and defining wetland criteria are discussed further in Appendix A. Wetlands are regulated as "Waters of the United States" by the U.S. Army Corps of Engineers (Corps) and as "Waters of the State" by the Washington Department of Ecology (Ecology), and locally by Kitsap County.

### STREAM IDENTIFICATION METHODOLOGY

Streams are defined by the State of Washington as "...a) Any body of running water that moves under gravity to progressively lower levels, in a relatively narrow but clearly defined channel on the ground surface, in a subterranean cavern, or beneath or in a glacier and transports sediments and dissolved particles. b) A term used in quantitative geomorphology interchangeably with channel. c) A natural waterway that is defined as first to third order. d) (under the Shoreline Management Act) A naturally occurring body of periodic or continuous flowing water where: (1) The mean annual flow is greater than twenty cubic feet per second; and (2) The water is contained with a channel." (Anderson et. al. 2016).

The KCC title 19 defines a stream as an "...an area where surface water flow is sufficient to produce a defined channel or bed. Such areas demonstrate evidence of the passage of water and included but aren't limited to, bedrock channels, gravel beds, sand and silt beds, and defined-channel swales. The channel or bed need not contain water throughout the year to be considered a stream."

The stream identification methodology was conducted by examining conditions within the mapped streams to determine if there were characteristics bed and banks were present to indicate the action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation. In essence, the presence of streams was determined by assessing three main criteria: 1) the presence or evidence of hydrology, 2) the soil, substrate, and/or geomorphological changes, and 3) changes in vegetation (Appendix B).

ELS conducted five site visits in October 2023 to ascertain whether streams were present within the areas mapped by various critical area mapping sources. Prior to conducting the site visit, ELS reviewed current and historic aerial photographs of the study area, and consulted online databases for soil, wetland, topography, priority habitat, and historic stream conditions. During the reconnaissance visits, ELS examined the mapped streams as well as the topographic indicators of potential streams across the study area. As part of the reconnaissance, data and photos were

collected in these locations to document conditions and confirm the absence of stream indicators including the lack of defined channels and banks, separated gravels indicating water flow, and dense upland plant species in each of the mapped streams. The data will be compiled onto data forms for the final report for the NK United project.

A wet weather review was initiated in late January 2024 to document conditions during the winter months when the mapped streams would most like contain water because of winter precipitation events. Site visits were conducted on January 31<sup>st</sup> in the South Segment, February 7<sup>th</sup> in the Central Segment, and February 21<sup>st</sup> in the North Segment. The mapped streams and areas that exhibit topographic indicators were visited and photos taken to document winter conditions particularly with regard to presence of flowing water. The reconnaissance report has been updated to include the information gather during the wet weather review site visits.

### RECONNAISSANCE OBSERVATIONS AND DATA COLLECTION OVERVIEW

### **VEGETATION**

### UNHARVESTED FOREST AREAS

The forest that has not been harvested was dominated by Douglas fir (*Pseudotsuga menziesii*, FACU), western red cedar (*Thuja plicata*, FAC), western hemlock (*Tsuga heterophylla*, FACU), red alder (*Alnus rubra*, FAC), salmonberry (*Rubus spectabilis*, FAC), red elderberry (*Sambucus racemosa*, FACU), Oregon grape (*Mahonia nervosa*, FACU), salal (*Gaultheria shallon*, FAC), evergreen huckleberry (*Vaccinium ovatum*, FACU), holly (*Ilex aquifolium*, FACU), red huckleberry (*Vaccinium parvifolium*, FACU), sword fern (*Polystichum munitum*, FACU), stinging nettle (*Urtica dioica*, FAC), and trailing blackberry (*Rubus ursinus*, FACU). Most of the areas sampled within the unharvested forest were composed of bare ground beneath the dominant tree and/or shrub cover above. The vegetation dominance ranged from FAC to FACU with FACU species dominating throughout, including within the mapped stream areas. See Appendix A for plant indicator status definitions.

### HARVESTED FOREST AREAS

The harvested areas were vegetated by a mixture of native and invasive plant species including Douglas fir saplings, salmonberry, scotch broom (*Cytisus scoparius*, FACU), red flowering currant (*Ribes sanguineum*, FACU), black cap (*Rubus leucodermis*, FACU), red huckleberry, bull thistle (*Cirsium vulgare*, FACU), hairy cat's ear (*Hypochaeris radicata*, FACU), common groundsel (*Senecio vulgaris*, FACU), sword fern, foxglove (*Digitalis purpurea*, FACU), fireweed (*Chamerion angustifolium*, FACU), trailing blackberry, Himalayan blackberry (*Rubus bifrons*, FAC), evergreen blackberry (*Rubus laciniatus*, FACU), velvet grass (*Holcus lanatus*, FAC), bedstraw (*Galium aparine*, FACU), pearly everlasting (*Anaphalis margaritacea*, FACU), wall lettuce (*Mycelis muralis*, NL), common nipplewort (*Lapsana communis*, FACU), bracken fern (*Pteridium aquilinum*, FACU), and lady fern (*Athyrium filix-femina*, FAC). These areas were dominated by similar species prior to the harvesting of the trees but had become dominated by a mixture of pioneer weed species along with native tree, shrub, and herbaceous species that were planted or recovering on their own. Most of the species in the harvested areas were species that grow predominantly within upland. The vegetation data collected throughout the NK United study area revealed that there was no coverage by potential wetland plant species (OBL through FAC).

### **SOILS**

The Natural Resources Conservation Service (NRCS) maps the soils within the study area as (NRCS 2023A; Figure 3). Table 1 provides an overview of the soil types mapped on the study area along with whether they are hydric and the segments in which they are present.

Table 1. Web Soil Survey Mapping

Soil Map Unit	Hydric?	North Segment	Central Segment	South Segment
28 Kitsap silt loam, 2 to 8 percent slopes	No			X
29 Kitsap silt loam, 8 to 15 percent slopes	No		X	
40 Poulsbo gravelly sandy loam, 6 to 15 percent slopes	No	X	X	X
43 Poulsbo-Ragnar complex, 6 to 15 percent	No	X		
44 Ragnar fine sandy loam, 0 to 6 percent slopes	No	X	X	
45 Ragnar fine sandy loam, 6 to 15 percent slopes	No	X		X
46 Ragnar fine sandy loam, 15 to 30 percent slopes	No	X	X	X
47 Ragnar-Poulsbo complex, 15 to 30 percent slopes	No	X		X

- Kitsap formed on terraces from lacustrine depositions with volcanic ash in the upper part. Moderately well drained; depth to water table 18 to 30 inches.
- Poulsbo formed on terraces and moraines from basal till with volcanic ash in the upper part. They are moderately well drained with a water table between 12 and 30 inches below ground.
- Ragnar formed on terraces from glacial outwash with some volcanic ash in the upper part. Well drained; depth to water table more than 80 inches.
- Sinclair formed on till plains from basal till. Moderately well drained; depth to water table 18 to 29 inches.

These soil map units are not classified as hydric because they are moderately well to well drained and the depth to water table is below 18 inches. The soil data collected at the test plot locations within the ravines and mapped stream did not exhibit positive indicators for hydric soils.

### **HYDROLOGY**

Streams are natural bodies of water that move under gravity to progressively lower layers and when periodic or continuous flowing water is present would exhibit a defined channel on the ground surface. A channel would also have sorted gravels and water flow would maintain openings in the culverts. Water was not present during the reconnaissance visits and there was no evidence of periodic flowing water based on the absence of defined channels, sorted gravels, and riparian plant communities.

### CRITICAL AREA INVENTORIES<sup>1</sup>

### NATIONAL WETLANDS INVENTORY

The U.S. Fish and Wildlife Services (USFWS) National Wetlands Inventory (NWI 2023) indicates a series of streams across the study area in the same locations and configuration as those indicated on Figure 2 (Figure 5). No wetlands were mapped along the streams or elsewhere on the properties, which was confirmed during the field reconnaissance field visits.

### WASHINGTON STATE AND KITSAP COUNTY CRITICAL AREAS INVENTORIES

Table 2 lists the critical areas found in the three segments of NK United. The inventories were obtained from the websites of the Washington Department of Fish and Wildlife (2023), Washington State Department of Natural Resources (2023), Statewide Integrated Fish Distribution (2023), and the Kitsap County GIS Critical areas mapping (2023). The table lists streams and wetlands in each segment as mapped by the websites. As noted below, the Washington Department of Fish and Wildlife and Statewide Integrated Fish Distribution maps show the same streams, and the Washington Department of Natural Resources and Kitsap County maps show the same area of streams. None of the maps indicated wetlands. Maps obtained from each of these websites are provided in Appendix C.

**Table 2. Critical Areas Mapping** 

able 2. Critical Areas Mapping								
	North Segment C		South Segment					
Wa	Washington Department of Fish and Wildlife							
	Priority Habitats	and Species						
		Type F (mostly						
Streams	Type N	across the excluded	None					
		properties)						
Wetlands	None	None	None					
Was	hington Department o	of Natural Resources,						
Fo	rest Practices Mappin	g Application Tool						
Type F (2) Type F (1								
Streams	None	Type N (2)	Type N (2)					
		Unknown* (3)	Unknown (1)					
Wetlands	None	None	None					
Statewide Integrated Fish Distribution								
	Type F (same							
Streams	None	mapping as WDFW	None					
		PHS map)						
Wetlands	None	None	None					

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<sup>&</sup>lt;sup>1</sup> The critical areas maps should be used with discretion because they are used to gather general wetland and stream information about a regional area and therefore are limited in accuracy for smaller areas because of their large scale.

	North Segment	Central Segment	<b>South Segment</b>				
Kitsap County Critical Areas							
Streams	Type N	Type F (2) Type N (2) Unknown (3)	Type F (1) Type N (2) Unknown (1)				
Wetlands	None	None	None				

<sup>\*</sup>Unknown streams are denoted on the maps as a dashed line or with a U.

### CRITICAL AREAS RECONNAISSANCE SUMMARY

### **STREAMS**

The critical areas maps obtained for this project including the Kitsap County GIS map indicate the presence of a number of streams within the study area. These streams have been mapped because the ravines that crosses eastern slopes of the study area. However, upon examination, none of these mapped streams met the definition of a stream in Kitsap County Code, Section 19.150.650<sup>2</sup>. During the reconnaissance, streams were not observed and are not present as mapped because:

- There were no defined-channel swales or defined banks in any of the ravines to indicate periodic water flow at any time of the year.
- There were no bedrock channels, gravel beds, or sand and silt beds observed within any of the mapped streams.
- The absence of water flow is further indicated by the culverts that are half filled with soil culverts under the onsite logging and service roads and Stottlemeyer Road.
- The mapped stream and topographic ravines contained dense groundcover vegetation that would not be present if there was water flow at any time of the year.
- The observation of no surface water channels or streams is consistent with the geologic investigation performed for the study area that have indicated the presence of highly permeable soils that quality the area as a critical aquifer recharge area.

A water type modification to remove the streams from the critical areas maps will be prepared as part of the next phase of the critical areas reconnaissance. The modification forms to be filled out will be reviewed by the Washington Department of Natural Resources, Washington Department of Fish and Wildlife, the Suquamish Indian Tribe, and Kitsap County Department of Community development. These agencies will conduct field visits to confirm the absence of the mapped streams.

### WETLANDS

Wetlands were not observed on most of the study area because as revealed at the test plots, the vegetation was dominated by upland species (FACU to UPL), the soils did not exhibit hydric soil characteristics, and there was no hydrology or evidence of wetland hydrology. A single wetland was found in the north segment lying adjacent to a service road (Figure 2a). This wetland was not formally delineated but was determined to be a wetland because of the dominance by wetland plant

<sup>&</sup>lt;sup>2</sup> KCC Section 19.150.600 stream definition "Streams mean those areas in Kitsap County where the surface water flows are sufficient to produce a defined channel or bed. A defined channel or bed is an area which demonstrates clear evidence of the passage of water and includes but is not limited to bedrock channels, gravel beds, sand and silt beds, and defined-channel swales. The channel or bed need not contain water year-round. This definition is not meant to include irrigation ditches, canals, storm or surface water runoff devices or other artificial watercourses unless they are used by fish or used to convey streams naturally occurring prior to construction.

species (OBL, FACW, and FAC) species. Hydrology was also observed within the wetland. The wetland will be delineated during the critical area delineation phase of the project. The absence of wetlands on the study area is also consistent with the geologic reconnaissance, which indicated the presence of highly permeable soils that facilitate percolation rather than detention/retention of water.

### WET WEATHER REVIEW

ELS biologists conducted a series of site visits during the months of January and February 2024 to document conditions within the mapped streams and the areas where topography indicates potential water flow. Each of the segments described previously were examined during the winter months to determine if water was present or if there were indicators of water flow. The visits were conducted after days of relatively heavy precipitation within one week prior to the visit. Photos were taken to verify the conditions observed during each site visit.

The site visits were generally scheduled following periods of heavy precipitation in order to observe conditions when water would most likely be present. Table 3 presents an overview of the precipitation levels and results. The precipitation levels are provided only to demonstrate the amount experienced during January and February 2024 and are not provided to demonstrate drought or excess water conditions.

**Table 3. Wet Weather Review Results** 

Site Visit Date	Segment	Precipitation <sup>1</sup> (inches)		Observations
Date		Poulsbo	Bremerton	
1/30/24	South	6.69 (1.31" on 1/28/24)	11.19 (1.58" on 1/29/24)	<ol> <li>Water was not observed in any of the mapped streams or where topographic indicators were present.</li> <li>There was no evidence of water flow in any location observed during the field visit.</li> <li>Conditions at the culvert locations have not changed, indicating that water has not flowed through them in the recent past.</li> </ol>

See Figure 3 for photo locations and photos taken to document the absence of water in the South Segment.

<sup>&</sup>lt;sup>1</sup>Precipitation data from NOWData-NOAA Online Weather Data (NOAA 2024). The Poulsbo and Bremerton weather stations are closest to the NK United project site and are both presented to document the highest and lowest occurring within Kitsap County during the January and February site visits.

Site Visit	Segment	Precipitation (inches)		Observations		
Date	)	Poulsbo	Bremerton			
2/7/24	Central	7.26 (YTD)	11.67 (YTD)	<ol> <li>Water was not observed in any of the mapped streams or where topographic indicators were observed.</li> <li>There was no evidence of water flow in any location during the field visit.</li> </ol>		
See Figur	re 2 for photo	_	otos taken to docu tral Segment.	ment the absence of water in the		
2/21/24	North	8.65" (YTD) 3.6" of snow on 2-15-24	13.9" (YTD)	<ol> <li>Water was not observed in the mapped streams or where topographic indicators were observed.</li> <li>There was no evidence of water flow in any location during the field visit.</li> <li>There was some overlap with north end of the Central Segment, which confirmed the findings of 2/7/24 in several locations.</li> </ol>		

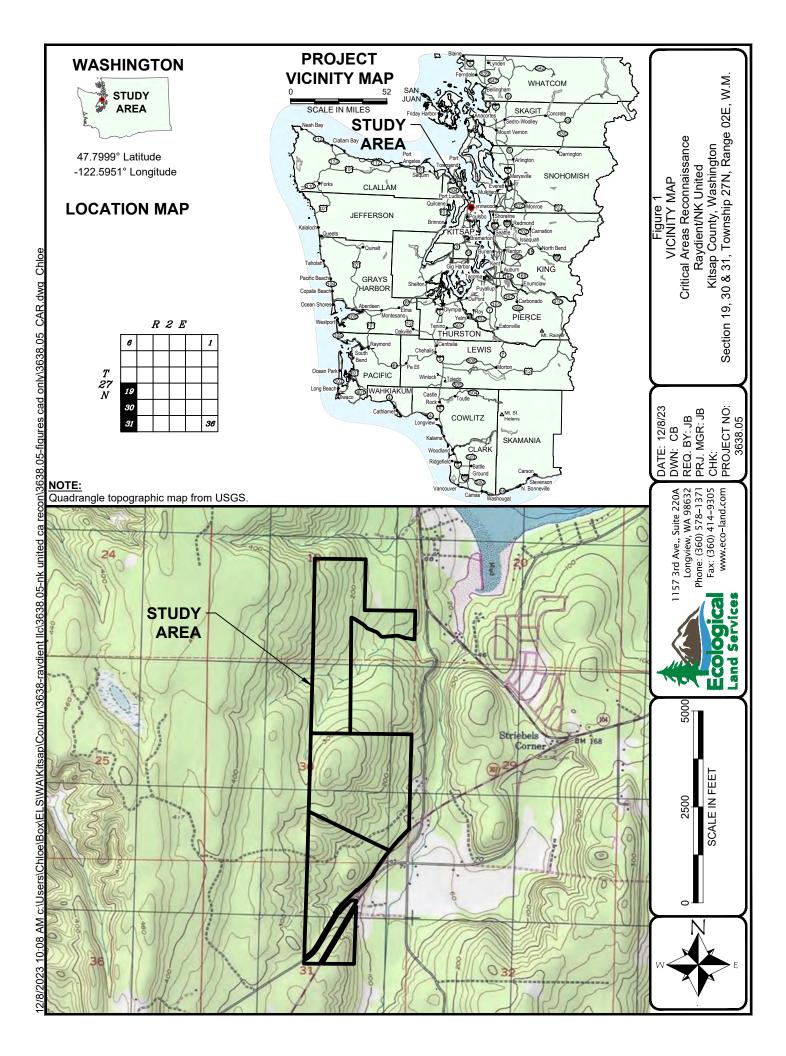
This segment includes harvested areas, the most recent occurring in October 2023. Water was observed in areas where equipment had been staged and small depressions had formed. The roadside ditches contained water as well. There was no indication of natural stream drainages in this segment.

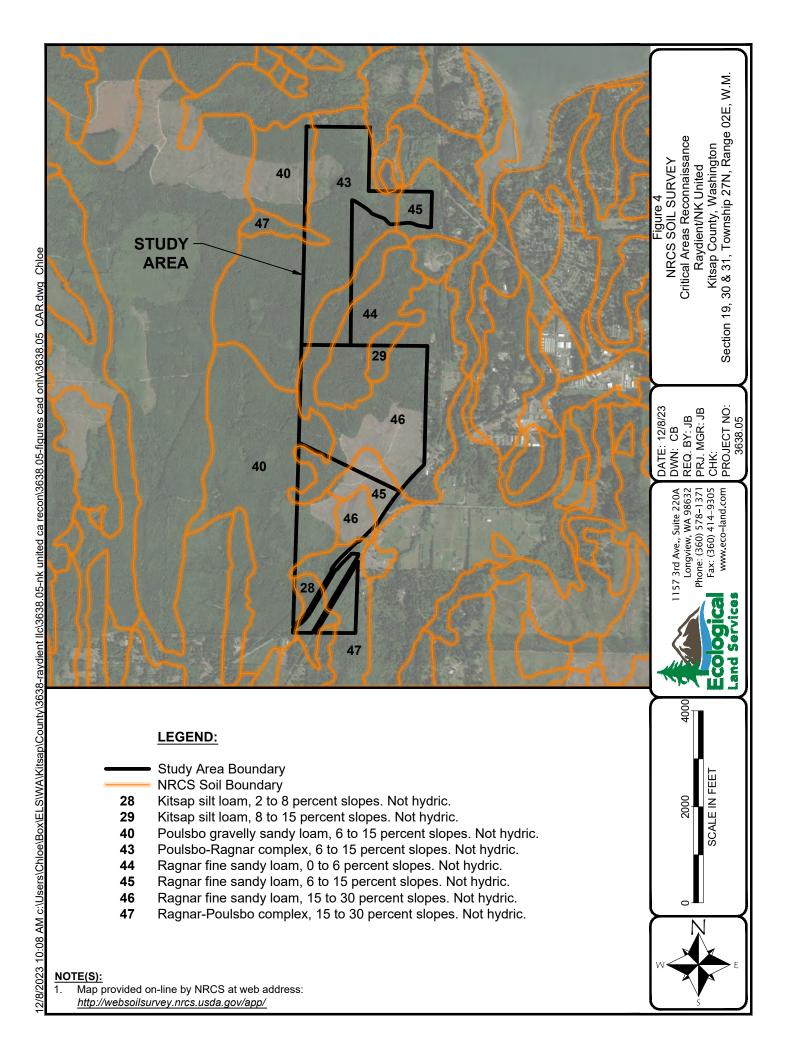
See Figure 1 for photo locations and photos taken to document the absence of water in the North Segment.

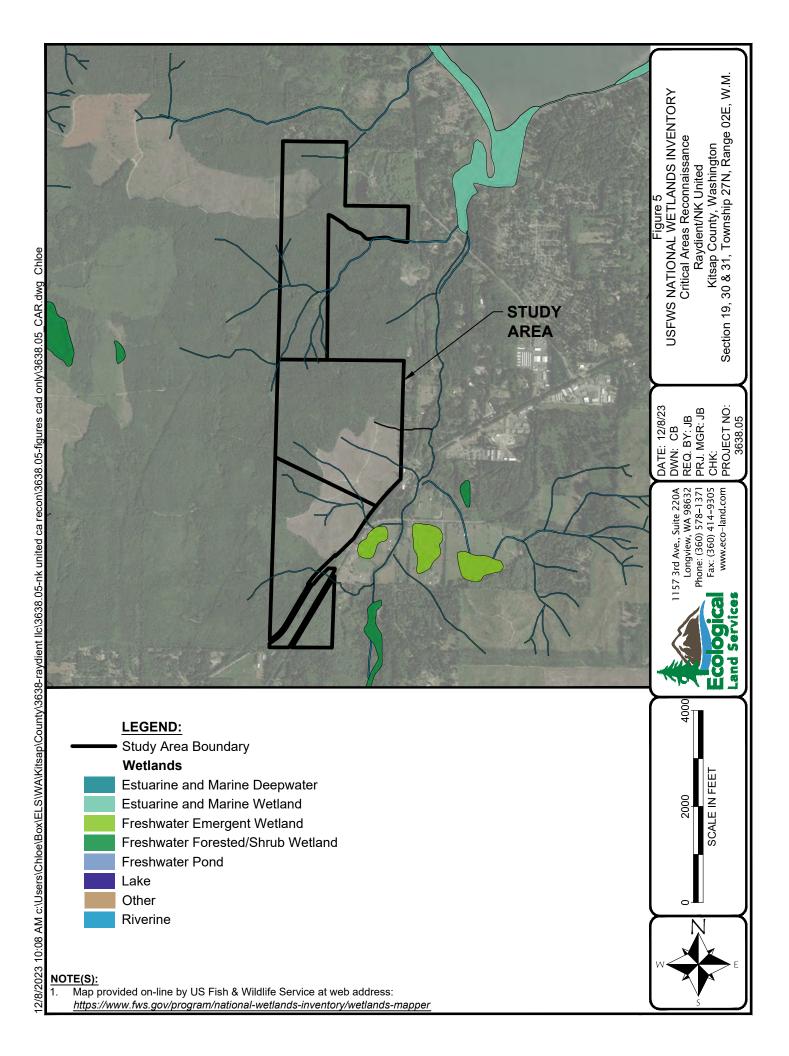
### **LIMITATIONS**

ELS bases this report's determinations on standard scientific methodology and best professional judgment. In our opinion, local, state, and federal regulatory agencies should agree with our determinations. However, the information contained in this report should be considered preliminary and used at your own risk until it has been approved in writing by the appropriate regulatory agencies. ELS is not responsible for the impacts of any changes in environmental standards, practices, or regulations after the date of this report.

### FIGURES AND PHOTOPLATES









**Photo 1-**Test Plot 3 within the lower end of mapped stream in South Segment. No stream channel this location.



**Photo 3-**Test Plot 8 in the middle segment of the mapped stream within the South Segment. Upland vegetation and no stream channel.



**Photo 2-**Test Plot 3 looking east toward Bond Road/SR 307 along the mapped stream.



**Photo 4-**Test Plot 8 looking upslope and west along the mapped stream. No stream channel and presence of upland vegetation.



DATE: 11/10/23 DWN: JB PRJ. MGR: JB PROJ.#: 3638.05 Photoplate 1-Test Plots 3 and 8
Critical Areas Reconnaissance
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**Photo 5-**Test Plot 11 conducted in southernmost mapped stream in South Segment. No stream observed.



**Photo 7-**Test Plot 18 located at the western extent of the onsite stream in South Segment. Bare ground but no channel observed.



**Photo 6-**Test Plot 11 looking east down the ravine in which the stream is mapped. Dense ferns throughout and no channel observed.



**Photo 8-**Test Plot 18 looking east down the sloping ravine. No stream channel or evidence of water flow.



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### Photoplate 2-Test Plots 11 and 18



**Photo 9-**Test Plot 20 conducted at the east end of a ravine parallel to Stottlemeyer Road. Not mapped as a stream and none observed.



**Photo 11-**Test Plot 21 (east of Stottlemeyer Road) in the southernmost stream in South Segment. Along path cleared for easy access.



**Photo 10-**Test Plot 20 looking north toward culvert under Stottlemeyer Road. Bare ground with no evidence of water flow.



**Photo 12-**Test Plot 21 looking east toward Bond Road (SR 307). Dense vegetation with no channel observed within the mapped area.



DATE: 11/10/23 DWN: JB PRJ. MGR: JB PROJ.#: 3638.05 Photoplate 3-Test Plots 20 and 21



**Photo 13-**Test Plot 35 in the mapped stream at northern edge of harvested forest within the Central Segment.



**Photo 15-**Test Plot 38 in topographic trough where stream is mapped. No channel observed and no evidence of water flow.



**Photo 14-**Test Plot 35 looking downslope and easterly along mapped stream.



**Photo 16-**Test Plot 38 looking southeasterly down the topographic trough. No stream channel or evidence of water flow.



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Critical Areas Reconnaissance
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**Photo 17-**Test Plot 30 located within a ravine where a stream has not been mapped. No stream or evidence of water flow observed.



**Photo 19**-Test Plot 44 in topographic trough with no mapped stream. Downslope of a large slash pile within the trough.



**Photo 18-**Test Plot 30 looking downslope and easterly within the topographic trough.



**Photo 20-**Test Plot 44 looking downslope and north into trough. No stream or water flow indicators present.



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**Photo 21-**Photo Point 5 looking east to document site conditions. A stream was not observed within this area.



**Photo 23-**Photo Point 10 is located along a topographic trough that lies west of Stottlemeyer Road. Non mapped stream/no stream.



**Photo 22** Photo Point 5 south looking downslope where there is dense vegetation cover not indicative of stream conditions.



**Photo 24-**Photo Point 10 west shows another area of the topographic trough where no stream was observed during the 10/23 site visits.



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**Photo 25-**Photo Point 13 looking north along a topographic trough at the northern tip of South Segment between Stottlemeyer and Bond Roads.



**Photo 27-**Photo Point 18 looks easterly down a topographic trough where no stream was mapped in the Central Segment.



**Photo 26** Photo Point 13 looking south along the low area along Bond Road.



**Photo 28**-Photo Point 18 looks westerly up the topographic trough across the north end of the Central Segment. No stream observed.



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### Photoplate 7-Photo Points 13 and 18



**Photo 29-**Photo Point 13 looking north along a topographic trough at the northern tip of South Segment between Stottlemeyer and Bond Roads.



**Photo 31-**Photo Point 18 looks easterly down a topographic trough where no stream was mapped in the Central Segment.



**Photo 30** Photo Point 13 looking south along the low area along Bond Road.



**Photo 32**-Photo Point 18 looks westerly up the topographic trough across the north end of the Central Segment. No stream observed.



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### Photoplate 8-Photo Points 13 and 18



**Photo 33-**Shows the inlet of the culvert under Stottlemeyer Road, which is at the end of the non mapped stream just west of the road.



**Photo 35** shows the culvert under Bond Road at the north end of the South Segment.



**Photo 34** shows the culvert under Bond Road in the upland between Bond and Stottlemeyer Roads in the south segment.



**Photo 36** shows a culvert under one of the service road. It appears that the culvert was installed during construction of logging roads.



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### Photoplate 9-Culverts

# APPENDIX A ROUTINE DETERMINATION METHOD AND PLANT INDICATOR RATING DEFINITIONS

### ROUTINE DETERMINATION METHOD

The Routine Determination Method is defined according to the U.S. Army Corps of Engineers' 1987 Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers' Wetland Delineation Manual (Environmental Laboratory 1987); Western Mountains, Valleys, and Coast Region (Version 2.0) (Corps 2010). The Routine Determination Method examines three parameters – vegetation, soils, and hydrology – to determine if wetlands exist in a given area. Hydrology is critical in determining what is a wetland, but if often difficult to assess because hydrologic conditions can change periodically (hourly, daily, or seasonally). Consequently, it is necessary to determine if hydrophytic vegetation and hydric soils are present, which would indicate that water is present for a long enough duration to support a wetland plant community. By definition, wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

### **VEGETATION INDICATOR STATUS**

The indicator status, following the scientific names of plant species, indicates the likelihood of the species to be found in wetlands according to the *National Wetland Plant List Indicator Rating Definitions* (Corps 2012). Listed from most likely to least likely to be found in wetlands, the indicator status categories are:

- **OBL** (obligate wetland) occur almost always under natural conditions in wetlands.
- FACW (facultative wetland) usually occur in wetlands, but occasionally found in non-wetlands.
- FAC (facultative) equally likely to occur in wetlands or non-wetlands.
- FACU (facultative upland) usually occur in non-wetlands, but occasionally found in wetlands.
- UPL (obligate upland) occur almost always under natural conditions in non-wetlands.
- NI (no indicator) insufficient data to assign to an indicator category.

## APPENDIX B ORDINARY HIGH

ORDINARY HIGH WATER MARK DELINEATION METHODOLOGY

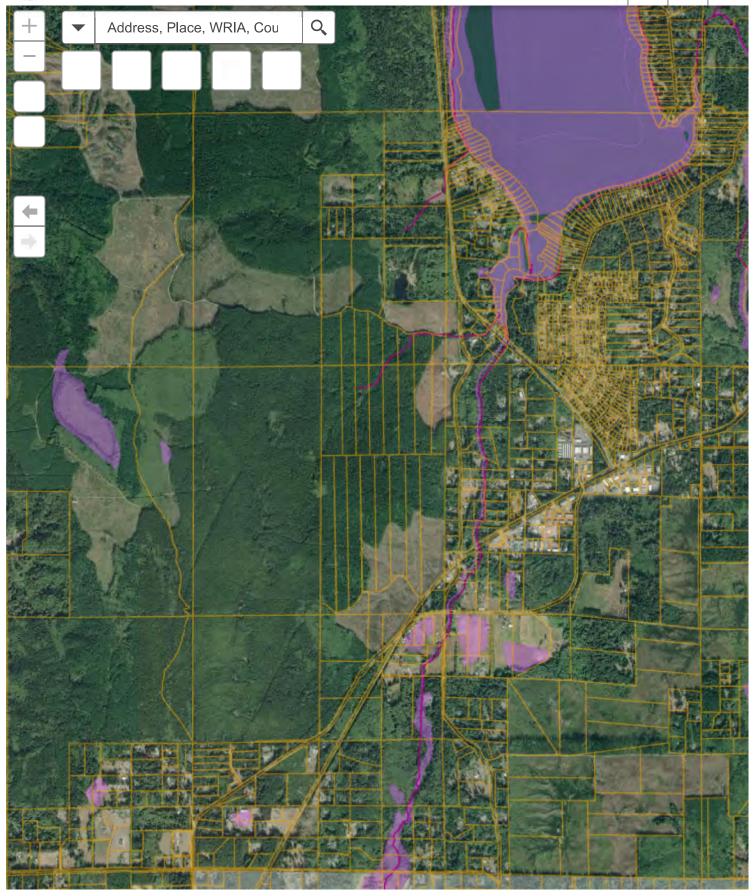
### **OHWM METHODOLOGY**

The ordinary high water mark (OHWM) of the one onsite streams were determined according to guidance from RCW 90.58.030 and Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State (Ecology 2016). OHWM is defined as a mark "on all lakes, streams, and tidal waters . . . found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation" (Anderson et. al. 2016). In essence, the OHWM is determined by assessing three main criteria: 1) the presence or evidence of hydrology, 2) the soil, substrate, and/or geomorphological changes, and 3) changes in vegetation. Indicators for each criterion differ depending on the environment (lake, stream, tidal). The main indicators used to discern the OHWM onsite were change in vegetation, breaks in topography, and changes in soil and substrate.

### APPENDIX C

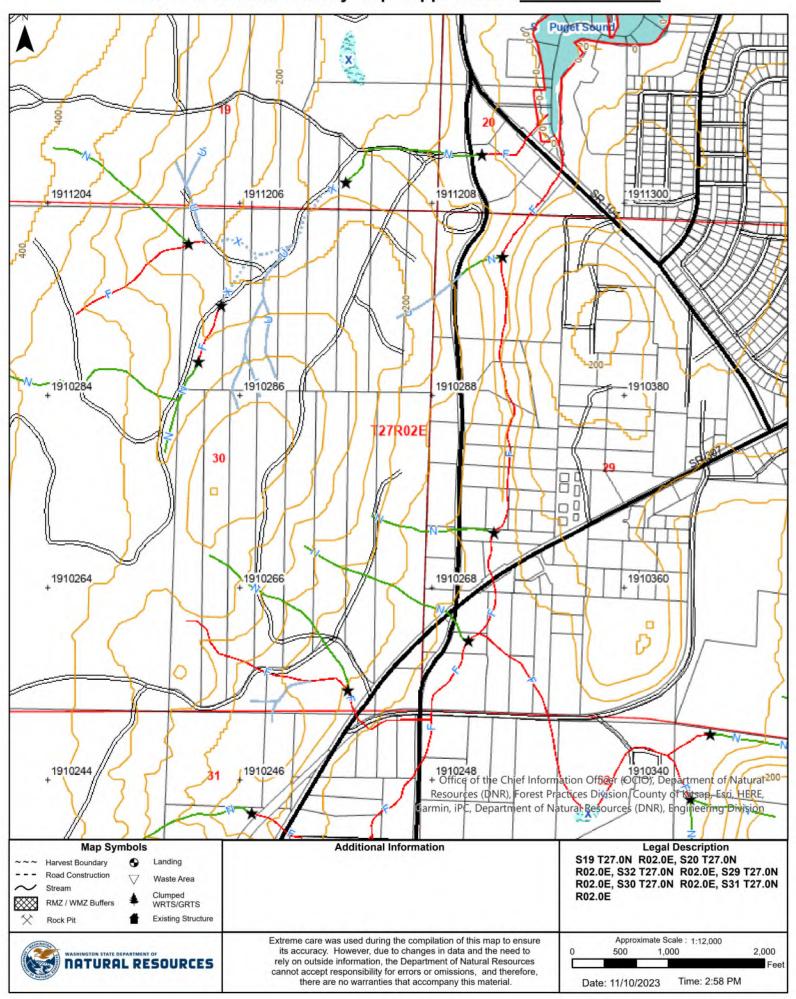
WASHINGTON STATE AND KITSAP COUNTY CRITICAL AREAS



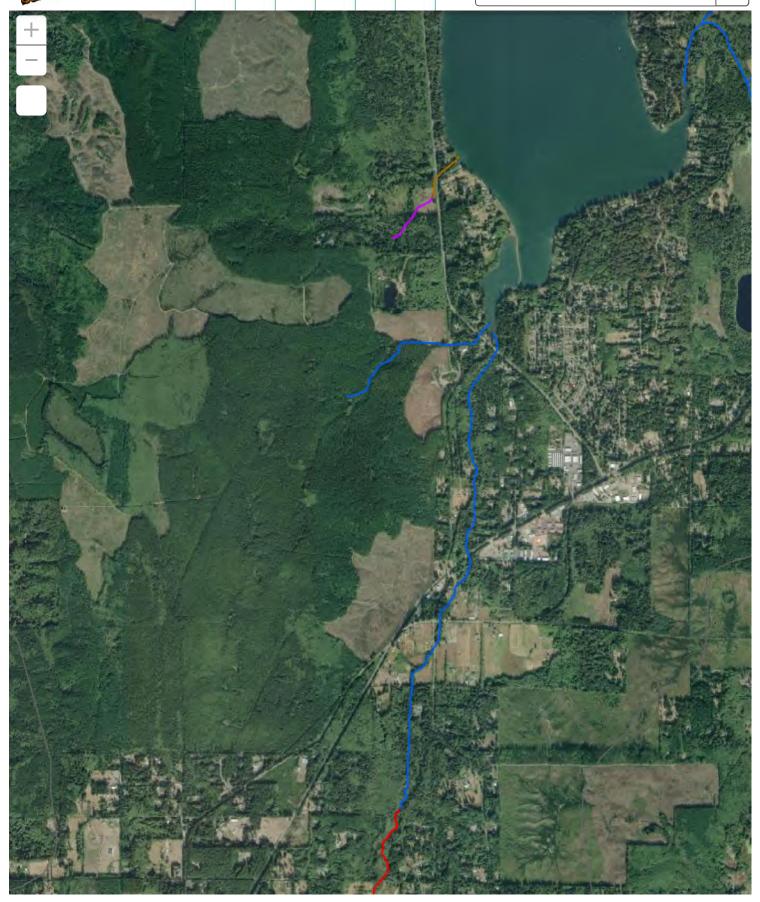


0.4mi

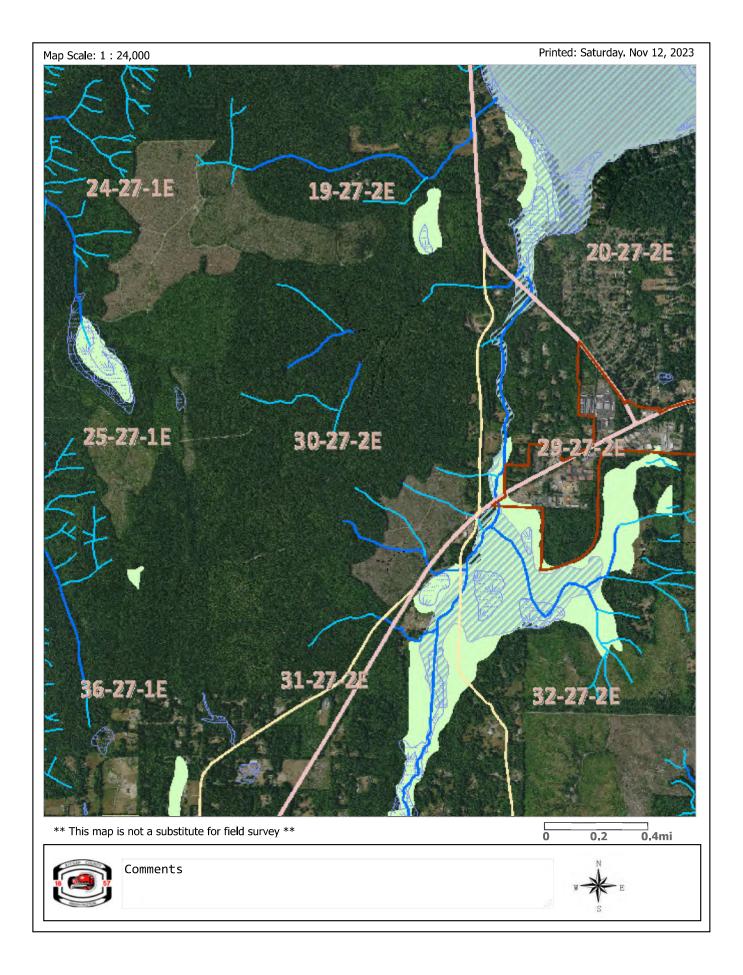
### Forest Practices Activity Map - Application #\_\_\_\_\_







0.4mi



### Climatological Data for BREMERTON, WA - January 2024

D (		Temperature			шъъ	CDD	D
Date	Maximum	Minimum	Average	Departure	HDD	CDD	Precipitation
2024-01-01	49	36	42.5	2.3	22	0	0.00
2024-01-02	42	38	40.0	-0.3	25	0	0.00
2024-01-03	44	40	42.0	1.7	23	0	0.42
2024-01-04	47	42	44.5	4.1	20	0	0.12
2024-01-05	47	41	44.0	3.5	21	0	0.04
2024-01-06	47	39	43.0	2.5	22	0	1.10
2024-01-07	44	34	39.0	-1.6	26	0	0.01
2024-01-08	43	35	39.0	-1.7	26	0	0.20
2024-01-09	48	38	43.0	2.2	22	0	1.24
2024-01-10	47	36	41.5	0.7	23	0	0.00
2024-01-11	43	30	36.5	-4.4	28	0	0.18
2024-01-12	47	19	33.0	-8.0	32	0	0.01
2024-01-13	21	17	19.0	-22.0	46	0	0.00
2024-01-14	25	17	21.0	-20.1	44	0	0.00
2024-01-15	33	20	26.5	-14.7	38	0	0.00
2024-01-16	36	21	28.5	-12.7	36	0	0.00
2024-01-17	37	25	31.0	-10.3	34	0	0.44
2024-01-18	38	25	31.5	-9.8	33	0	0.28
2024-01-19	37	35	36.0	-5.4	29	0	0.60
2024-01-20	46	34	40.0	-1.4	25	0	0.10
2024-01-21	48	35	41.5	0.1	23	0	0.67
2024-01-22	45	42	43.5	2.0	21	0	1.30
2024-01-23	51	44	47.5	6.0	17	0	0.21
2024-01-24	54	41	47.5	6.0	17	0	0.36
2024-01-25	50	43	46.5	4.9	18	0	0.75
2024-01-26	M	M	M	M	M	M	S
2024-01-27	52	46	49.0	7.4	16	0	1.26A
2024-01-28	M	M	M	M	M	M	S
2024-01-29	59	50	54.5	12.9	10	0	1.58A
2024-01-30	60	50	55.0	13.4	10	0	0.00
2024-01-31	56	51	53.5	11.8	11	0	0.32
Sum	1296	1024	-	-	718	0	11.19
Average	44.7	35.3	40.0	-1.1	-	-	-
Normal	46.6	35.6	41.1	-	741	0	9.28

Observations for each day cover the 24 hours ending at the time given below (Local Standard Time).

Observation times may have changed during this period.

Max Temperature : 8am
Min Temperature : 8am

Precipitation: 8am, unknown

Climatological Data for POULSBO 1NW, WA - January 2024						
Date	Precipitation	New Snow	Snow Depth			
2024-01-01	0.00	0.0	0			
2024-01-02	0.00	0.0	0			
2024-01-03	0.25	M	0			
2024-01-04	0.02	M	0			
2024-01-05	0.01	M	0			
2024-01-06	0.51	M	0			
2024-01-07	0.12	M	0			
2024-01-08	0.12	M	0			
2024-01-09	0.76	M	0			
2024-01-10	0.16	M	0			
2024-01-11	0.02	M	0			
2024-01-12	0.01	Т	T			
2024-01-13	0.00	0.0	0			
2024-01-14	0.00	0.0	0			
2024-01-15	0.00	0.0	0			
2024-01-16	0.00	0.0	0			
2024-01-17	0.08	T	T			
2024-01-18	0.09	M	0			
2024-01-19	0.26	M	0			
2024-01-20	0.01	M	0			
2024-01-21	0.68	M	0			
2024-01-22	0.94	M	0			
2024-01-23	0.12	M	0			
2024-01-24	0.08	M	0			
2024-01-25	0.38	M	0			
2024-01-26	0.03	M	0			
2024-01-27	0.24	M	0			
2024-01-28	1.31	M	0			
2024-01-29	0.22	M	0			
2024-01-30	0.03	M	0			
2024-01-31	0.24	M	0			
Sum	6.69	T	-			
Average	-	-	0.0			
Normal	5.76	M	-			

Observations for each day cover the 24 hours ending at the time given below (Local Standard Time).

Precipitation : 6am

Snowfall: 6am

Snow Depth: 6am

### Climatological Data for BREMERTON, WA - February 2024

D-4-		Temperature			HDD	CDD	D
Date	Maximum	Minimum	Average	Departure	HDD	СББ	Precipitation
2024-02-01	53	49	51.0	9.3	14	0	0.23
2024-02-02	58	44	51.0	9.3	14	0	0.03
2024-02-03	55	35	45.0	3.3	20	0	0.00
2024-02-04	52	36	44.0	2.3	21	0	0.01
2024-02-05	48	42	45.0	3.3	20	0	0.00
2024-02-06	47	40	43.5	1.7	21	0	0.21
2024-02-07	46	39	42.5	0.7	22	0	0.01
2024-02-08	52	40	46.0	4.2	19	0	0.00
2024-02-09	52	38	45.0	3.2	20	0	0.07
2024-02-10	49	35	42.0	0.1	23	0	0.00
2024-02-11	51	35	43.0	1.1	22	0	0.18
2024-02-12	49	43	46.0	4.1	19	0	0.55
2024-02-13	50	39	44.5	2.5	20	0	T
2024-02-14	50	34	42.0	0.0	23	0	0.00
2024-02-15	46	32	39.0	-3.1	26	0	0.75
2024-02-16	38	30	34.0	-8.2	31	0	0.13
2024-02-17	M	M	M	M	M	M	M
2024-02-18	46	36	41.0	-1.3	24	0	0.00
2024-02-19	51	38	44.5	2.1	20	0	0.00
2024-02-20	47	39	43.0	0.5	22	0	0.20
2024-02-21	53	42	47.5	4.9	17	0	0.34
2024-02-22	51	44	47.5	4.8	17	0	0.58
2024-02-23	58	36	47.0	4.2	18	0	0.00
2024-02-24	53	41	47.0	4.1	18	0	0.00
2024-02-25	49	43	46.0	3.0	19	0	0.02
2024-02-26	54	33	43.5	0.4	21	0	0.02
2024-02-27	48	30	39.0	-4.3	26	0	0.04
2024-02-28	47	33	40.0	-3.4	25	0	0.88
2024-02-29	M	M	M	M	M	M	M
Sum	1353	1026	-	-	562	0	4.25
Average	50.1	38.0	44.1	1.8	-	-	-
Normal	49.4	35.1	42.3	-	637	0	5.83

Observations for each day cover the 24 hours ending at the time given below (Local Standard Time).

Observation times may have changed during this period.

Max Temperature: 8am, 3pm, 10am

Min Temperature: 8am, 3pm, 10am

Precipitation: 8am, 3pm, 10am

Climatological Data for POULSBO 1NW, WA - February 2024						
Date	Precipitation	New Snow	Snow Depth			
2024-02-01	0.34	M	M			
2024-02-02	0.05	M	M			
2024-02-03	0.00	0.0	M			
2024-02-04	0.01	M	M			
2024-02-05	0.01	M	M			
2024-02-06	0.16	M	M			
2024-02-07	0.02	M	M			
2024-02-08	T	M	M			
2024-02-09	0.03	M	M			
2024-02-10	0.07	M	M			
2024-02-11	0.12	M	M			
2024-02-12	0.23	M	M			
2024-02-13	0.02	M	M			
2024-02-14	0.01	M	M			
2024-02-15	0.60	3.6	4			
2024-02-16	0.20	T	2			
2024-02-17	0.04	M	1			
2024-02-18	Т	M	T			
2024-02-19	0.01	M	M			
2024-02-20	0.04	M	M			
2024-02-21	0.07	M	M			
2024-02-22	0.24	M	M			
2024-02-23	T	M	M			
2024-02-24	T	M	M			
2024-02-25	0.00	0.0	M			
2024-02-26	0.00	0.0	M			
2024-02-27	T	T	M			
2024-02-28	0.14	M	M			
2024-02-29	1.49	M	M			
Sum	3.90	3.6	-			
Average	-	-	1.5			
Normal	3.73	M	-			

Observations for each day cover the 24 hours ending at the time given below (Local Standard Time).

Precipitation : 6am Snowfall : 6am

Snow Depth: 6am