



Technical Memorandum

To: Jacob Ray, Rayco Ventures LLC

File Number: 2754.0001

From: Casey Lanier, Soundview Consultants LLC

Date: March 23, 2026

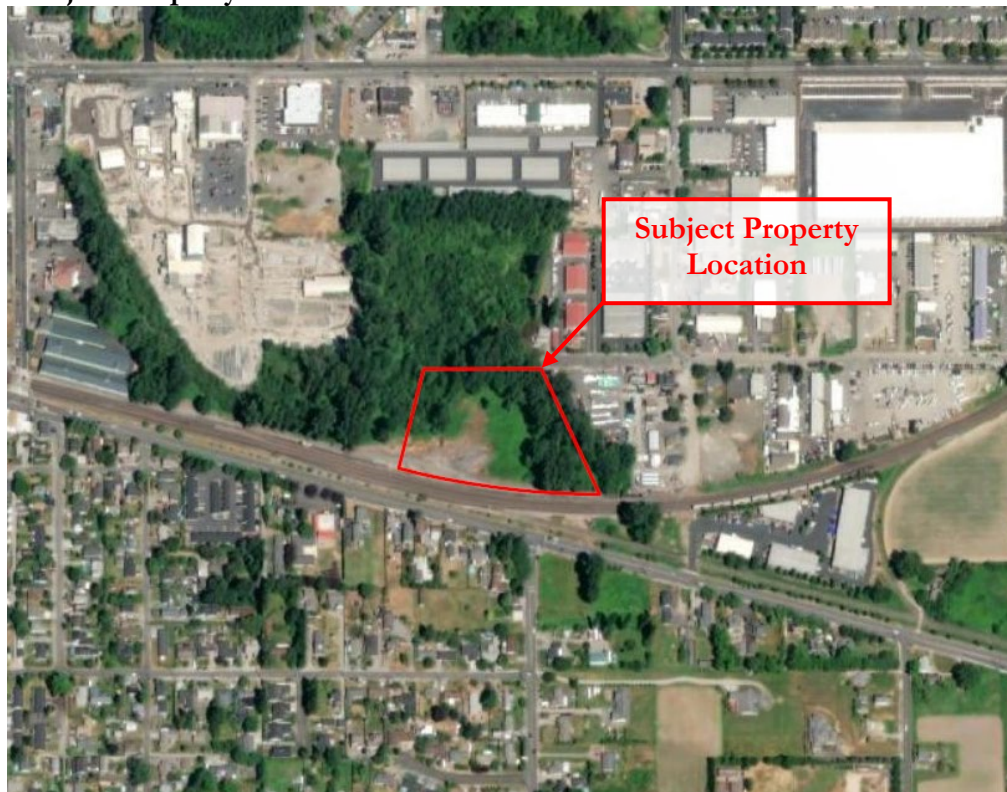
Re: Wetland and Fish and Wildlife Habitat Assessment

Inter Ave – East-Adjacent to: 1919 E Pioneer Avenue, Puyallup, WA 98372

Dear Mr. Ray,

Soundview Consultants LLC (SVC) performed a wetland and fish and wildlife habitat assessment on an approximately 5.12-acre site located east-adjacent to 1919 East Pioneer Avenue in the City of Puyallup, Washington (Figure 1). The subject property consists of one parcel situated in the Southwest $\frac{1}{4}$ of Section 40, Township 20 North, Range 04 East, W.M. (Pierce County Tax Parcel Numbers 2105200221). SVC investigated the subject property for potentially regulated wetlands, streams, and other fish and wildlife habitat conservation areas. This Technical Memorandum contains field investigation results prepared to support commercial development of the subject property.

Figure 1. Subject Property.



Methods

SVC investigated and assessed any potentially-regulated wetlands, streams, and other fish and wildlife habitat conservation areas on or within 300 feet of the subject property in May of 2024. A follow-up investigation to confirm and re-hang delineation flags was completed during October of 2025. All determinations were made using observable vegetation, hydrology, and soils in conjunction with data from the U.S. Geological Survey (USGS) topographic maps, National Resource Conservation Service (NRCS) soil survey, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) and Information for Planning and Consultation (IPaC) database, Washington State Department of Natural Resources (DNR) water typing system, Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) mapping tools, WDFW and Northwest Indian Fisheries Commission (NWIFC) Statewide Washington Integrated Fish Distribution (SWIFD) database, City of Puyallup and Pierce County Geographic Information Systems (GIS) data, and various orthophotographic resources.

Wetland boundaries were determined using the routine approach described in the U.S. Army Corps of Engineers (USACE) *Wetlands Delineation Manual* (Environmental Laboratory, 1987) and modified according to the guidelines established in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Version 2.0) (USACE, 2010) and *Field Indicators of Hydric Soils in the United States* (NRCS, 2018). Prior precipitation conditions and seasonal timing of site investigations were considered in evaluations for wetland hydrology indicators. Qualified wetland scientists marked boundaries of onsite wetlands with orange surveyor's flagging labeled alpha-numerically, beginning with "A", and tied to 3-foot lath or vegetation along the wetland boundary. Pink surveyor's flagging was labeled alpha-numerically and tied to 3-foot lath or vegetation at formal sampling locations to mark the points where detailed data was collected (DP-1 to DP-8). Additional tests pits were excavated at regular intervals inside and outside of the wetland boundaries to further confirm each delineation. Offsite wetland features within 300 feet of the site were identified and estimated based on visual observations, topographic and/or lidar data, and other available reports; offsite wetland features were labeled numerically beginning with "1".

Wetlands were classified using both the hydrogeomorphic and Cowardin (Cowardin, 1979) classification systems. Following classification and assessment, wetlands were rated and categorized using the *Washington State Wetlands Rating System for Western Washington: 2014 Update (Version 2)* (Hruby and Yahnke, 2023) per Puyallup Municipal Code (PMC) 21.06.910(3).

Ordinary High Water (OHW) mark determinations were made using WSDOE's method as detailed in *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et. al., 2016) and the definitions established in the Revised Code of Washington (RCW) 90.58.030(2)(b) and WAC 173-22-030(5). To mark the centerline or banks of potentially-regulated streams and shorelines, blue surveyor's flagging was inversely alpha-numerically labeled, beginning with "Z" and working backward, and tied to vegetation. Stream and surface water feature determinations and classifications were made using the DNR water typing system as outlined in WAC 222-16-030 and the guidelines established in PMC 21.06.210(130) and 21.06.1010(3)(a). Offsite water features within 300 feet of the site were identified and estimated based on visual observations, topographic and/or lidar data, and other available reports; offsite water features were labeled numerically beginning with "1".

The fish and wildlife habitat assessment was conducted during the same site visits by qualified fish and wildlife biologists. The experienced biologists made visual and auditory observations using

stationary and walking survey methods for both aquatic and upland habitats noting any special habitat features and direct and indirect signs of fish and wildlife activity (e.g. nesting, foraging, and migration/movement). Special attention was given to assessing the presence of fish and wildlife habitat conservation areas outlined under PMC 21.06.1010(3).

Attachment A provides an Existing Conditions Map, Attachment B provides background maps, Attachment C provides wetland determination data forms, D provides wetland rating forms, and E provides wetland rating figures. The identified wetland and stream boundaries and data plot locations were surveyed by a licensed surveyor. The identified wetland, stream, and shoreline boundaries and data plot locations were collected in the field by SVC using a high-accuracy GNSS receiver unit.

Background Data

Landscape Setting

The subject property is located in a commercial setting north of East Pioneer Avenue in the City of Puyallup, Pierce County, Washington. Areas of gravel fill and disturbance were present throughout the site, especially towards the southern portion near East Pioneer Ave. The subject property is bound by the Burlington Northern Santa Fe (BNSF) railway and East Pioneer Avenue to the south, and abuts undeveloped, forested green space to the north and west, and commercial/light industrial land uses to the east. Topography onsite is generally flat, with slopes down to riverine/depressional areas situated along the northern and eastern property boundaries. Elevations onsite range from approximately 64 feet above mean sea level on the southern boundary of the subject property to approximately 40 feet amsl on the north/northeast portions of the subject property. A Pierce County topography map is provided in Attachment B1. The subject property is located in the Chambers-Clover watershed (Water Resource Inventory Area (WRIA) 12).

Critical Area Inventories

Prior to the site investigation, SVC staff conducted background research using the U.S Geological Survey (USGS) topographic maps, City of Puyallup and Pierce County Geographic Information System (GIS) data, Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) and WDFW and Northwest Indian Fisheries Commission (NWIFC) Statewide Integrated Fish Distribution (SWIFD) mapping tools, Washington Department of Natural Resources (DNR) water typing system, and Natural Resource Conservation Service (NRCS) soil survey (Attachment B).

The City of Puyallup stream and wetland inventory (Attachment B2), USFWS NWI map (Attachment B3), and WDFW PHS Map (Attachment B4) identify one potential forest/shrub wetland on the northwest portion of the subject property, extending north and west offsite, and one potential stream/riverine wetland feature that originates offsite to the south and flows north along the eastern property boundary, turns west and continues west along the northern property boundary before exiting the site and continuing west offsite. The City of Puyallup also identifies one smaller wetland along the stream further west offsite, within 300 feet of the subject property. The USFWS and WDFW identify two potential emergent wetlands offsite to the south/southeast, one south of the BNSF railroad, and one further south, south of East Pioneer Avenue within 300 feet of the subject property. The potential stream identified by the City of Puyallup and USFWS is also identified in the Pierce County stream and wetland inventory (Attachment B5) and DNR stream typing map (Attachment B6), along with an associated offsite tributary that originates offsite to the north and flows south, converging with the first stream near the northwest corner of the subject property. The DNR stream

typing map identifies portions of the mapped stream along the northern and eastern portion of the subject property as an unknown water type. Portions of the stream crossing the northwest corner of the subject property and continuing offsite to the west, as well as the offsite stream to the north, are mapped as Type N (non-fish habitat) waters. The WDFW PHS map and WDFW and NWIFC SWIFD map (Attachment B7) identify documented occurrences of coho salmon in the onsite stream, and identify both the onsite and offsite streams as gradient accessible for coho, Chinook, chum, and pink salmon, and steelhead trout. The WDFW PHS map also identifies potential waterfowl concentrations within the same Quarter Section as the subject property; although not necessarily onsite. Notably, these concentrations are listed as associated with agricultural land uses in the landscape, which are situated south of East Pioneer Avenue. Further, the FEMA Floodplain Map (Attachment B8) identifies the northern and northwest portions of the subject property within the 100-year floodplain.

The NRCS soil survey map (Appendix B9) identifies three soil series on the subject property: Briscot loam, Pilchuck fine sand, and Puyallup fine sandy loam. According to the NRCS hydric soils list, Briscot loam is listed as hydric (NRCS, n.d.). Pilchuck fine sand and Puyallup fine sandy loam are listed as non-hydric, but as much as 10 percent of areas mapped as Pilchuck fine sand may contain inclusions of hydric Aquic Xerofluvents soils, and as much as 2 percent of areas mapped as Puyallup fine sandy loam may contain inclusions of hydric Briscot soils (NRCS, n.d.).

Precipitation

Precipitation data was obtained from the National Oceanic and Atmospheric Administration (NOAA) weather station at Seattle-Tacoma International Airport in order to evaluate precipitation during and preceding the site investigations. Year-to-date precipitation for site visits conducted during the November 1 – June 1 season is for the water year from October 1st of the previous year to the onsite dates. Year-to-date precipitation for site visits conducted during the June 1 – November 1 season is for the calendar year from January 1st of the site visit year to the onsite dates. A summary of data collected is provided in Tables 1 and 2.

Table 1. Recent Precipitation Summary (Cumulative)

Site Visit Date	Day Of	Day Before	Prior 1 Week Cumulative Precipitation	Prior 2 Weeks Cumulative Precipitation
5/8/2024	0.00	0.01	0.28	0.74
10/8/2025	0.03	0.04	0.07	0.64

Table 2. Precipitation Normal Summary (Cumulative)

Site Visit Date	Prior 30 Days Cumulative Precipitation (Observed/Normal)	Year to Date Cumulative Precipitation (Observed/Normal)	Prior 30 Days Percent of Normal	Year to Date Percent of Normal
5/8/2024	1.01/2.89	31.04/33.38	35 – Below Normal Range	93 – Within Normal Range
10/8/2025	1.08/2.19	16.64/24.33	49- Below Normal Range	68 – Below Normal Range

This precipitation data suggests that hydrologic conditions ranged from normal to slightly drier than normal during the initial investigation in May of 2024, and were drier than normal at the time of the October 2025 site investigation. Such conditions were considered in making professional wetland determinations.

Results

SVC identified and delineated two wetlands (Wetlands A and B) and one stream (Stream Z) on the subject property. One stream (Stream 1) was identified offsite to the north, within 300 feet of the subject property.

Upland Characterization

The subject property contains a mix of forest and an old gravel pad/disturbed field area that has begun to colonize with herbaceous and scrub-shrub species. Upland vegetation throughout the forest/scrub shrub areas are dominated by bigleaf maple (*Acer macrophyllum*), red alder (*Alnus rubra*), and black cottonwood (*Populus balsamifera*) canopy with an understory of snowberry (*Symphoricarpos albus*), western swordfern (*Polystichum munitum*), and non-native English ivy (*Hedera helix*). The disturbed areas are dominated by non-native, invasive mullein (*Verbascum thapsus*), Himalayan blackberry (*Rubus armeniacus*), and poison hemlock (*Conium maculatum*).

Wetlands

Two wetlands (Wetlands A and B) were identified on the subject property. The identified onsite wetlands contained indicators of hydric soils, wetland hydrology, and a predominance of hydrophytic vegetation according to current wetland delineation methodology. Wetland data forms are provided in Attachment C, wetland rating forms are provided in Attachment D, and wetland rating maps are provided in Attachment E. Table 3 summarizes the wetlands identified during the site investigations.

Table 3. Wetland Summary.

Wetland	Predominant Wetland Classification / Rating			Wetland Size Onsite (SF)
	Cowardin ¹	HGM	Pierce County ²	
A	PSSB	Depressional	III	~580
B	PFO/SS/BCH	Depressional	II	~24,786

1. Cowardin et al. (1979); Federal Geographic Data Committee (2013); class based on vegetation: PFO = Palustrine Forested, PSS = Palustrine Scrub-Shrub, PEM = Palustrine Emergent, PAB = Palustrine Aquatic Bed. Modifiers for Water Regime: B = Seasonally Saturated, C = Seasonally Flooded, H = Permanently Flooded.
2. Current WSDOE rating system per PMC 21.06.910(3).

Wetland A

Wetland A is approximately 0.01 acres (580 square feet) in size and is located on the north portion of the subject property, adjacent to Stream Z. Hydrology for Wetland A is provided by surface sheet flow from adjacent uplands, direct precipitation, and a seasonally high water table. Wetland A is an isolated depression, and hydrologically isolated from Stream Z by a berm. Wetland vegetation is dominated by red alder, black cottonwood, Himalayan blackberry, redosier dogwood (*Cornus serivicea*), common ladyfern (*Athyrium cyclosorum*), and western skunk cabbage (*Lysichiton americanus*). Hydric soil indicator F6 (Redox Dark Surface) was observed. The wetland was delineated based on a topographic depression and transition to wetland hydrology. The onsite buffer is degraded by gravel fill material and the presence of non-native invasive species. Wetland A is a Palustrine Scrub Shrub, Seasonally Saturated (PSSB) depressional wetland.

Wetland B

Wetland B is approximately 8.81 acres (383,971 square feet) in size and is located on the northwest portion of the subject property, extending offsite to the north and west. Both Stream Z and Stream 1 bisect Wetland B. Hydrology for Wetland B is provided by surface sheet flow from adjacent uplands, direct precipitation, a seasonally high groundwater table, and occasional overbank flooding from Stream Z and Stream 1. Hydrology from Wetland B is conveyed south then curves northwest, following the flow path of Stream Z, until reaching the intersection with East Main Street and 15 Street Southeast, where hydrology likely flows north underneath East Main Street into the Puyallup River. Wetland vegetation is dominated by red alder, black cottonwood, and non-native invasive Himalayan blackberry and reed canarygrass (*Phalaris arundinacea*). Hydric soil indicator F6 (Redix Dark Surface) was observed. The wetland was delineated based on a topographic depression and transition to wetland hydrology. The onsite buffer is degraded by gravel fill material and the presence of non-native invasive species. Wetland B is a Palustrine Forested, Scrub Shrub, Seasonally Saturated, Seasonally Flooded, and Permanently Flooded (PFO/SSBCH) depressional wetland.

Streams

One stream (Stream Z) was identified on the subject property. One stream (Stream 1) was identified offsite. Table 3 summarizes the streams identified during the site investigation.

Table 4. Stream Summary

Stream	Local Stream Type ¹
Z	F
1	F

1. Stream typing per PCC 21.06.1010(3).

Stream Z

Stream Z was identified on the eastern, northern, and southern boundary of the subject property. Stream Z originates from a culvert underneath Inter Avenue in the southeastern corner of the property and flows north along the eastern property boundary for approximately 500 feet before briefly leaving the site. Offsite, Stream Z curves south, entering Wetland B and crossing the northwest portion of the subject property. Stream Z continues south/west onsite for another 230 feet before continuing west offsite beyond the property. Stream Z is likely conveyed underneath East Main Street and eventually drains into the Puyallup River. Stream Z has a defined, meandering channel approximately 2-6 feet wide on average outside of a large braiding pattern approximately 75 feet in width. Stream Z has a predominantly fine sand substrate, with some small cobbles and areas of gravel sorting. Stream banks are dominated by bigleaf maple, black cottonwood, redosier dogwood, and non-native invasive reedcanary grass. The onsite buffer condition is degraded due to non-native invasive reed canary grass and English Ivy. The offsite buffer is degraded due to clearing and grading for commercial industrial development.

The DNR stream typing map identifies portions of Stream Z as a Type U (unknown type) water and portions of Stream Z as a Type N (non-fish-habitat) water. The WDFW and NWIFC SWIFD map identifies the documented presence of coho salmon in Stream Z, and Stream Z is mapped as gradient accessible for coho, chum, Chinook, and pink salmon, and steelhead trout. As Stream Z has a bankfull width greater than 2 feet wide on average and documented salmonid presence, Stream Z meets the criteria of a Type F water per WAC 222-16-030 and a Type II water per PCC 21.06.1010(3)(a).

Stream 1

Stream 1 was identified offsite to the north, within 300 feet of the subject property. Stream 1 appears to originate north of the site, and flows south where it converges within Stream Z approximately 50 feet northwest of the site. The channel is lined with bigleaf maple and black cottonwood which shade the channel. Stream 1 has a defined channel approximately 2 feet wide or greater on average with predominantly fine sand substrate. The buffer condition is degraded due to non-native invasives such as reedcanary grass. Stream 1 is mapped as a Type N (non-fish habitat) water by DNR. However, WDFW and the NWIFC identify Stream 1 as gradient accessible for several salmonids, and no natural fish passage barriers are present that would prevent fish in Stream Z from accessing Stream 1. Therefore, as Stream 1 has a bankfull width greater at least 2 feet wide on average and connectivity to a Type F (fish-habitat water), Stream 1 meets the criteria of a Type F stream per WAC 222-16-030 and a Type F water per PCC 21.06.1010(3)(a).

Fish and Wildlife Habitat Conservation Areas

Per PMC 21.06.1010(1), fish and wildlife habitat conservation areas are those areas identified as being of critical importance to the maintenance of fish, wildlife, or plant species. Per PMC 21.06.1010(3), these area specifically include: streams and their associated riparian habitat areas, and non-riparian habitats areas that support or have a primary association with: state or federally designated endangered, threatened, and sensitive species, state priority habitats and areas associated with state priority species, or habitat s and species of local importance including habitat corridors connecting habitat blocks and open spaces.

Two streams (Streams Z and 1) meeting the criteria of Type F waters regulated under PMC 21.06.1010(3)(a) were identified onsite. In addition to the identified riparian habitats, the WDFW PHS map identifies a series of freshwater wetlands on/within 300 feet of the subject property, and potential waterfowl concentrations within the same quarter section of the subject property (notably these concentrations are identified as associated with agricultural land uses, which are not present onsite). Additionally, according to the USFWS IPaC mapping database, marbled murrelet (*Brachyraphus marmoratus*), streaked horned lark (*Eremophila alpestris strigata*), yellow-billed cuckoo (*Coccyzus americanus*), bull trout (*Salvelinus confluentus*), and Suckley's Cuckoo Bumble Bee (*Bombus suckleyi*) have the potential to occur within 300 feet of the subject property.

The subject property is situated adjacent to the BNSF railroad and East Pioneer Avenue in a landscape fragmented by commercial developments. Onsite habitat is degraded to the prior land clearing and gravel fill activities, which have led to the colonization of non-native invasive species. In addition to the identified streams, SVC identified and delineated two wetlands (Wetlands A and B) subject to regulation under PMC 21.06 Article IX (Wetlands). However, due to the degraded and fragmented conditions of the surrounding landscape, no suitable habitat for the species identified as potentially present within 300 feet of the subject property by the USFWS.

Local Regulatory Considerations

The site investigations identified two wetlands and two streams on or within 300 feet of the site. The two wetlands and two streams are subject to standard critical area regulations under PMC Chapter 21.06.

Local Buffer Requirements

Wetlands

PMC 21.06.910 has adopted the current wetland rating system for western Washington (Hruby and Yahnke, 2023). Category III wetlands are wetlands with a moderate level of functions, as characterized by a score ranging from 16 to 19 points. Generally, these wetlands have been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands. Category II wetlands are wetlands that perform functions well, as characterized by a score of 20 to 22 points. Category II wetlands are difficult, though not impossible, to replace and provide high levels of some functions.

PMC 21.06.930(2) establishes wetland buffers based on wetland rating, wetland water quality and/or habitat score, and the intensity of land uses proposed on the development site. Table 5 presents the standard and reduced wetland buffer widths for the identified wetlands.

Table 5. Wetland Buffer Summary.

Wetland	Category	Habitat Score	Proposed/Potential Future Land Use Intensity	Standard Buffer Width
A	III	5	High	80
B	II	6	High	150

Streams

Stream Z and Stream 1 are classified as Type F/Type II (fish-habitat) waters per PCC 21.06.1010(3) and subject to standard 100-foot buffers per PMC 21.06.1050(2).

Building Setbacks

An additional 10-foot building setback is required from the edge of all critical area buffers per PMC 21.06.840.

State and Federal Regulatory Considerations

State Considerations

The identified wetlands and streams are likely regulated by the WSDOE as waters of the state under Revised Code of Washington 90.48.

Federal Considerations

On January 18, 2023, USACE and EPA published a revised definition of “Waters of the United States” (USACE and EPA, 2023a). The revised rule became effective on March 20, 2023. On May 25, 2023, the U.S. Supreme Court issued a decision affecting the definition of Waters of the United States, or “WOTUS”, in *Sackett Et Ux. V Environmental Protection Agency Et Al.* On August 29, 2023, the US EPA and USACE issued a final rule to amend the final “Revised Definition of ‘Waters of the United States’” rule. The amendment conforms the definition of “Waters of the United States” to the U.S. Supreme Court’s decision in the *Sackett Et Ux. V Environmental Protection Agency Et Al* case.

The 2023 revised and amended definition of Waters of the United States defines “adjacent” as “having a continuous surface connection.” The revised and amended definition of “Waters of the United States” is as follows:

(a) *Waters of the United States means:*

- (1) Waters which are: (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (ii) The territorial seas; or (iii) Interstate waters;*
- (2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;*
- (3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;*
- (4) Wetlands adjacent to the following waters: (i) Waters identified in paragraph (a)(1) of this section; or (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;*
- (5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section;*

(b) The following are not “waters of the United States” even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:

- (1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;*
- (2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;*
- (3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;*
- (4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;*
- (5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;*
- (6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;*
- (7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and*
- (8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.*

Wetland A is an isolated depression that is separated from Stream Z by an upland berm. Due to the lack of a continuous surface water connection to a regulated WOTUS, Wetland A does not appear to meet the criteria of an adjacent wetland and is not likely regulated under Section 404 of the Clean Water Act (CWA). Wetland B and Stream 1 both drain into Stream Z. Stream Z appears to eventually drain to the Puyallup River, a tributary to the Puget Sound. As such, Stream Z and Stream 1 are likely

regulated as WOTUS under Section 404 of the CWA pursuant to (a)(3) above, and Wetland B is likely regulated as a WOTUS under Section 404 of the CWA pursuant to (a)(4) above.

Conclusions

The site investigations identified and delineated two wetlands (Wetlands A and B) and one stream (Stream Z) on the subject property. Additionally, one stream (Stream 1) was identified offsite within 300 feet of the subject property. Wetland A is classified as a Category III wetland with a low habitat score of 5 points and is subject to a standard 80-foot buffer when considering the high intensity land use impact of potential future commercial development activities per PMC 21.06.230(2). Wetland B is classified as a Category II wetland with a moderate habitat score of 6 points and is subject to a standard 150-foot buffer. Stream Z and Stream 1 are both classified as Type F/Type II (fish-habitat) streams and subject to standard 100-foot buffers per POMC 21.06.1050(2). An additional 10-foot building setback is required from the edge of all critical area buffers per PMC 21.06.840. No other potentially regulated wetlands, streams, or other fish and wildlife habitat conservation areas were identified on or within 300 feet of the subject property during the site investigation.

Potential future development and associated requirements will be addressed under separate cover as necessary.

If you have any further questions, please contact us at your earliest convenience.

Sincerely,



Casey Lanier
Senior Scientist and Project Manager

March 23, 2026

Date

References:

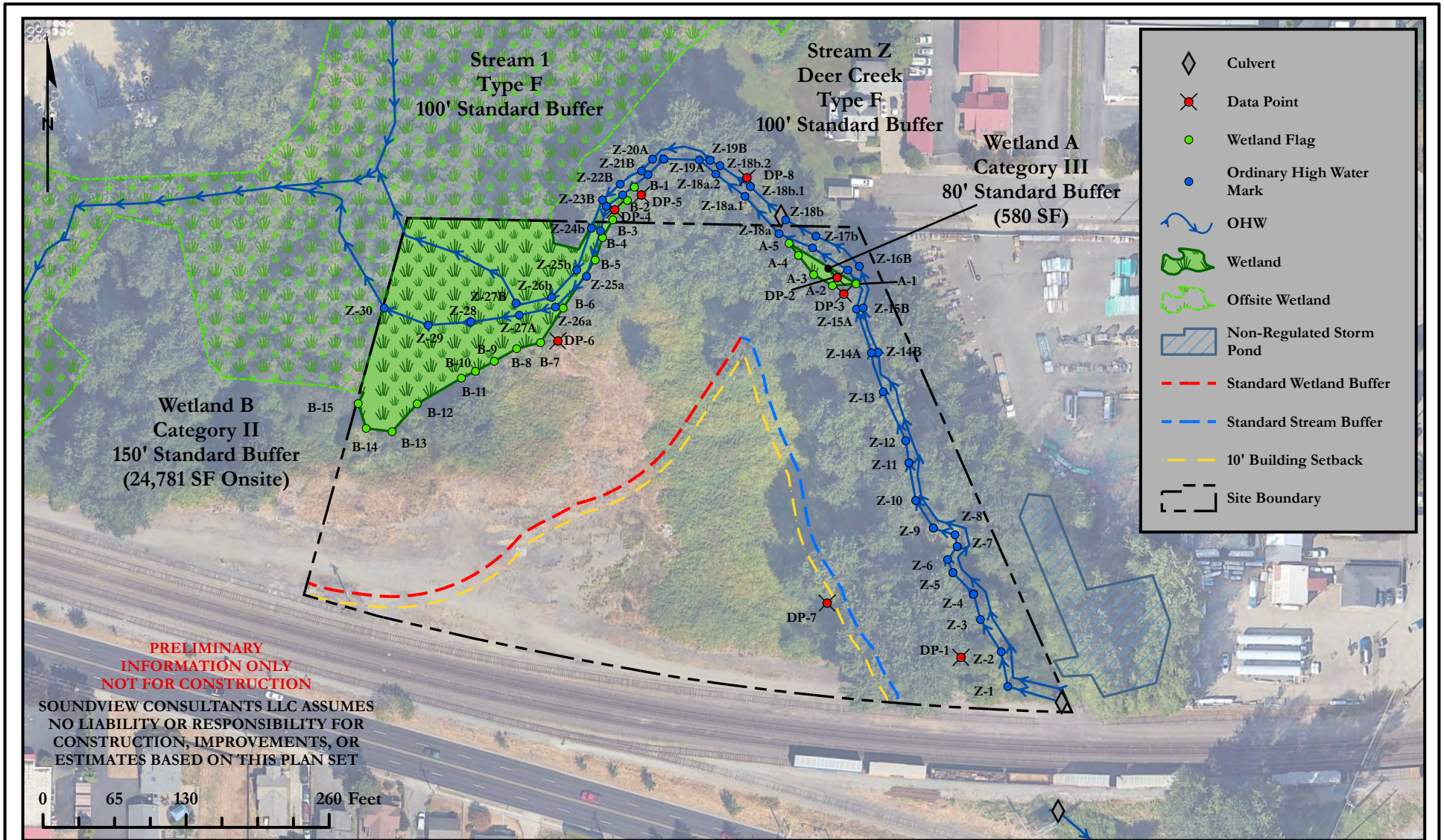
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Attachment A – Existing Conditions Map

EXISTING CONDITIONS - STANDARD BUFFER

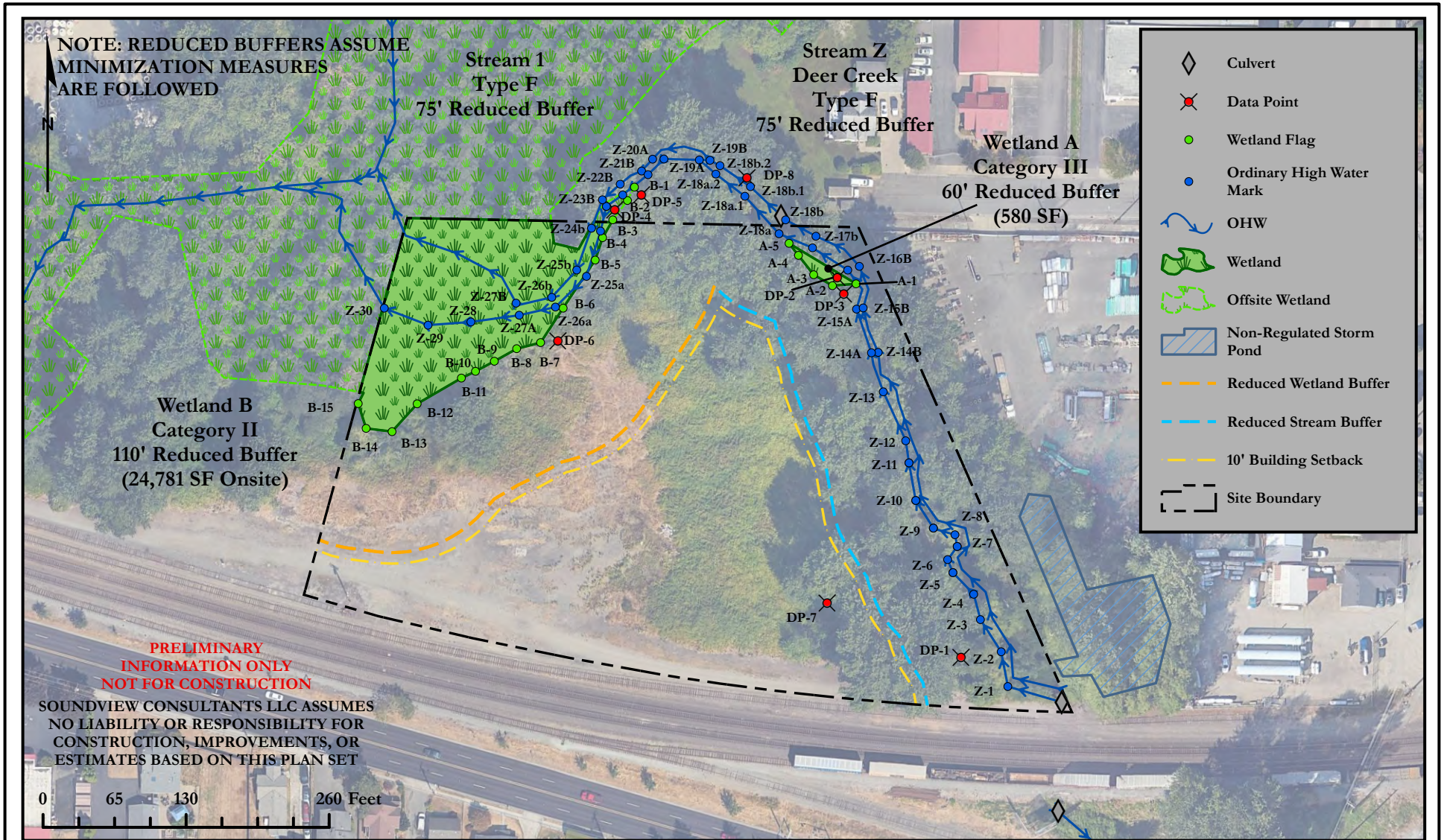


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INTER AVE
ADJACENT EAST OF 1919 E PIONEER
PUYALLUP, WA 98372
PIERCE COUNTY PARCEL NUMBER:
2105200221

DATE: 3/10/2026
JOB: 2754.0001
BY: MR
SCALE: 1" = 130'
FIGURE NO. 1 of 2

EXISTING CONDITIONS - REDUCED BUFFER



Soundview Consultants LLC
 Environmental Assessment • Planning • Land Use Solutions
 2907 Harborview Dr., Suite D, Gig Harbor, WA 98335
 Phone: (253) 514-8952 Fax: (253) 514-8954
 www.soundviewconsultants.com

INTER AVE
 ADJACENT EAST OF 1919 E PIONEER
 PUYALLUP, WA 98372

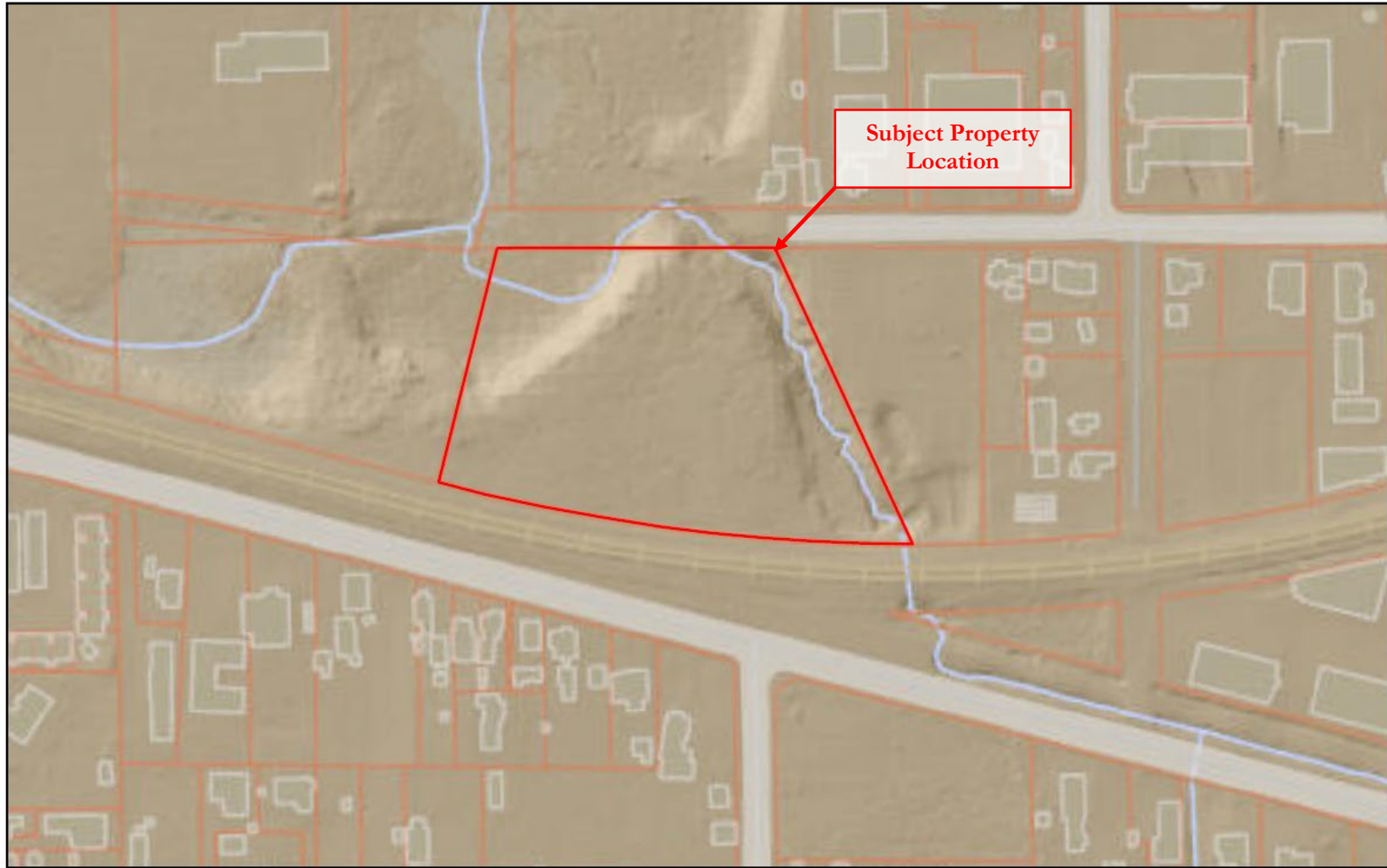
PIERCE COUNTY PARCEL NUMBER:
 2105200221

DATE: 3/10/2026
 JOB: 2754.0001
 BY: MR
 SCALE: 1" = 130'
 FIGURE NO. 2 of 2

Attachment B – Background Information

This attachment includes a Pierce County Topographic Map (B1); City of Puyallup Stream and Wetland Inventory (B2); USFWS NWI Map (B3); WDFW PHS Map (B4); Pierce County Stream and Wetland Inventory (B5); DNR Stream Typing Map (B6); WDFW and NWIFC SWIFD Map (B7); FEMA Floodplain Map (B8); NRCS Soil Survey Map (B9).

Attachment B1 – Pierce County Topographic Map

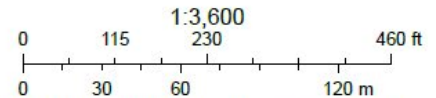


4/15/2024, 3:44:13 PM



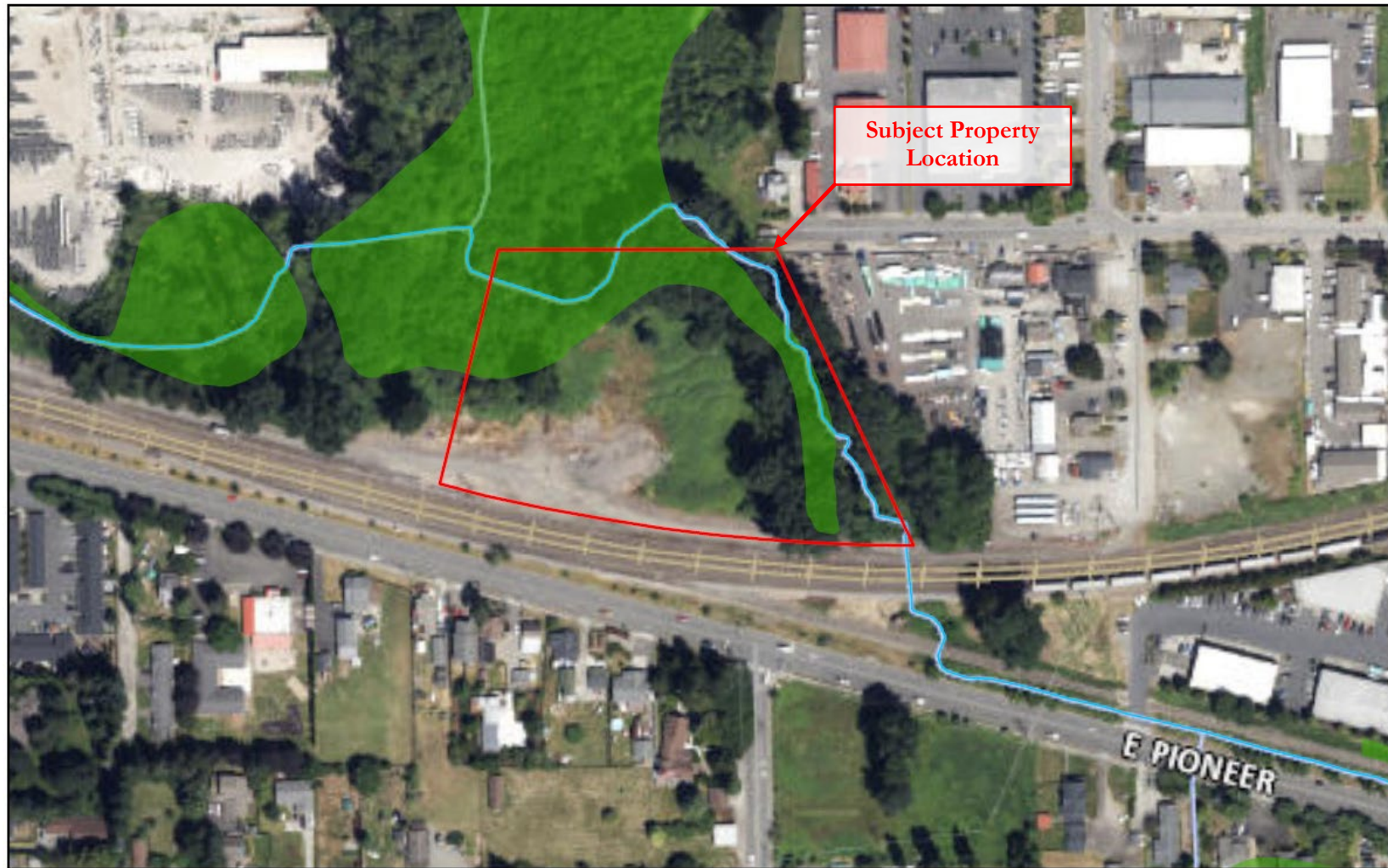
Subject Property

Pierce County



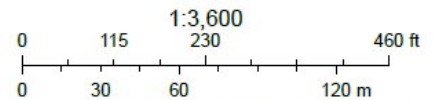
County of King, Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA, Pierce County WA

Attachment B2 – City of Puyallup Stream and Wetland Inventory



4/15/2024, 3:58:04 PM

 Subject Property  Puyallup Wetlands
 Puyallup Streams



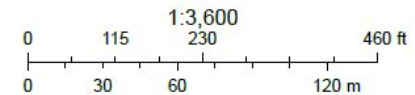
County of King, Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA, Pierce County WA

Attachment B3 – USFWS NWI Map



4/15/2024, 3:51:46 PM

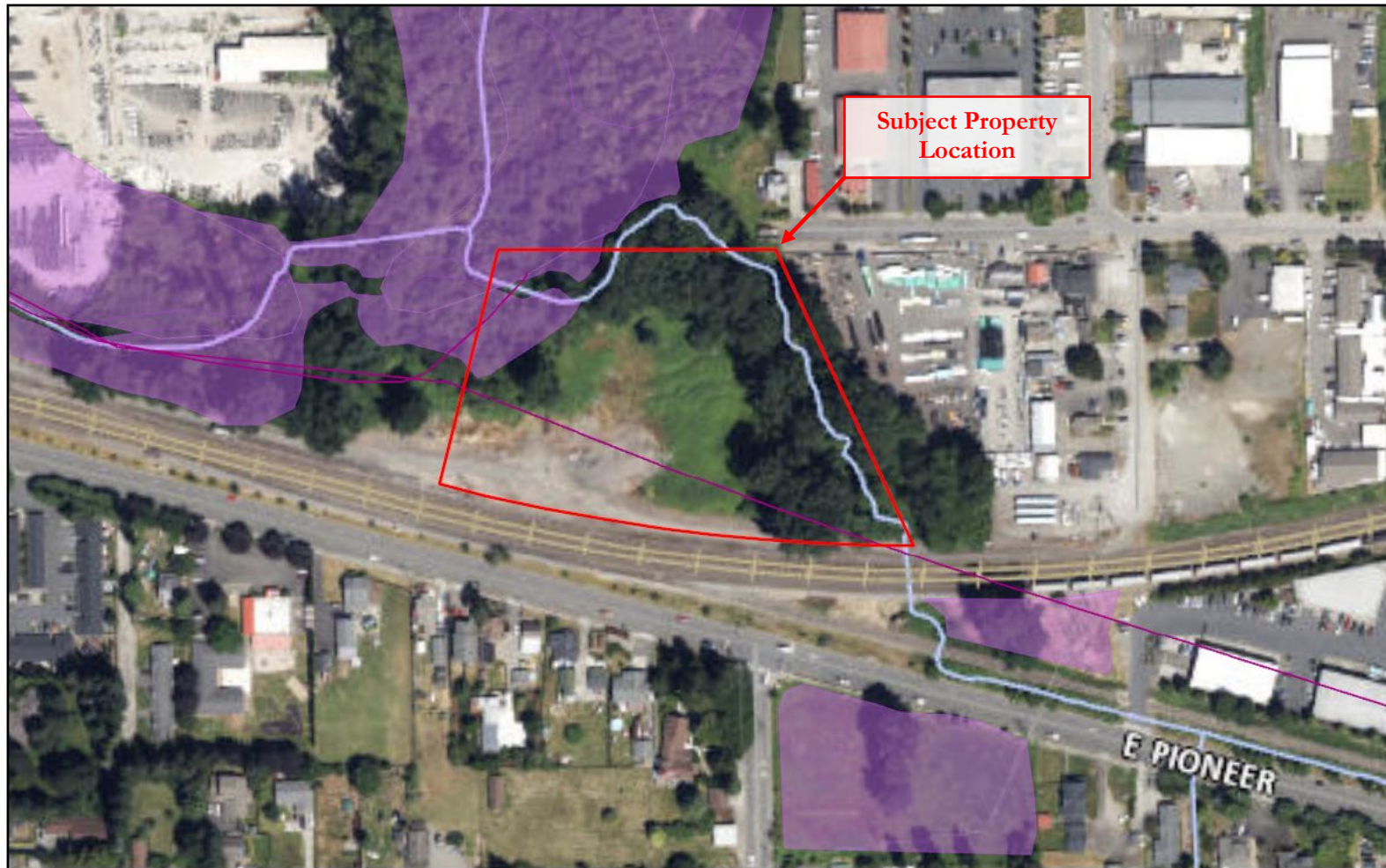
-  Subject Property
 -  Freshwater Forested/Shrub Wetland
 -  Riverine
 -  Freshwater Emergent Wetland
- National Wetland Inventory (NWI)



County of King, Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA, Pierce County WA

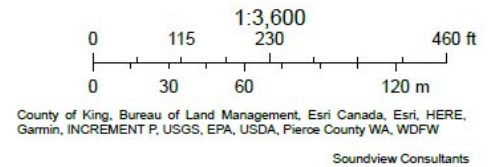
Soundview Consultants

Attachment B4 – WDFW PHS Map



4/15/2024, 3:51:05 PM

- | | |
|-------------------------------|---------------------|
| — PHS Public Lines | PHS Public Polygons |
| — PHS Public Polygon Outlines | AS MAPPED |
| — AS MAPPED | Subject Property |





Priority Habitats and Species on the Web

Occurrence Name	Federal Status	State Status	Sensitive Location
Coho	Candidate	N/A	No
Coho	N/A	N/A	No
Waterfowl Concentrations	N/A	N/A	No
Wetlands	N/A	N/A	No
Freshwater Emergent Wetland	N/A	N/A	No
Freshwater Forested/Shrub Wetland	N/A	N/A	No

PHS Species/Habitats Details:

Coho	
Scientific Name	<i>Oncorhynchus kisutch</i>
Priority Area	Occurrence
Accuracy	NA
Notes	LLID: 1222762471942, Stock Name: Puyallup Coho, Run: Unspecified, Status: Healthy
Source Record	3160
Source Dataset	SASI
Source Name	Not Given
Source Entity	WDFW Fish Program
Federal Status	Candidate
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	http://wdfw.wa.gov/wlm/diversty/soc/soc.htm
Geometry Type	Lines

Coho	
Scientific Name	<i>Oncorhynchus kisutch</i>
Priority Area	Occurrence
Accuracy	NA
Notes	LLID: 1222586471815, Stock Name: Puyallup Coho, Run: Unspecified, Status: Healthy
Source Record	3160
Source Dataset	SASI
Source Name	Not Given
Source Entity	WDFW Fish Program
Federal Status	Candidate
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	http://wdfw.wa.gov/wlm/diversty/soc/soc.htm
Geometry Type	Lines

Coho	
Scientific Name	<i>Oncorhynchus kisutch</i>
Priority Area	Occurrence/Migration
Accuracy	NA
Notes	LLID: 1222762471942, Fish Name: Coho Salmon, Run Time: Unknown or not Applicable, Life History: Anadromous
Source Record	40384
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	http://wdfw.wa.gov/wlm/diversty/soc/soc.htm
Geometry Type	Lines

Waterfowl Concentrations	
Priority Area	Regular Concentration
Site Name	PIERCE COUNTY - FARM
Accuracy	1/4 mile (Quarter Section)
Notes	SMALL WATERFOWL CONCENTRATION AREAS, AGRICULTURAL.
Source Record	902563
Source Dataset	PHSREGION
Source Name	NAUER, DON WDW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS LISTED OCCURRENCE
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00026
Geometry Type	Polygons
Wetlands	
Priority Area	Aquatic Habitat
Site Name	LOWER PUYALLUP RIVER VALLEY WETLANDS
Accuracy	1/4 mile (Quarter Section)
Notes	LOWER PUYALLUP RIVER VALLEY WETLANDS
Source Record	902559
Source Dataset	PHSREGION
Source Name	NAUER, DON WDW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Freshwater Emergent Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Emergent Wetland - NWI Code: PEM1A
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Freshwater Emergent Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Emergent Wetland - NWI Code: PEM1A
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Freshwater Forested/Shrub Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Forested/Shrub Wetland - NWI Code: PFO1C
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Freshwater Forested/Shrub Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Forested/Shrub Wetland - NWI Code: PSS1C
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons



Freshwater Forested/Shrub Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Forested/Shrub Wetland - NWI Code: PFO1C
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

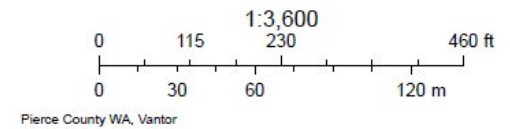
DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents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

Attachment B5 – Pierce County Stream and Wetland Inventory



3/23/2026, 1:57:45 PM

-  Pierce - Parcels _Query result
-  Pierce - Streams



Soundview Consultants

Attachment B46 – DNR Stream Typing Map




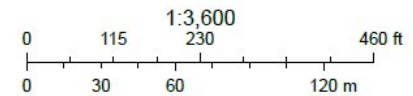
4/15/2024, 3:52:27 PM

 Subject Property

DNR - Stream Typing - Watercourses (DNR)

 Type N, Np, Ns

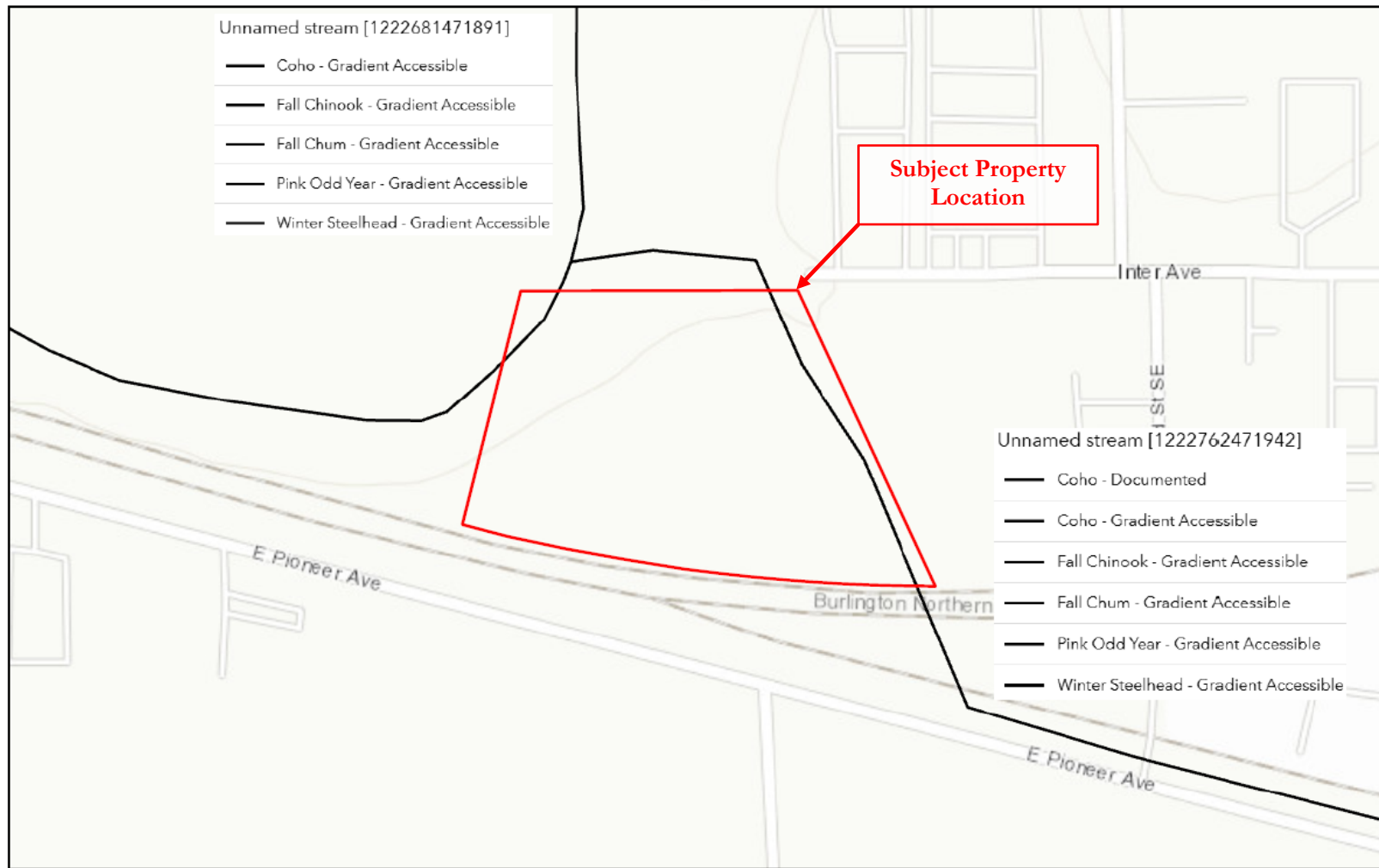
 U, unknown



County of King, Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA, Pierce County WA

Soundview Consultants

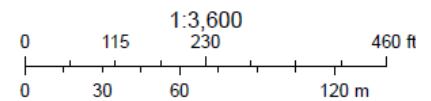
Attachment B7 - WDFW and NWIFC SWIFD Map



3/23/2026, 2:01:19 PM

Pierce - Parcels _Query result

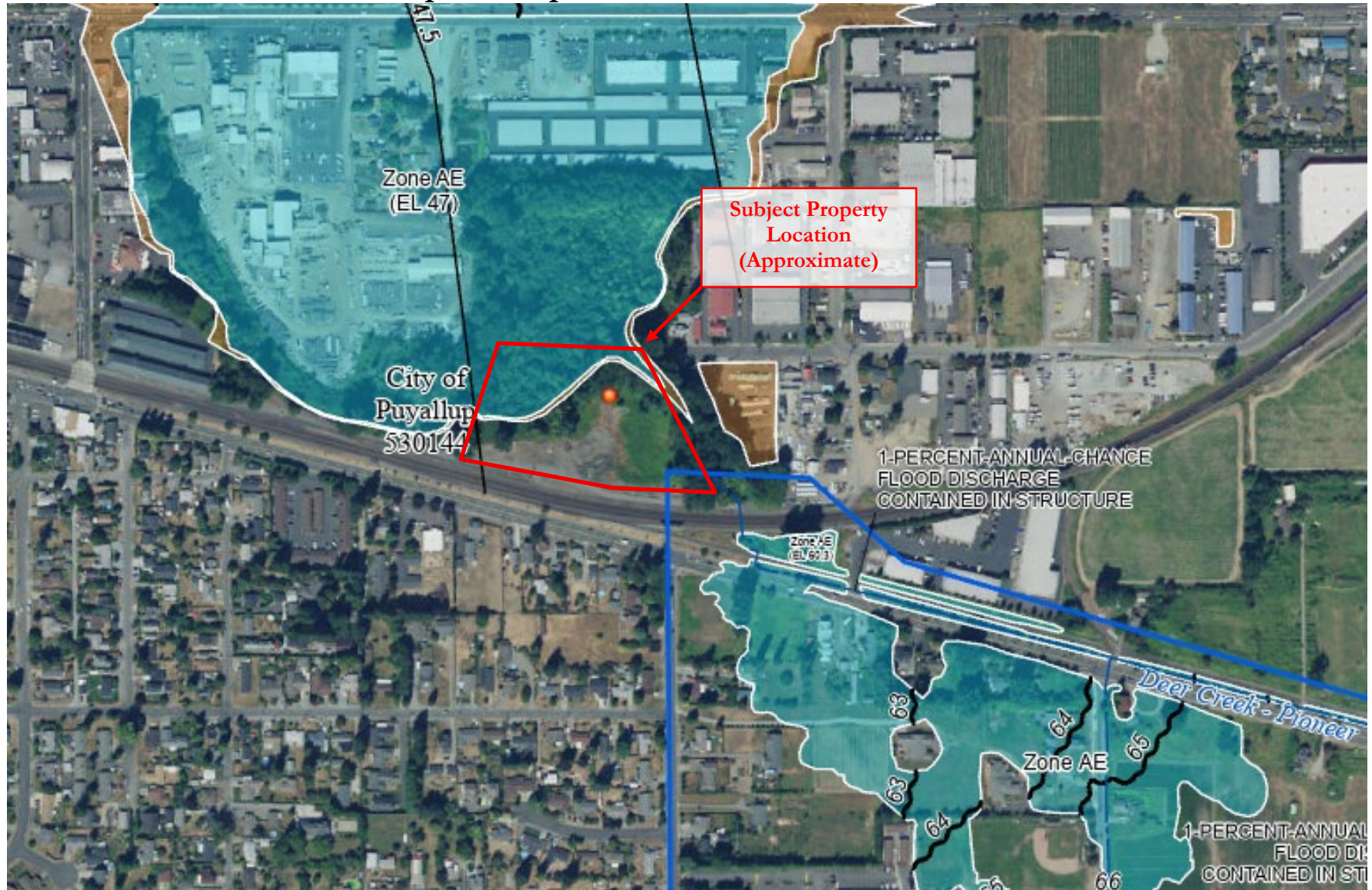
All SalmonScape Species



WDFW, County of King, Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA

Soundview Consultants

Attachment B8 – FEMA Floodplain Map



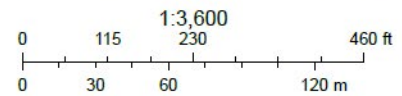
Attachment B9 – NRCS Soil Survey Map



4/15/2024, 3:48:45 PM

- Subject Property
- USA Soils Map Units

- 6A - Briscot loam
- 29A - Pilchuck fine sand
- 31A - Puyallup fine sandy loam



County of King, Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA, Pierce County WA. Source: Soundview Consultants

Attachment C – Data Forms

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

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ 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 No (If no, explain in Remarks.)

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

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				_____ = Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
				_____ = Total Cover
<u>Herb Stratum</u> (Plot size: <u>10 ft</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
				_____ = Total Cover
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____				
2. _____				
				_____ = Total Cover
% Bare Ground in Herb Stratum _____				

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)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

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

Hydrophytic Vegetation Present? Yes No

Remarks: _____

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

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ 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 No (If no, explain in Remarks.)

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

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				_____ = Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
				_____ = Total Cover
<u>Herb Stratum</u> (Plot size: <u>10 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
				_____ = Total Cover
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
				_____ = Total Cover
% Bare Ground in Herb Stratum _____				

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)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/>

Remarks: _____

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

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ 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 No (If no, explain in Remarks.)

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

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				_____ = Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
				_____ = Total Cover
<u>Herb Stratum</u> (Plot size: <u>10 ft</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
				_____ = Total Cover
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____				
2. _____				
				_____ = Total Cover
% Bare Ground in Herb Stratum _____				

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)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
--

Remarks: _____

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

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ 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 No (If no, explain in Remarks.)

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

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	_____ = Total Cover			
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	_____ = Total Cover			
<u>Herb Stratum</u> (Plot size: <u>10 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	_____ = Total Cover			
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	_____ = Total Cover			
% Bare Ground in Herb Stratum _____				

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)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
--

Remarks: _____

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

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ 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 No (If no, explain in Remarks.)

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

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				_____ = Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
				_____ = Total Cover
<u>Herb Stratum</u> (Plot size: <u>10 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
				_____ = Total Cover
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
				_____ = Total Cover
% Bare Ground in Herb Stratum _____				

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)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

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

Hydrophytic Vegetation Present? Yes No

Remarks: _____

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

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ 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 No (If no, explain in Remarks.)

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

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				_____ = Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
				_____ = Total Cover
<u>Herb Stratum</u> (Plot size: <u>10 ft</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
				_____ = Total Cover
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____				
2. _____				
				_____ = Total Cover
% Bare Ground in Herb Stratum _____				

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)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

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

Hydrophytic Vegetation Present? Yes No

Remarks: _____

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

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ 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 No (If no, explain in Remarks.)

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

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				_____ = Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
				_____ = Total Cover
<u>Herb Stratum</u> (Plot size: <u>10 ft</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
				_____ = Total Cover
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____				
2. _____				
				_____ = Total Cover
% Bare Ground in Herb Stratum _____				

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)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
--

Remarks: _____

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

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ 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 No (If no, explain in Remarks.)

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

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				_____ = Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
				_____ = Total Cover
<u>Herb Stratum</u> (Plot size: <u>10 ft</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
				_____ = Total Cover
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____				
2. _____				
				_____ = Total Cover
% Bare Ground in Herb Stratum _____				

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)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
--

Remarks: _____

Attachment D – Wetland Rating Forms

Wetland name or number _____

RATING SUMMARY – Western Washington

Name of wetland (or ID #): _____ Date of site visit: _____

Rated by _____ Trained by Ecology? __ Yes __ No Date of training _____

HGM Class used for rating _____ Wetland has multiple HGM classes? __Y __N

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

Source of base aerial photo/map _____

OVERALL WETLAND CATEGORY _____ (based on functions____ or special characteristics____)

1. Category of wetland based on FUNCTIONS

_____ **Category I** – Total score = 23 - 27

_____ **Category II** – Total score = 20 - 22

_____ **Category III** – Total score = 16 - 19

_____ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential				
Landscape Potential				
Value				TOTAL
Score Based on Ratings				

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number _____

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

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

NO – go to 2

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

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

NO – Saltwater Tidal Fringe (Estuarine)

YES – Freshwater Tidal Fringe

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

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

NO – go to 3

YES – The wetland class is **Flats**

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

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

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

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

NO – go to 4

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

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

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

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

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

NO – go to 5

YES – The wetland class is **Slope**

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

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

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

___ The overbank flooding occurs at least once every 2 years.

Wetland name or number _____

NO – go to 6

YES – The wetland class is **Riverine**

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

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

NO – go to 7

YES – The wetland class is **Depressional**

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

NO – go to 8

YES – The wetland class is **Depressional**

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

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

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

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

Wetland name or number _____

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

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

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

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

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

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

NOTES and FIELD OBSERVATIONS:

Wetland name or number _____

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

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

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

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

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

Wetland name or number _____

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

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

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

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

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland if the unit is < 2.5 ac, or ¼ ac if the unit is at least 2.5 ac to count (*see text for descriptions of hydroperiods*).

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

H 1.3. Richness of plant species

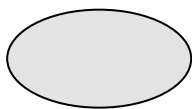
Count the number of plant species in the wetland that cover at least 10 ft².

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

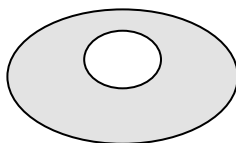
- If you counted: > 19 species points = 2
- 5 - 19 species points = 1
- < 5 species points = 0

H 1.4. Interspersion of habitats

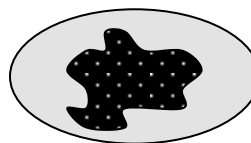
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



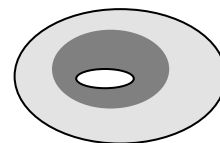
None = 0 points



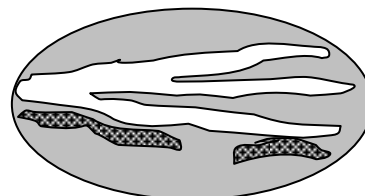
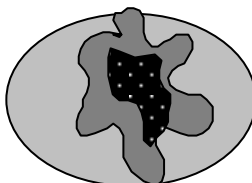
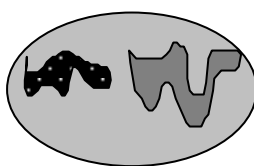
Low = 1 point



Moderate = 2 points



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



Wetland name or number _____

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

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

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

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

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

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

Wetland name or number _____

WDFW Priority Habitats

See complete descriptions of Priority Habitats listed by WDFW, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008 (current year, as revised). Priority Habitat and Species List.¹³³ This list was updated for consistency with guidance from WDFW.

This question is independent of the land use between the wetland unit and the Priority Habitat. All vegetated wetlands are by definition a Priority Habitat but are not included in this list because they are addressed by this rating system.

Count how many of the following Priority Habitats are within 330 ft (100 m) of the wetland unit:

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife. This habitat automatically counts if mapped on the online map within 100m of the wetland. If not mapped, a determination can be made in the field.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Fresh Deepwater:** Lands permanently flooded with freshwater, including environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live. Substrate does not support emergent vegetation. Do not select if Instream habitat is also present, or if the entire deepwater feature is included in the wetland unit being rated (such as a pond with a vegetated fringe).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Do not select if Fresh Deepwater habitat is also present.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in. (81 cm) diameter at breast height (dbh) or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in. (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

NOTES and FIELD OBSERVATIONS:

¹³³ <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf>

Wetland name or number _____

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important. For single oaks or oak stands <0.4 ha in urban areas, WDFW's Management Recommendations for Oregon White Oak¹³⁴ provides more detail for determining if they are Priority Habitats
- **Riparian:** The area adjacent to freshwater aquatic systems with flowing or standing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in. (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in. (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie.

NOTES and FIELD OBSERVATIONS:

¹³⁴ <https://wdfw.wa.gov/publications/00030/wdfw00030.pdf>
Wetland Rating System for Western WA: 2014 Update
Rating Form – Version 2, July 2023

Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p>SC 1.0. Estuarine wetlands</p> <p>Does the wetland meet the following criteria for Estuarine wetlands?</p> <ul style="list-style-type: none"> — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt <p style="text-align: right;">Yes –Go to SC 1.1 No= Not an estuarine wetland</p>	
<p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?</p> <p style="text-align: right;">Yes = Category I No - Go to SC 1.2</p>	
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. If non-native species are <i>Spartina</i>, see chapter 4.8 in the manual. — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <p style="text-align: right;">Yes = Category I No = Category II</p>	
<p>SC 2.0. Wetlands of High Conservation Value (WHCV)</p> <p>SC 2.1. Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?¹³⁵</p> <p style="text-align: right;">Yes = Category I No - Go to SC 2.2</p> <p>SC 2.2. Does the wetland have a rare plant species, rare ecosystem (e.g., plant community), or high-quality common ecosystem that may qualify the site as a WHCV? Contact WNHP for resources to help determine the presence of these elements</p> <p style="text-align: right;">Yes = Submit data to WA Natural Heritage Program for determination,¹³⁶ Go to SC 2.3 No = Not a WHCV</p> <p>SC 2.3. Did WNHP review the site within 30 days and determine that it has a rare plant or ecosystem that meets their criteria?</p> <p style="text-align: right;">Yes = Category I No = Not a WHCV</p>	
<p>SC 3.0. Bogs</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES, you will still need to rate the wetland based on its functions.</i></p> <p>SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile?</p> <p style="text-align: right;">Yes – Go to SC 3.3 No – Go to SC 3.2</p> <p>SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?</p> <p style="text-align: right;">Yes – Go to SC 3.3 No = Is not a bog</p> <p>SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4?</p> <p style="text-align: right;">Yes = Category I bog No – Go to SC 3.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</p> <p>SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?</p> <p style="text-align: right;">Yes = Category I bog No = Is not a bog</p>	

¹³⁵ <https://www.dnr.wa.gov/NHPdata>

¹³⁶ https://www.dnr.wa.gov/Publications/amp_nh_sighting_form.pdf

Wetland name or number _____

<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife’s forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p style="text-align: right;">Yes = Category I No = Not a forested wetland for this section</p>	
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) — The lagoon retains some of its surface water at low tide during spring tides <p style="text-align: right;">Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species in H 1.5 in the manual). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than 1/10 ac (4350 ft²) <p style="text-align: right;">Yes = Category I No = Category II</p>	
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 and Ocean Shores Blvd SW, including lands west of E. Oceans Shores Blvd SW. <p style="text-align: right;">Yes – Go to SC 6.1 No = Not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p>	
<p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	

NOTES and FIELD OBSERVATIONS:

Wetland name or number _____

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Wetland name or number _____

RATING SUMMARY – Western Washington

Name of wetland (or ID #): _____ Date of site visit: _____

Rated by _____ Trained by Ecology? __ Yes __ No Date of training _____

HGM Class used for rating _____ Wetland has multiple HGM classes? __Y __N

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

Source of base aerial photo/map _____

OVERALL WETLAND CATEGORY _____ (based on functions____ or special characteristics____)

1. Category of wetland based on FUNCTIONS

_____ **Category I** – Total score = 23 - 27

_____ **Category II** – Total score = 20 - 22

_____ **Category III** – Total score = 16 - 19

_____ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential				
Landscape Potential				
Value				TOTAL
Score Based on Ratings				

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number _____

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

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

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

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

NO – go to 2

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

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

NO – Saltwater Tidal Fringe (Estuarine)

YES – Freshwater Tidal Fringe

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

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

NO – go to 3

YES – The wetland class is **Flats**

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

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

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

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

NO – go to 4

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

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

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

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

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

NO – go to 5

YES – The wetland class is **Slope**

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

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

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

___ The overbank flooding occurs at least once every 2 years.

Wetland name or number _____

NO – go to 6

YES – The wetland class is **Riverine**

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

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

NO – go to 7

YES – The wetland class is **Depressional**

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

NO – go to 8

YES – The wetland class is **Depressional**

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

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

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

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

Wetland name or number _____

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

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

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

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

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

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

NOTES and FIELD OBSERVATIONS:

Wetland name or number _____

DEPRESSIONAL AND FLATS WETLANDS

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

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

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

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

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

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

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

Wetland name or number _____

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

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

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

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

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland if the unit is < 2.5 ac, or ¼ ac if the unit is at least 2.5 ac to count (*see text for descriptions of hydroperiods*).

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

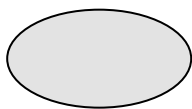
H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft². *Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

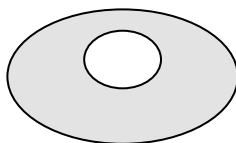
- If you counted: > 19 species points = 2
- 5 - 19 species points = 1
- < 5 species points = 0

H 1.4. Interspersion of habitats

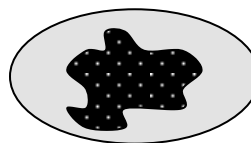
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



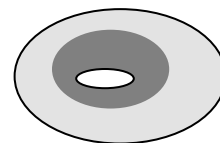
None = 0 points



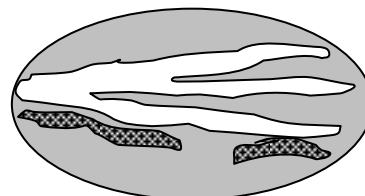
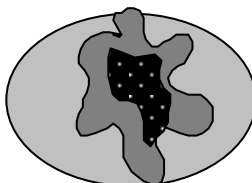
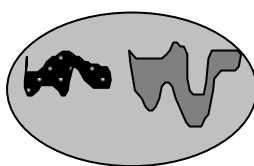
Low = 1 point



Moderate = 2 points



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



Wetland name or number _____

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

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

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

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

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

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

Wetland name or number _____

WDFW Priority Habitats

See complete descriptions of Priority Habitats listed by WDFW, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008 (current year, as revised). Priority Habitat and Species List.¹³³ This list was updated for consistency with guidance from WDFW.

This question is independent of the land use between the wetland unit and the Priority Habitat. All vegetated wetlands are by definition a Priority Habitat but are not included in this list because they are addressed by this rating system.

Count how many of the following Priority Habitats are within 330 ft (100 m) of the wetland unit:

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife. This habitat automatically counts if mapped on the online map within 100m of the wetland. If not mapped, a determination can be made in the field.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Fresh Deepwater:** Lands permanently flooded with freshwater, including environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live. Substrate does not support emergent vegetation. Do not select if Instream habitat is also present, or if the entire deepwater feature is included in the wetland unit being rated (such as a pond with a vegetated fringe).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Do not select if Fresh Deepwater habitat is also present.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in. (81 cm) diameter at breast height (dbh) or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in. (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

NOTES and FIELD OBSERVATIONS:

¹³³ <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf>

Wetland name or number _____

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important. For single oaks or oak stands <0.4 ha in urban areas, WDFW's Management Recommendations for Oregon White Oak¹³⁴ provides more detail for determining if they are Priority Habitats
- **Riparian:** The area adjacent to freshwater aquatic systems with flowing or standing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in. (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in. (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie.

NOTES and FIELD OBSERVATIONS:

¹³⁴ <https://wdfw.wa.gov/publications/00030/wdfw00030.pdf>
Wetland Rating System for Western WA: 2014 Update
Rating Form – Version 2, July 2023

Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p>SC 1.0. Estuarine wetlands</p> <p>Does the wetland meet the following criteria for Estuarine wetlands?</p> <ul style="list-style-type: none"> — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt <p style="text-align: right;">Yes –Go to SC 1.1 No= Not an estuarine wetland</p>	
<p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?</p> <p style="text-align: right;">Yes = Category I No - Go to SC 1.2</p>	
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. If non-native species are <i>Spartina</i>, see chapter 4.8 in the manual. — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <p style="text-align: right;">Yes = Category I No = Category II</p>	
<p>SC 2.0. Wetlands of High Conservation Value (WHCV)</p> <p>SC 2.1. Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?¹³⁵</p> <p style="text-align: right;">Yes = Category I No - Go to SC 2.2</p> <p>SC 2.2. Does the wetland have a rare plant species, rare ecosystem (e.g., plant community), or high-quality common ecosystem that may qualify the site as a WHCV? Contact WNHP for resources to help determine the presence of these elements</p> <p style="text-align: right;">Yes = Submit data to WA Natural Heritage Program for determination,¹³⁶ Go to SC 2.3 No = Not a WHCV</p> <p>SC 2.3. Did WNHP review the site within 30 days and determine that it has a rare plant or ecosystem that meets their criteria?</p> <p style="text-align: right;">Yes = Category I No = Not a WHCV</p>	
<p>SC 3.0. Bogs</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES, you will still need to rate the wetland based on its functions.</i></p> <p>SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile?</p> <p style="text-align: right;">Yes – Go to SC 3.3 No – Go to SC 3.2</p> <p>SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?</p> <p style="text-align: right;">Yes – Go to SC 3.3 No = Is not a bog</p> <p>SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4?</p> <p style="text-align: right;">Yes = Category I bog No – Go to SC 3.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</p> <p>SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?</p> <p style="text-align: right;">Yes = Category I bog No = Is not a bog</p>	

¹³⁵ <https://www.dnr.wa.gov/NHPdata>

¹³⁶ https://www.dnr.wa.gov/Publications/amp_nh_sighting_form.pdf

Wetland name or number _____

<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife’s forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p style="text-align: right;">Yes = Category I No = Not a forested wetland for this section</p>	
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) — The lagoon retains some of its surface water at low tide during spring tides <p style="text-align: right;">Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species in H 1.5 in the manual). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than $\frac{1}{10}$ ac (4350 ft²) <p style="text-align: right;">Yes = Category I No = Category II</p>	
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 and Ocean Shores Blvd SW, including lands west of E. Oceans Shores Blvd SW. <p style="text-align: right;">Yes – Go to SC 6.1 No = Not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p>	
<p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter “Not Applicable” on Summary Form</p>	

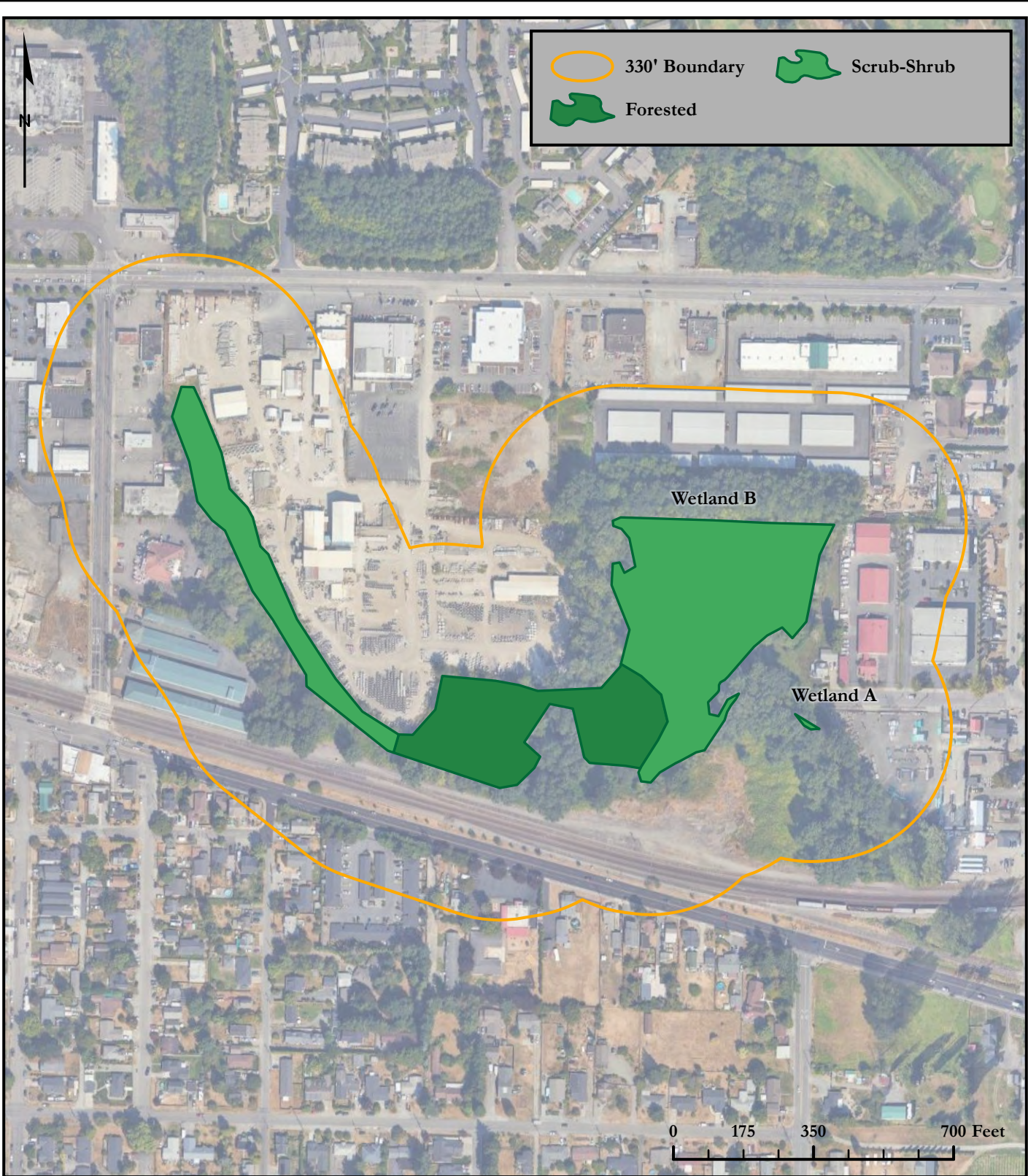
NOTES and FIELD OBSERVATIONS:

Wetland name or number _____

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Attachment E – Wetland Rating Figures

COWARDIN MAP

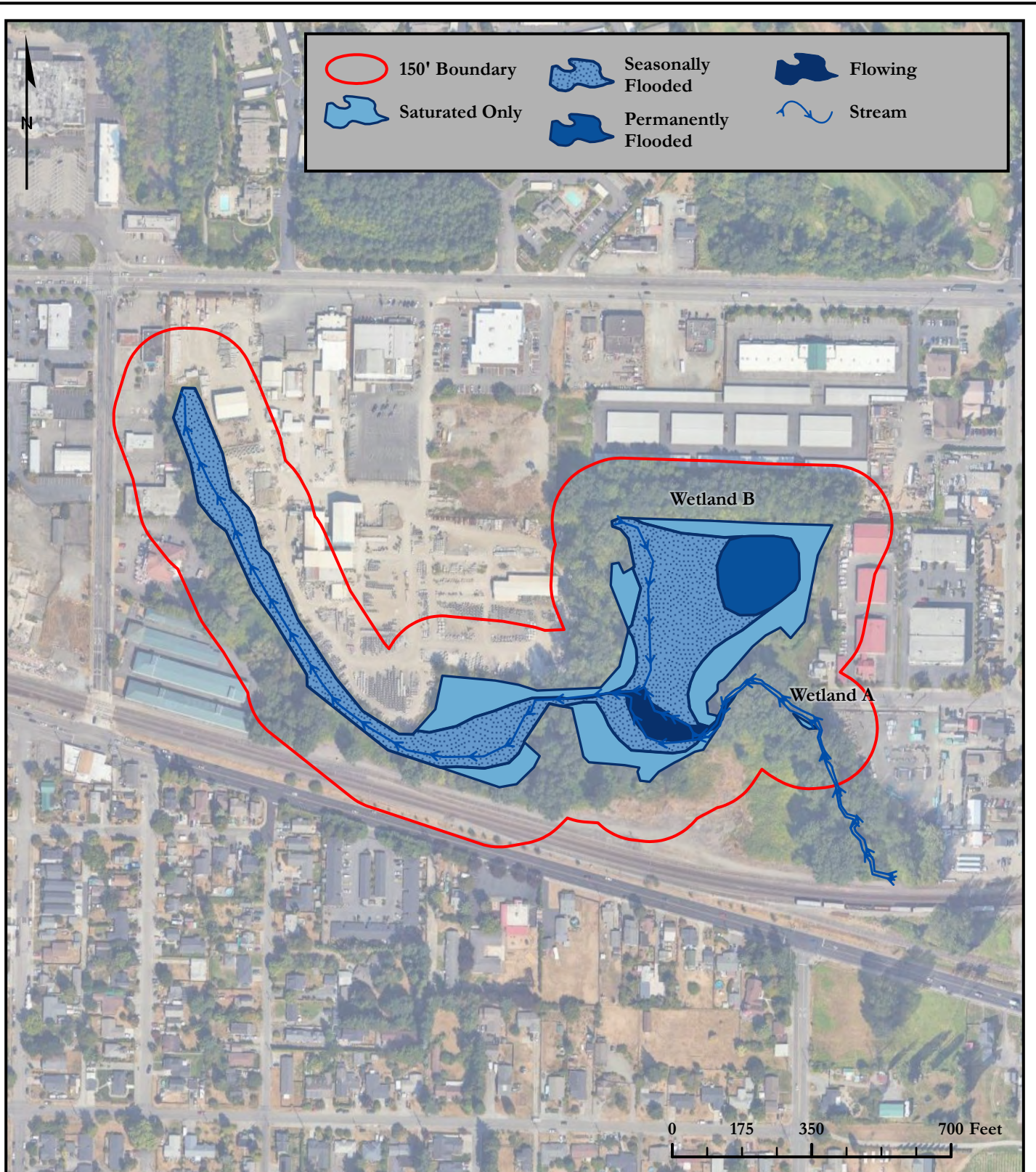


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www.soundviewconsultants.com

INTER AVE
ADJACENT EAST OF 1919 E PIONEER
PUYALLUP, WA 98372
PIERCE COUNTY PARCEL NUMBER:
2105200221

DATE: 3/10/2026
JOB: 2754.0001
BY: MR
SCALE: 1"=350'
FIGURE NO. 1 of 6

HYDROPERIOD MAP



	150' Boundary		Seasonally Flooded		Flowing
	Saturated Only		Permanently Flooded		Stream

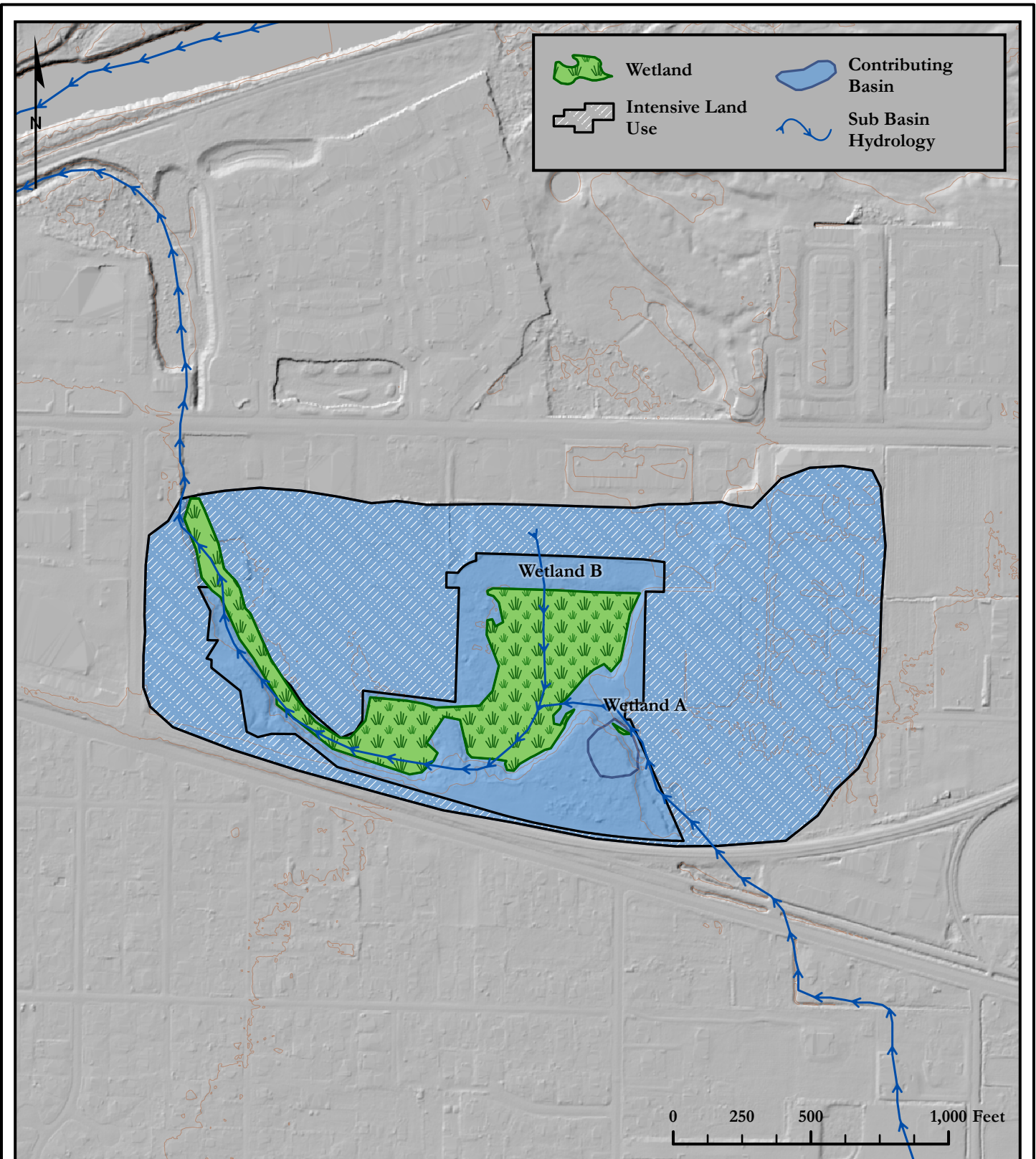


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DATE: 3/10/2026
JOB: 2754.0001
BY: MR
SCALE: 1"=350'
FIGURE NO. 2 of 6

CONTRIBUTING BASIN MAP

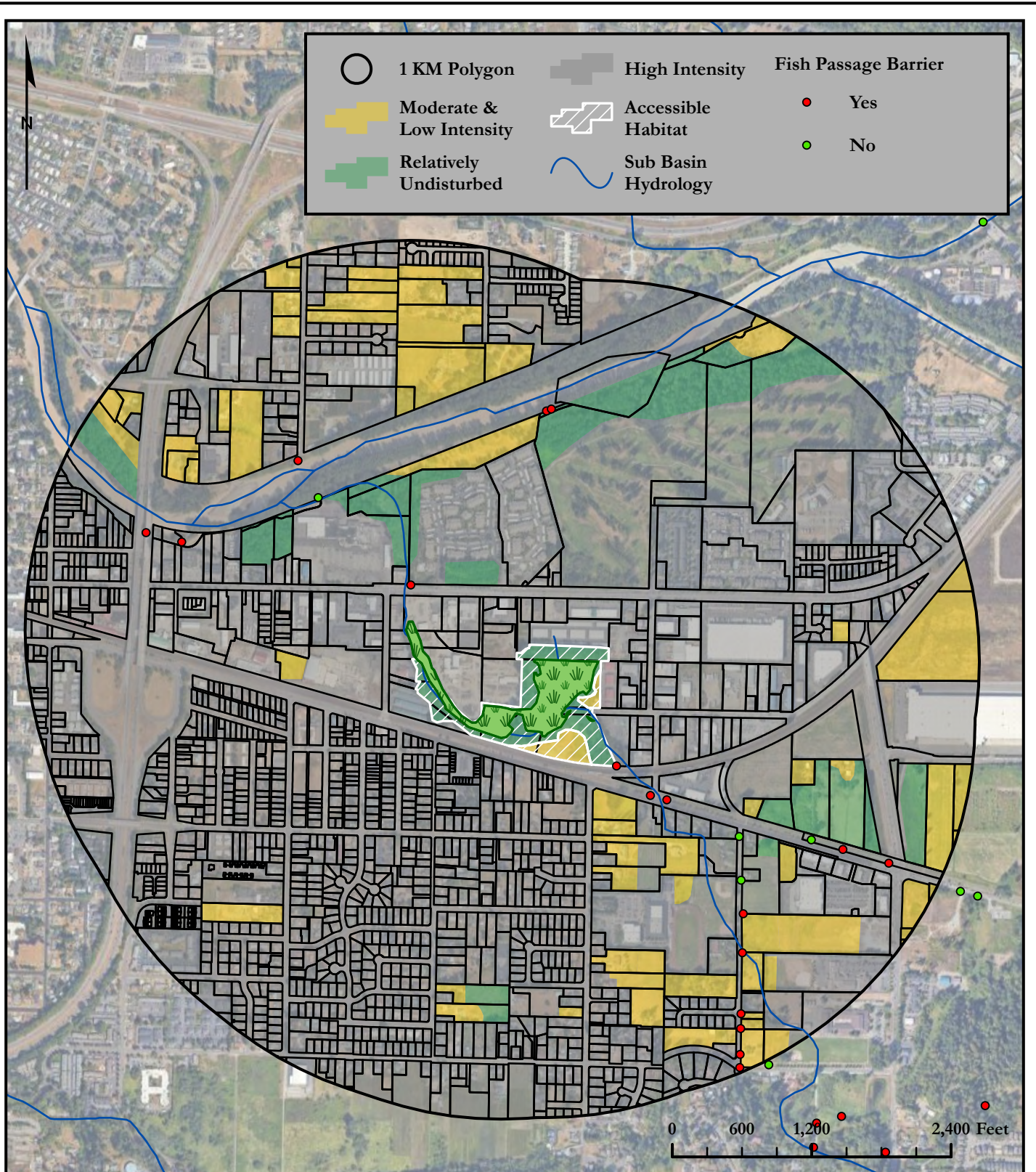



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 PIERCE COUNTY PARCEL NUMBER:
 2105200221

DATE: 3/10/2026
JOB: 2754.0001
BY: MR
SCALE: 1"=500'
FIGURE NO. 3 of 6

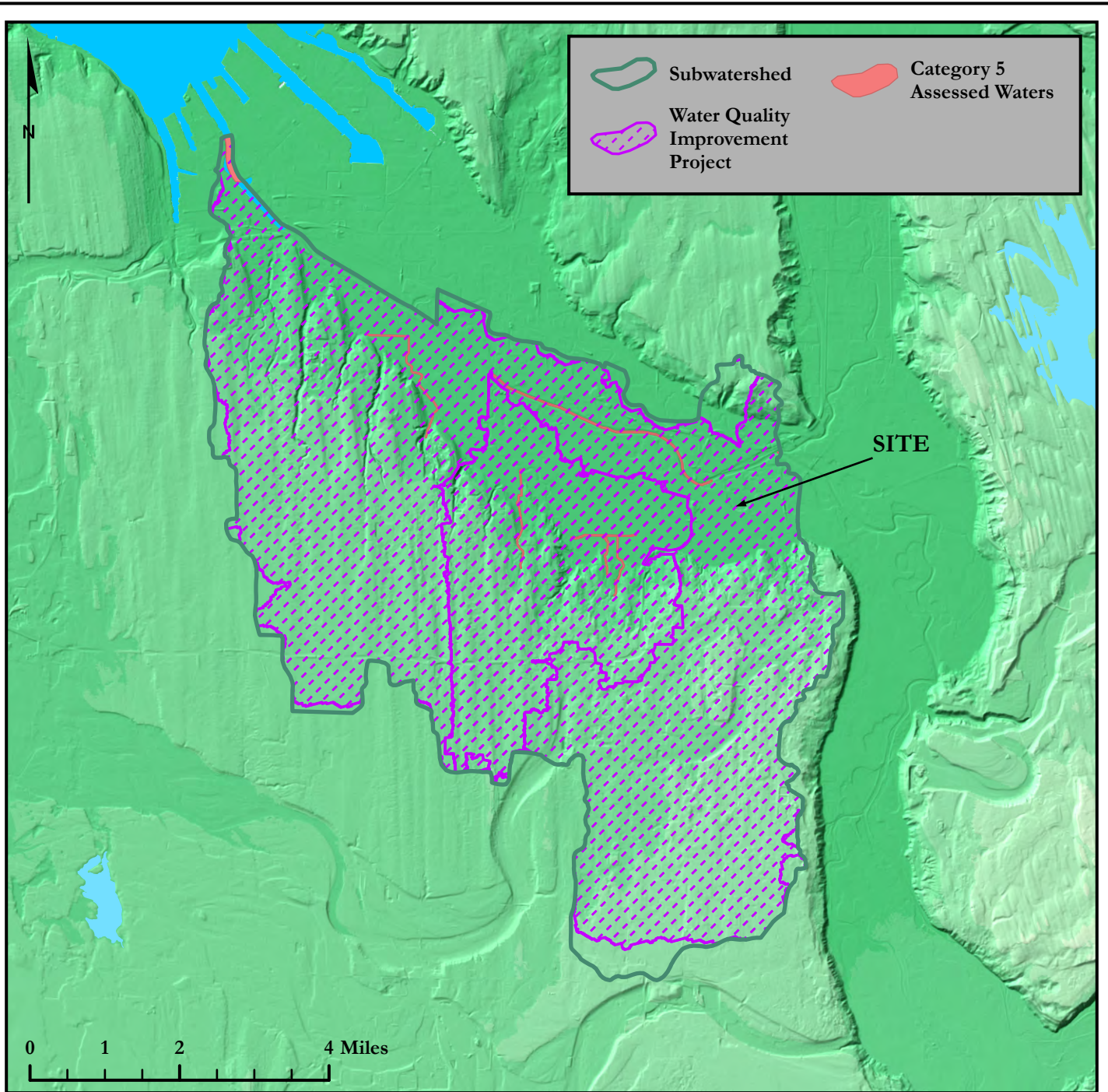
HABITAT MAP




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 PIERCE COUNTY PARCEL NUMBER:
 2105200221

DATE: 3/10/2026
JOB: 2754.0001
BY: MR
SCALE: 1"=1,200'
FIGURE NO. 4 of 6



Name	Pollutants	TMDL ID	WRIA	Status	Year Approved
Puyallup River Bacteria TMDL	Bacteria	109	10	Approved	2011
Puyallup River Multiparameter TMDL	BOD5, Ammonia-N, C	19	10	Approved	1994
Clarks Creek Watershed Bacteria TMDL	Bacteria	88	10	Approved	2008
Clarks Creek Watershed DO TMDL	Dissolved Oxygen	136	10	In Development	N/A



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 2105200221

DATE: 3/10/2026
JOB: 2754.0001
BY: MR
SCALE: 1"=2mi
FIGURE NO. 5 of 6

CONTRIBUTING BASIN AND HABITAT DATA

D.4.0 - D.5.3		
	Area of Contributing Basin (SF)	28,673
	Area of Wetland A (SF)	580
	Percent of Wetland A within Contributing Basin	2.022%
	Area of Contributing Basin (SF)	2,952,015
	Area of Wetland B (SF)	384,826
	Percent of Wetland B within Contributing Basin	13.036%
	Percent of Intensive Human Land Use within Contributing Basin for Wetland B	68%

H.2.0		
H.2.1	Wetland A and B	
	Abutting Undisturbed Habitat	0.92%
	Abutting Moderate & Low Intensity Land Uses	0.25%
	Accessible Habitat	1.04%
H.2.2		
	Undisturbed Habitat	6.06%
	Moderate & Low Intensity Land Uses	10.51%
	Undisturbed Habitat in 1 KM Polygon	11.32%
H.2.3		
	High Intensity Land Use in 1 KM Polygon	83.43%

Attachment F – Project Team Qualifications

Project Manager: Casey Lanier

Field Scientist(s): Steven Sweet

Report Preparation By: Chloe Beck

Map Preparation By: Melanie Rogers

Document Quality Assurance By: Morgan Kirsanov

Casey Lanier is a Senior Environmental Scientist and Project Manager with 11 years of professional experience. Casey has a background in hydrology, riparian ecology, fisheries, and data collection and telemetry. He currently works as a project manager supporting single family and small commercial development projects navigating the permitting and critical areas review process. He also performs and leads small teams in wetland, stream, and shoreline delineations as well as fish and wildlife habitat assessments. His noteworthy experiences include construction monitoring and support for large stream relocation projects as well as wetland restoration and mitigation projects, time-series hydrologic data analysis for regulatory compliance and team lead for fish recovery and exclusion projects.

Education: Bachelor of Science in Environmental Science from California State University Monterey Bay), Graduate Level Course Work in Fisheries and Wildlife Management from Oregon State University. *Professional Trainings:* Washington Department of Ecology Wetland Rating Manual, Determining the Ordinary High Water Mark, Using the 2021 Interagency Wetland Mitigation Guidance, Using the Credit-Debit Method for Estimating Mitigation Needs, How to Conduct a Forage Fish Survey, 40-hour wetland delineation training utilizing the US Army Corps of Engineers Wetland Delineation Manual (Western Mtns, Valleys, & Coast and Arid West Regional Supplement) *Qualified Author and Scientist Lists:* Pierce County Qualified Wetland Scientist.

Steven Sweet is a Fish Biologist and Environmental Scientist with eight years of professional experience. He has a background in aquatic, riparian, and forest ecology, fish biology, natural resources management, riparian restoration, study design, and biological statistics. He currently performs wetland delineations, ordinary high-water mark (OHWM) determinations, stream typing verifications, fish and wildlife habitat assessments, fish relocations as directing biologist, shellfish studies, technical writing, code analysis, and provides permitting support. His noteworthy experiences include experience in local and state government leading fish relocation projects, water storage projects, biological studies, grant and technical writing, stream typing and OHWM determinations, oversight and input on culvert replacement and riparian restoration projects, groundwater and water quality monitoring, permitting, and project reporting. He has experience performing fish, amphibian, shellfish, invasive species, and habitat surveys on projects throughout the region; and in developing biological studies for local government. He has experience pursuing and acting under permits with the NMFS, USACE, USFWS, WSDOE, WDFW, and local government. He is an experienced fish relocation practitioner and backpack electrofisher with extensive salmonid experience.

Education: Bachelor of Science degree with a focus in Aquatic and Forest Ecology from The Evergreen State College in Olympia, Washington. *Professional Certificates:* Principles & Techniques of Electrofishing CSP2C01, Electrofishing Safety CSP22. *Professional Trainings:* 40-hour wetland delineation training for Western Mountains, Valleys, & Coast and Arid West Regional Supplement through Wetland Training Institute, Inc., Using the Revised Washington State Wetland Rating System (2014) in Western Washington, How to Determine the Ordinary High-Water Mark. *Qualified Author and Scientist Lists:* Pierce County Qualified Wetland Specialist & Fisheries Biologist.

Chloe Beck is a Staff Scientist with 7+ years of professional experience. Chloe has a professional background in research, vegetation monitoring, grant writing, bird and wildlife surveying, volunteer coordination, and environmental education. She currently assists with wetland and ordinary highwater delineations, conducts environmental code analysis, prepares environmental assessments, mitigation plans, and Biological Evaluations. She also assists with regulatory communications. Her noteworthy experiences include managing large biological datasets, performing ecological surveys in Puget Sound region, and experience conducting various ecological surveys while studying abroad in Patagonia, Chile.

Education: Master of Science in Environmental Science from Western Washington University. Thesis title: *Biodiversity of Snow Algae in the North Cascades: Comparing Distinct Microhabitats at Mount Watson*. Bachelor of Arts in Zoology and Bachelor of Arts in International Studies with a focus on The Global Environment from Miami University in Oxford, OH. *Professional Certificates:* Basic Wetland Delineator Training with the Wetland Training Institute 40-hour USACE wetland delineation training; Washington State Department of Ecology, Coastal Training Program, How to Determine the Ordinary High Water Mark and Using the Washington State Wetland Rating System (2014). Data Science for Environmental Applications from Western Washington University.

Melanie Rogers is a GIS Analyst at Soundview Consultants and Wetland Resources. She has a background in environmental studies, web application development, cartography and higher education. Melanie currently analyzes GIS data for wetland rating maps, natural resources monitoring plans, vegetation and habitat mapping, government land development and cultural resource assessments.

Education: Melanie earned a Master of Science degree in Geospatial Technologies from the University of Washington, Tacoma. She has also received a Bachelor of Science Degree in Environmental Studies from the University of Maryland, Baltimore County and has an Associates of Science in Geography and GIS. *Professional Training:* Melanie is certified through the University of Maryland as a Cartographer.

Morgan Kirsanov is a Senior Scientist I with 6 years of professional experience. She has a background in marine and freshwater ecology, wildlife and natural resource assessments, and monitoring wetland and riparian habitat restoration sites in the Pacific Northwest. She currently assists with performing wetland, stream, and shoreline delineations and fish and wildlife habitat assessments, conducting environmental code analysis, and preparing and/or providing final quality assurance/control for various types of scientific reports and permits for agency submittal. Her noteworthy experiences include analyzing datasets for wetland hydrology monitoring, collecting eDNA samples from streams for analysis, providing document quality assurance on critical area reports, mitigation plans, and permitting documents prior to submittal, and assisting with Endangered Species Act documentation for federal permit submittals.

Education: Bachelor of Science degree in Biology with Marine Emphasis from Western Washington University, Bellingham. *Professional Training:* 40-hour Wetland Delineation Training (Western Mountains, Valleys, and Coast and Arid West Regional Supplements), Using the 2014 Wetland Rating System, How to Determine the Ordinary High Water Mark, Using the 2021 Interagency Wetland Mitigation Guidance, Designing and Installing Wetland Mitigation and Restoration Projects, and Using the Credit-Debit Method for Estimating Mitigation Needs. *Qualified Author and Scientists Lists:* Pierce County Wetland Specialist.