

Preliminary Critical Area Report and Conceptual Mitigation

Prepared For

City of Marysville
501 Delta Avenue
Marysville, WA 98270

November 28, 2023

Marysville Riverwalk Project



EXECUTIVE SUMMARY

PROJECT NAME: Marysville Riverwalk

LOCATION: The project is located at 80 Columbia Avenue and 60 State Avenue, in Marysville, WA, within the NW 1/4 of Section 33 of Township 30N, Range 05E, W.M (the Site). It also includes portions of 13 residential parcels the City acquired as part of the 1st Street bypass project in 2019.

CLIENT: City of Marysville

PROPOSED PROJECT: The City of Marysville proposes a water-dependent mixed-use development on the Ebey Slough waterfront to realize its vision for downtown Marysville as presented in the 2019 Downtown Master Plan.

The proposed project is a mixed-use development including multi-family luxury apartments, a hotel, restaurants, a sports facility, a public plaza, and open space connections to the Ebey Waterfront trail and connecting commercial uses.

PRELIMINARY DETERMINATION: Three wetlands, one stream, and the Ebey Slough shoreline were identified directly adjacent to or within the project corridor. The wetlands and streams are summarized below.

IMPACTS: Proposed impacts include

- 1) Filling approximately 2,080 square feet of Category III wetland (Wetland 2)
- 2) Rerouting 1,000 linear feet of existing channelized/piped stream to a daylighted channel east of the project area.

MITIGATION: Proposed mitigation measures include

- 1) Purchasing the appropriate quantity of mitigation bank credits within an approved mitigation bank in the area.
- 2) Enhancing up to 3 acres of new stream buffer.
- 3) Enhancing 21,000 square feet of WL2 where the new Stream 1 water will discharge.

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ACRONYMS AND ABBREVIATIONS

DNR	Washington Department of Natural Resources
Ecology	Washington State Department of Ecology
ESA	Endangered Species Act
GIS	geographic information system
GNSS	global navigation satellite system
HGM	hydrogeomorphic wetland classification
LRR	land resource area
MLRA	major land resource area
MP	milepost
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	ordinary high water mark
PFO	palustrine forested
PHS	priority habits and species
ROW	right-of-way
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
WMVC	Western Mountains, Valleys, and Coast (regional supplement to the USACE Wetland Delineation Manual)
WDFW	Washington State Department of Fish and Wildlife
WRIA	water resource inventory area

1.0 INTRODUCTION

This report provides an assessment of wetlands, streams and fish and wildlife habitat areas within the study area for the Marysville Riverwalk project. It also includes a description of existing conditions anticipated impacts, and a conceptual mitigation approach to protect critical area functions and values.

The information provided in this report was based on the review of available online public resources and a site visit to evaluate the existing conditions. This report is prepared for the City of Marysville to use during site planning and permitting procedures.

All waters identified in this report are assumed to be under US Army Corps of Engineers (Corps), Washington State Department of Ecology (Ecology), and Washington Department of Fish and Wildlife jurisdictions. Buffers are regulated by the City of Marysville.

2.0 Review Area

2.1 Project Location

The project is located at 80 Columbia Avenue and 60 State Avenue, in Marysville, WA, within the NW 1/4 of Section 33 of Township 30N, Range 05E, W.M (the Site). It also includes portions of 13 residential parcels the City acquired as part of the 1st Street bypass project in 2019. See Figure 1 on the next page for a view of the project's vicinity.

2.2 Study Area

The study area includes the project boundary and areas within 300 feet surrounding it. We did not access off-site conditions beyond what could be observed from public roads and across property or fence lines. We used aerial photograph interpretations and published inventories to assess conditions beyond the public rights-of-way.

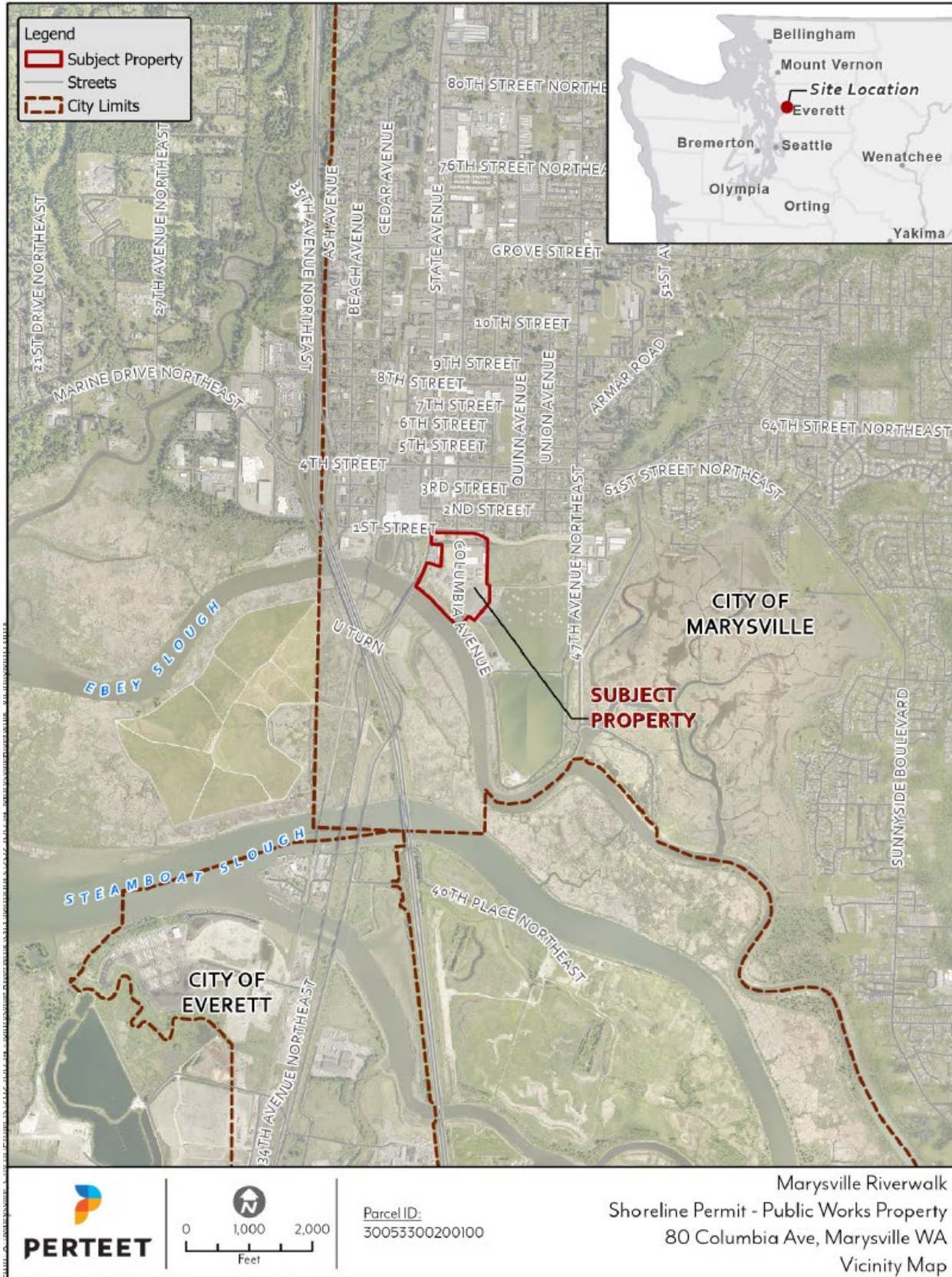


Figure 1. Vicinity Map.

3.0 METHODS

Our methods included review of existing databases to gather information on topography, drainage patterns, soils, vegetation, and potential or known wetlands and streams in the project vicinity and a site investigation to verify conditions. The information and conclusions are based on the professional judgment of Perteet ecological staff using readily available information. Wetland field delineations and determination data collection are imminent during later project application reviews.

The following resources were reviewed:

- National Wetlands Inventory (NWI) maps (US Fish and Wildlife Service, 2023).
- NRCS Web Soil Survey for Snohomish County, Washington (NRCS, 2023) and Washington State Hydric Soils (NRCS, 2023).
- Wetlands of High Conservation Value and Washington State threatened, endangered, and sensitive plants (Washington State Department of Natural Resources [DNR], 2023).
- Federally listed threatened, endangered, or candidate wildlife species (Washington State Department of Fish and Wildlife [WDFW], 2018) and proposed and designated critical habitat (National Oceanic and Atmospheric Administration Fisheries, 2023).
- WDFW Priority Habitats and Species (WDFW, 2023).
- City of Marysville Critical Areas Map (Marysville, 2023).
- Washington State Department of Natural Resources (DNR) Forest Practices Application Mapping Tool.

The field visit for this assessment was completed on September 26, 2023, by Perteet ecological staff to evaluate the existing conditions and estimate the boundaries of regulated aquatic areas in the project area.

Wetland and stream assessment and report preparation follow policy and guidance under the Marysville Municipal Code Chapter 22E.

The City of Marysville buffers (Marysville, 2023) were applied to wetlands, streams, and other waters in the project, in conjunction with the Washington State Department of Natural Resources (DNR) Forest Practices Rules, water type classifications (DNR, 2023).

3.1 Wetland Review

Wetland indicators are determined using the routine methods described in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (WMVC Regional Supplement) (USACE 2010).

Wetlands were classified using the US Fish and Wildlife Service (USFWS) classification system (Cowardin) (USFWS 1979) and the hydrogeomorphic classification system (HGM) (Brinson 1993). Wetlands were rated using the Washington State Wetland Rating System for Western Washington: 2014 Update (Hruby 2014), as required by the Marysville Municipal Code (MMC), Chapter 22E.010 (Marysville, 2023).

The Marysville Municipal Code (MMC), Chapter 22E.010, was evaluated for wetland buffer requirements for wetlands near the project. Anticipated buffer widths range from 25 on wetlands associated with Ebey Slough to 75 feet on Category III wetlands.

3.2 Stream Review

Stream ordinary high water mark (OHWM) follows the USACE guidance for OHWM identification (USACE 2014) and Ecology's guidance for Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State (Ecology 2016).

Fish presence was determined based on available WDFW Fish Passage Inventory (WDFW, 2023) and Fish Distribution data (WDFW and Northwest Indian Fisheries Commission, 2018).

Impaired waters, those on the 303(d) list or covered by a Total Maximum Daily Load (TMDL), in the study area were identified using Ecology's Water Quality Atlas website.

Special designations were determined using the Corps list of Navigable Waters of the United States in Washington State (Corps, 2008) and the National Wild and Scenic Rivers System website for Washington State.

3.3 Species and Habitats of Interest

Under federal Section 404 Clean Water Act Permitting, a separate Biological Assessment (BA) will address impacts to Endangered Species Act (ESA) federally listed threatened or endangered wildlife species and proposed and designated critical habitat, as needed. This report includes preliminary information regarding potential ESA species and habitat, Washington State threatened, endangered, or sensitive species, and habitats of interest that may occur in the project. The following data sources were reviewed for information on federally and state listed threatened, endangered, candidate, sensitive species, and species of concern (TES), as well as habitats of interest:

- Federally listed threatened, endangered, or candidate wildlife species (WDFW 2023) and proposed and designated critical habitat (NOAA 2023).
WDFW Priority Habitats and Species (PHS) (WDFW 2023).
- Washington State threatened, endangered, and sensitive plants (DNR 2023).
- Wetlands of High Conservation Value (DNR 2023).

4.0 EXISTING CONDITIONS

4.1 Landscape Setting

The site is situated on low-lying topography along the northern side of the Ebey Slough Waterfront with minor variations in elevations just above sea level. Flood deposits and low river terraces are the predominant geomorphic features in the area. Ebey Slough is a significant water body, part of an extensive estuary system in the Snohomish River delta.

The dominant vegetation community in the area consists of wetland plants and species adapted to the coastal and estuarine environment, such as marsh grasses, sedges, thicket of blackberry and Douglas spiraea, as well as stands of willow, black cottonwood, and alder. However, the subject site has largely been denuded of native vegetation and gravel and asphalt cover more than 50% of it.

The current land use activities on-site include light industrial activities and the city of Marysville public works buildings and operations and maintenance center. Surrounding land uses include a mix of residential, commercial, and recreational areas. Waterfront locations often have parks, marinas, and other recreational amenities, such as the paved, publicly accessible Ebey Waterfront Trail.

Historical land uses and disturbances in the area include industrial activities, land reclamation, and the wastewater treatment facility. These historic land uses have altered the natural hydrology for development purposes. Such changes have resulted in limited protection of critical areas and their functions and values, which are at risk of further degradation as development expands into the area.

4.2 Wetlands

4.2.1 Overview

Three wetlands were identified nearby. They are mostly off-site or outside the project boundaries and labeled as WL1, WL2, and WL3 in this report and corresponding exhibits. Table 1 below summarizes the wetlands in the vicinity and the remainder of this subsection includes a description of vegetation, soils, and hydrology and functions and values. Wetland rating forms are provided in Appendix B.

Table 1. Wetlands within the Project Vicinity.

Wetland ^a	Wetland Classification				Wetland Size (acre)	Buffer Width (feet) ^e
	Cowardin ^b	HGM	Ecology ^c	Local Jurisdiction ^d		
WL1	PEM1Ch	Depressional	Category III	Category III	18+/-	75
WL2	PEMIC	Depressional	Category III	Category III	2.5+/-	75
WL3	E2EMIN	Freshwater Tidal Fringe	Category II	Category II	0.75+/-	25

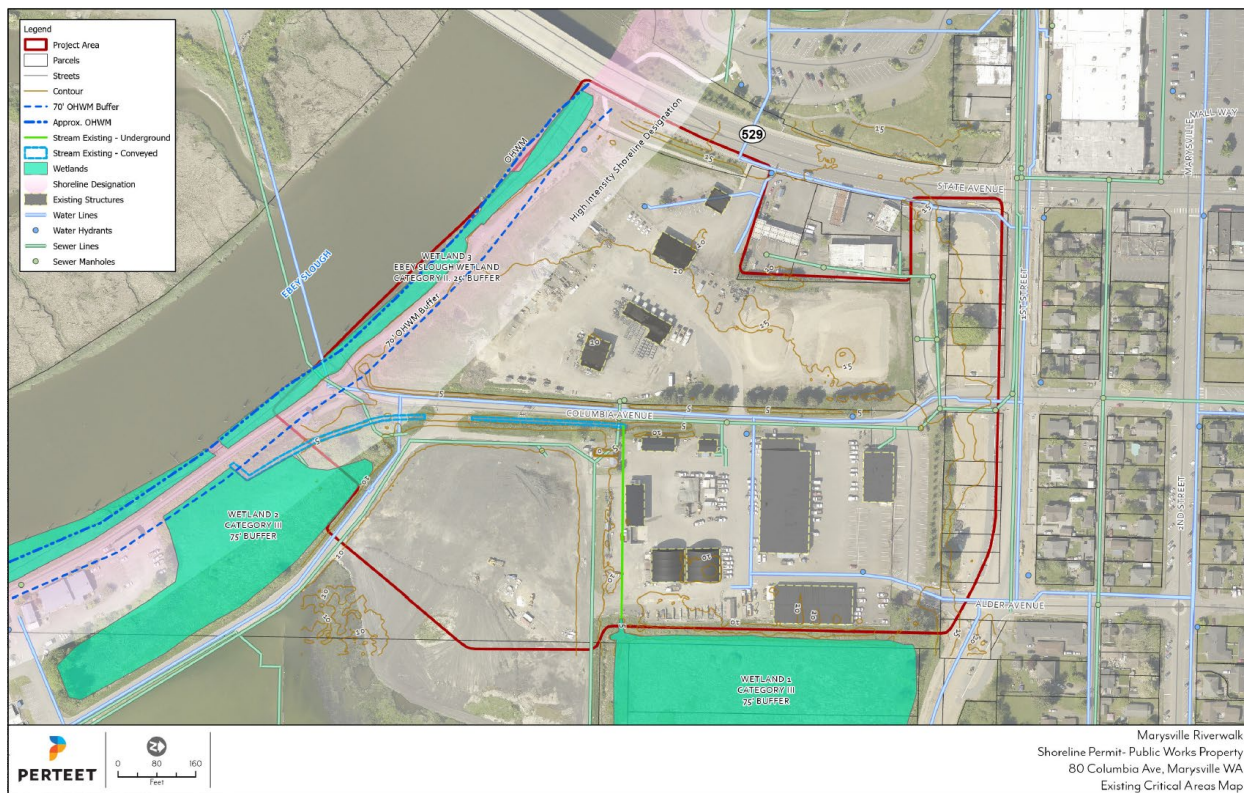


Figure 2. Existing Conditions Map.

4.2.2 Vegetation

Table 2. Dominant Vegetation Observed at Each Wetland.

Wetland	Dominant Vegetation
WL1	Reed canary grass, black cottonwood, pacific willow, Sitka willow, Douglas hardhack, Himalayan blackberry, pacific cattail
WL2	Reed canary grass
WL3	Seacoast bulrush, triangle arache

4.2.3 Soils

The NRCS maps the site as containing Puget Silty Clay Loam. This soil is comprised of 85% Puget soils with small includes of Sultan, Snohomish, and Sumas soils. The Puget series is described as very deep, poorly drained soil that formed in flood deposits and largely found on low river terraces and in floodplains. These soils occur in nearly level topography. Common characteristics include a dark grayish brown (2.5Y 3/2) silt loam at the surface and grayish brown (2.5Y 5/2) silty clay loam with dark brown and brown redox concentrations to about 17 inches below the surface. Puget, Snohomish, and Sumas are listed as hydric soils in Washington State.

4.2.4 Hydrology

Surface water and saturation was not observed during the September 26, 2023, site assessment within WL1 and WL2 but inundation is visible in aerial imagery and their geomorphic positions and dominance of Facultative and wetter species are indicators that these areas are influenced by seasonal high groundwater. Hydrology within WL3 within the Ebey Slough channel, is influenced by surface flows and tidal fluctuations.

Table 3. Presumed Hydrologic Inputs Observed at Each Wetland.

Wetland	Primary Hydrologic Input
WL1	Seasonal high groundwater
WL2	Seasonal high groundwater
WL3	Tidal and surface flows

4.2.5 Wetland Functions

WL1 is a large emergent and scrub-shrub wetland located offsite to the east. It has been modified and manipulated over the years through diking and impoundments from high-intensity development on all sides. The wetland supports perennially flowing drainage outlet, persistent vegetation and potential for seasonal ponding. It is surrounded by surface areas that generate excessive runoff and pollutants, and pollution and flooding problems are known to occur in the same basin. Based on these existing conditions, WL1 provides important water quality and hydrologic functions on-site and in the landscape.

Wildlife habitat is limited within the wetland, due to low habitat interspersion, few special habitats features and isolation from habitats. Its association with instream and riparian habitats elevates its value somewhat, but overall, it scores low for habitat functions.

WL2, though smaller than WL1, holds similar conditions and levels of function also due to historical modifications. It receives stormwater discharges and hydrology from the piped stream that originates in WL1 (discussed in greater detail in Section 4.4). WL2 is dominated by persistent vegetation adjacent upland surface areas that generate excessive runoff and pollutants, and pollution and flooding problems are known to occur in the same basin. Based on these existing conditions, WL2 provides important water quality and hydrologic functions on-site and in the landscape.

Wildlife habitat is also limited within WL2 due to low habitat interspersion, few special habitat features, and is isolated from other habitats by heavily developed areas. And although it supports valuable instream and perennial habitat and is near Ebey Slough habitat, its overall value for habitat is low.

WL3 is the tidal fringe wetland influenced by Ebey Slough seasonal fluctuations and regular tidal fluctuations. The wetland is covered by persistent emergent vegetation with potential to trap sediments and pollutants, which benefits the slough and downstream environments. It is somewhat narrow compared to the width of the slough, which hinders its capacity to control floodwaters at the site. It nevertheless has the capacity to reduce flow velocities and protect downstream communities and ecosystems during significant flooding events.

The wetland itself supports relatively low plant diversity with limited special features and hydroperiods, but it can provide important refuge and nutrients for birds, fish, and macroinvertebrates. Its connectedness with Ebey Slough, a lightly used waterway by boaters, and proximity to valuable riparian and instream habitat are indicative of moderate to high habitat function and value in the landscape.

4.2.6 Wetland Buffers

The buffers are mostly degraded and devoid of viable vegetation on this site. The vegetated buffers on WL1 terminate at the edge of the existing developed areas, resulting in roughly 25 feet vegetated areas between the wetland and the existing pavement and building. The buffer on WL2 is partly vegetated with invasive blackberry, reed canary grass, and sporadic black cottonwood. The buffer on WL3 contains the paved pedestrian riverfront walkway as part of the allowed use under the Shoreline Master program and contains some landscape plantings, rose, and blackberries.

Where existing roadways intersect the buffers, the buffer extent is at the base of the road prism. Buffers do not extend across roadways or other legally established uses that functionally limit wetland protection.

4.3 Streams

Two streams occur in the project's vicinity, including Ebey Slough along the southern site boundary and a Type F stream flowing south through the site within the southeastern quarter.

A summary of each aquatic resource is presented in Table 4 below.

Table 4. Streams within the Project Corridor.

Stream Name	DNR Water Type	City of Marysville Buffer Width (feet)
Ebey Slough	Type S	70' under Marysville SMP
Stream 1	Type F	150'

4.3.1 Ebey Slough

Ebey Slough is part of an extensive estuary system in the Snohomish River delta, classified as a Type S Shoreline of Statewide Significance and borders the south side of the subject site. The shoreline is regulated under the Marysville Shoreline Master Program (SMP). Its setback for mixed uses within the High-Intensity Shoreline Jurisdiction is 70 feet (Marysville Shoreline Management Program, March 2020). Ebey Slough provides valuable habitat for several important fish species, as described in Section 5.0 below.

4.3.2 Stream 1

The Type F stream historically flowed in a meandering channel from WL1 to Ebey Slough where the filled lagoon now exists. The stream is more than 2 feet wide on a low gradient less than 5% between Ebey Slough up to the upper reach in WL1. Marysville Critical Areas Maps (Marysville, 2023) show the stream as unregulated but it is likely a Type F stream.

Stream 1 was placed in a pipe several decades ago to make way for the Marysville Sewage Lagoon facility. The piped conveyance flows west and discharges to a south-flowing drainage and eventually discharges to Ebey Slough. The ditch conveyance is vegetated with grasses and blackberries along the side slopes but above-bank riparian vegetation is non-existent as it flows through the active industrial site. No fish habitat has been documented within this stream.

5.0 SPECIES AND HABITATS OF INTEREST

As part of the greater Snohomish River delta leading to the Puget Sound, Ebey Slough provides habitat for a variety of species. Important fish include Steelhead Trout, Sockeye Salmon, Pink Salmon, Bull Trout, Coho Salmon, Chinook Salmon, Chum Salmon, and Cutthroat Trout.

Listed species under the Endangered Species Act (ESA) documented within Ebey Slough and nearshore waters of Puget Sound include Puget Sound Chinook salmon, Puget Sound steelhead, and Bull Trout. Other ESA-listed species potentially present in Puget Sound are Stellar sea lion, humpback whale, leatherback sea turtle, marbled murrelet, and Southern Resident killer whale. Of these latter species, only Southern Resident killer whale is likely to be present in the nearshore or estuarine waters of Ebey Slough.

Ebey Slough is critical habitat for Puget Sound Chinook salmon and steelhead, and the outer part of the Snohomish River delta, 0.3 miles west of the site is critical habitat for Southern Resident killer whale.

For Marbled Murrelet there is a final critical habitat for this species identified on IPaC; however, the project location does not overlap the critical habitat.

6.0 IMPACT ASSESSMENT

6.1 Project Purpose and Description

The City of Marysville is embarking on re-purposing city lands currently used for light industrial purposes into a water-dependent mixed-use development on the Ebey Slough waterfront. The project is intended to meet the City's vision for its downtown as presented in the 2019 Downtown Master Plan.

The proposed project is a mixed-use development including multi-family luxury apartments, a hotel, restaurants, a sports facility, and public plaza, and open space connections to the Ebey Waterfront trail and connecting commercial uses.

To achieve this development plan, it is necessary to add significant amount of fill to the site (155,100 CY) to bring it above base flood elevation. As a result, a portion of WL2 will be filled and Stream 1 will be rerouted to the east in a daylighted, enhanced channel outside of the project area. See Figure 3 Site Plan on the next page.

Proposed impacts are summarized below, and an impact analysis is provided in the following section. See Figure 3 on the next page for site plan and proposed impact and mitigation areas.

- Wetland impact—Fill approximately 2,080 square feet of Category III wetland (Wetland 2) and 16,400 square feet of its associated buffer.
- Temporary stream impact—Reroute 575 linear feet channelized and 400 linear feet of pipe Type F stream to a newly created, daylighted stream channel at least 700 linear feet with up to three (3) acres of enhanced riparian buffers.

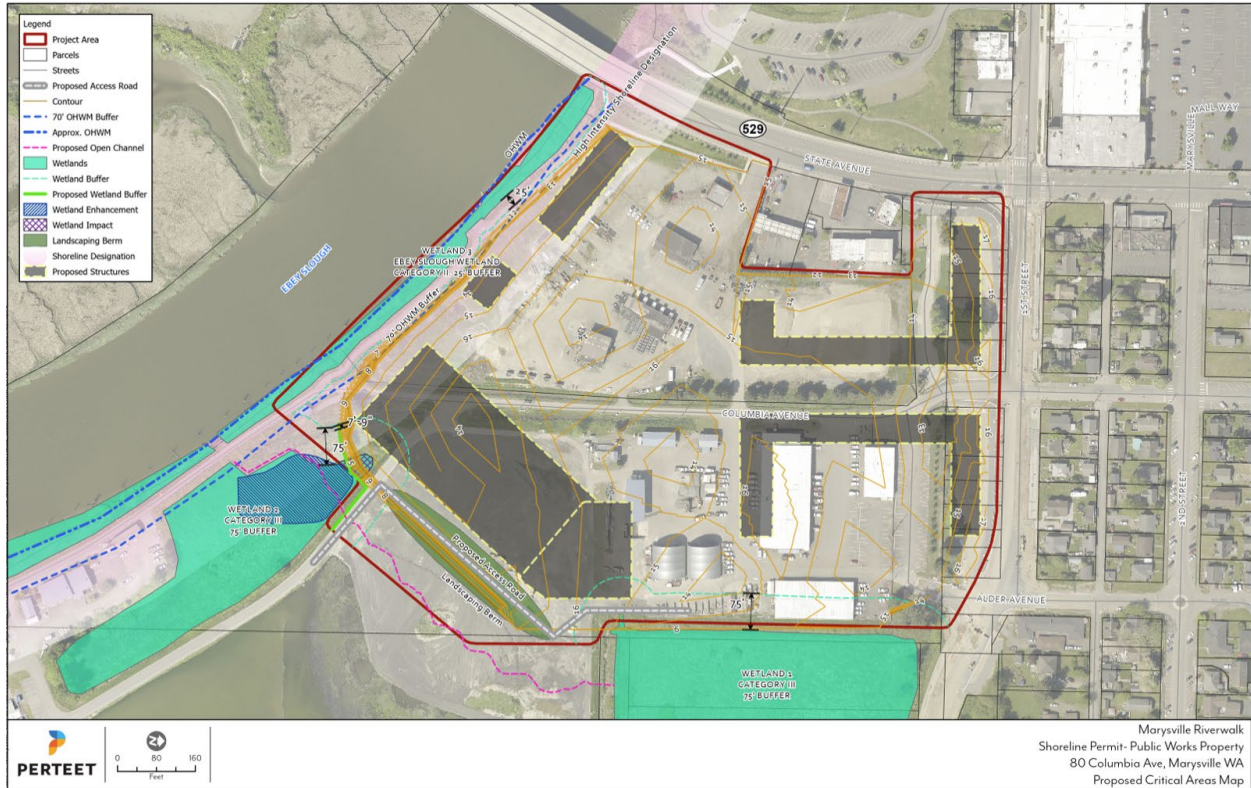


Figure 3. Site Plan and Conceptual Mitigation Plan.

6.2 Impact Analysis

6.2.1 Water Quality Improvements

Existing Conditions

The subject site is currently degraded and developed with industrial uses. Runoff entering drainage ditches connects with natural hydrology of the channelized watercourse between WL1 and WL2. It is assumed that pollutants and mobilized sediments from these ditches are potentially mobile through the water column and ultimately discharge to Ebey Slough. The local drainage basin contains 303d listed water and is part of a TMDL, indicating that water quality improvement functions are of value to the area. However, the site's condition and existing uses provides essentially no water quality function.

Potential Impact

The project footprint will occur over existing degraded surfaces and paved and built areas. Vegetation removal will be limited to herbaceous and weed vegetated surrounding the site, and a few scattered deciduous trees and scrub-shrub vegetation within the designated wetland fill area. Native landscaping will be established within the new buffers, as well as areas within Wetland 2 and along the Ebey Slough setback (regulated under the SMP) to ensure a no net loss of vegetation on the site.

Stormwater measures will comply with the 2019 Washington Department of Ecology Stormwater Manual and implement LID where possible. Construction impacts will be minimized to the greatest extent possible, best management practices (BMPs) will be implemented to prevent the mobilization of sediments and ensure that site disturbances remain on-site.

Re-routing Stream 1 to a daylighted, enhanced channel will result in significant water quality improvements. Mobilized sediments and pollutants will no longer enter into this system as the newly created channel will convey only natural hydrology out of Wetland 1. The channel will be created with suitable stream bed sediments, and its buffers will be densely vegetated with a diverse mix of native trees, shrubs, and groundcover vegetation.

Impact Determination

No water quality impacts are anticipated since the project the projects plans ensure that no pollutants from the site will enter downstream systems. Rather, daylighting Stream 1 and enhancing its buffers will improve water quality functions. Implementing construction BMPs, the latest stormwater management methods, and a significant net increase in native landscaping will ensure that the project will not detrimentally impact water quality.

6.2.2 Fish and Wildlife Functions Impacts

Existing Conditions

Stream 1 was altered, placed partially in a pipe and a drainage ditch to accommodate the sewage lagoon facility, which was recently backfilled within the last few years. The stream course contains no known documented presence of salmonids or other aquatic species. It lacks canopy cover and contains invasive species. As such, it is presumed that fish usage is likely low due to existing impacted conditions within the watercourse.

Potential Impact

The City proposes to move the stream channel to the east into a daylighted, sinuous channel with appropriate streambed sediments and enhanced buffer vegetation. The City will size two of the culvert crossings so that they are fish passable. This action will create more than 1,000 linear feet of stream habitat leading to at least another 1,000 feet of habitat within WL1.

Temporary impacts result in no removal of significant vegetation or loss no loss of fish habitat since none neither is present. However, the stream creation measures will be done during an allowed work window, and appropriate dewatering, isolation, fish exclusion and other BMPs will be in place during construction.

Impact Determination

We expect the stream relocation to result in a net improvement to wildlife habitat functions.

6.2.3 Hydrologic Functions

Existing Conditions

The site is degraded with hardened surfaces, limited vegetation cover and limited capacity to retain significant volumes of floodwaters. It is almost entirely within the floodplain.

Potential Impact

Although the site and approximately 2,000 square feet of wetland is to be filled to just above base flood elevations, the floodway will not be filled. The rerouted stream will not have altered hydrologic functions as a result of the project. Vegetation enhancement along the Ebey shoreline, within WL2 and the new stream corridor can help to control hydrologic processes. Furthermore, displaced floodwaters can be taken up by WL1 and WL2.

Opening the stream between the two wetlands can help control and mitigate flooding events. Managing the flow of water can help prevent property damage and economic losses due to flooding, which, in turn, can benefit the community's safety.

Impact Determination

The project does not result in significant loss of hydrologic function since nearby wetlands and the new stream corridor have the capacity to store large volumes of hydrology and planting significant amounts of native vegetation will help to control hydrologic processes.

6.2.4 Cumulative Impacts

The subject site is currently heavily degraded and developed with industrial uses within the downtown core growth area of Marysville. The proposed redevelopment project will convert the site to other high intensity mixed uses. We would anticipate that population growth and development will continue to increase as part of the redevelopment plan on-site and in surrounding areas. Along with that, traffic and noise levels are expected to increase. Although the project requires significant fill placement, it is unlikely to detrimentally impact water quality or hydrologic functions as BMPs and the most current stormwater methods will be implemented. Furthermore, cumulative impacts on fish and wildlife habitat are expected to be low since these functions are virtually nonexistent on-site, compensatory mitigation will ensure no-net-loss of functions, and development impacts will be contained on-site.

7.0 MITIGATION

The on-site wetlands and stream are assumed to be under the jurisdiction of the City of Marysville, Ecology, Corps, and WDFW. Compensatory mitigation measures are proposed to replace impacted functions and are designed to meet Marysville, WDFW, and interagency guidance documentation to the greatest extent possible.

7.1 Mitigation Sequencing

Project proponents are required to demonstrate mitigation sequencing, according to MMC 22E.010.110.1(a-f) if impacts are proposed. This means the applicant must demonstrate that all reasonable efforts have been taken to mitigate impacts in the following sequence: Avoiding the impact, minimizing the impact, rectifying the impact, reducing the impact over time, and compensating the impact. The discussion follows.

7.1.1 Avoid

The proposed project avoids all direct impact on Ebey Slough waters and its buffers but impacts on a portion of WL2 and Stream 1 are unavoidable to bring the elevation of the site above flood elevation. Not taking action to increase the site elevation could render the new development at risk of damage from flooding and could also put the health and safety of residents at risk during a significant flood event.

In addition, it is necessary to move Stream 1 out of the project rather than constructing over it or having fragmented development around it. Avoiding the stream by not taking action to relocate it to the east would impact approximately 25% of the project area, precluding the entire sports complex that is already in the redevelopment plans.

7.1.2 Minimize

To minimize impacts to the greatest extent possible, best management practices (BMPs) will be implemented to prevent the mobilization of sediments and ensure that site disturbances remain on-site. Additionally, the project

stormwater plans will comply with the 2019 Washington Department of Ecology Stormwater Manual and implement LID where possible.

To avoid impacting aquatic life during stream creation, the work will be done only during the allowed work window set by WDFW, and appropriate dewatering, isolation, fish exclusion and other BMPs will be in place in and around the work area during construction.

7.1.3 Rectify

Established riparian buffers will be restored and enhanced with a diversity of native trees and shrubs so that they function to protect the created stream habitat. If any unplanned disturbances occur, a qualified wetland specialist shall evaluate the area and prepare a restoration plan for City review and approval.

7.1.4 Reduce

Stormwater management facilities will be maintained to ensure that water quality functions are not impacted. The protected critical areas and buffer will be demarcated with special signage to ensure their protection.

7.1.5 Compensate

To mitigate the 2,000 square feet of wetland fill and 16,400 square feet of buffer impact, the City will purchase mitigation bank credits from a State-certified mitigation bank and all other provisions for wetland mitigation banking under MMC Chapter 22E.010.130 will apply. In addition, the Ebey Slough shoreline, and the newly created wetland and riparian buffers and portions of WL2 will be restored and significantly enhanced with native vegetation.

The newly created riparian buffers and portions of WL2 will be enhanced with a diversity of native plantings to improve habitat functions within the wetland area.

8.0 CONCEPTUAL MITIGATION STRATEGY

The following provides a summary of the conceptual mitigation measures to compensate for anticipated impacts.

8.1 Stream Channel Restoration

Stream 1 will be restored to an open channel between WL1 and WL2 east of the development via the lagoon fill. The design concept includes a sinuous flow path to mimic natural conditions, with a landscape berm between the development and the stream and two fish-passable culverts at the city's two public works service road crossings.

The new channel will have appropriately sized streambed materials, including cobbles, gravel, and fine material where needed. Additionally, the no fewer than 15 pieces of large woody material with attached root wads will be installed along the stream bank.

Approximately three (3) acres of new riparian buffer areas will be restored and enhanced with dense and diverse native trees, shrubs, and ground cover. Upon completion of final grading work for the new stream path, side slopes, berm, and fish-passable culverts, a minimum 12 inches of topsoil will be added to the planting areas. Following those preparations, the buffers will be planted with native vegetation.

Enhancement plantings will follow Ecology and other restoration guidance recognized as the best available science. The species selected are considered relatively low-maintenance and can tolerate variable conditions. Conifer tree plantings (3-foot tall minimum) will be installed at 15-foot triangular spacing. Large growing shrubs will be installed in random groupings of five plants at 4-5-foot triangular spacing. Small shrub/groundcover species will be installed in clusters at 2-3-foot triangular spacing.

Stratum	Common Name	Latin Name	Size	Spacing	Quantity
Tree	Douglas fir	<i>Pseudotsuga menzeisii</i>	3' tall	15'	TBD
Tree	Western red cedar	<i>Thuja plicata</i>	3' tall	15'	TBD
Tree	Shore pine	<i>Pinus contorta</i>	3' tall	15'	TBD
Tree	Red alder	<i>Alnus rubra</i>	3' tall	15'	TBD
Tree	Black cottonwood	<i>Populus balsamifera</i>	3' tall	15'	TBD
Tree	Scouler willow	<i>Salix hookeriana</i>	3' tall	15'	TBD
Tree	Serviceberry	<i>Amelanchier alnifolia</i>	1 gallon	15'	TBD
Shrub	Nootka rose	<i>Rosa nutkana</i>	1 gallon	4-5'	TBD
Shrub	Snowberry	<i>Symphoricarpos albus</i>	1 gallon	4-5'	TBD
Shrub	Tall Oregon grape	<i>Mahonia aquifolium</i>	1 gallon	4-5'	TBD
Shrub	Red flowering currant	<i>Ribes sanguineum</i>	1 gallon	4-5'	TBD
Shrub	Red-osier dogwood	<i>Cornus sericea</i>	1 gallon	4-5'	TBD
Shrub	Salmonberry	<i>Rubus spectabilis</i>	1 gallon	4-5'	TBD
Shrub	Low Oregon grape	<i>Mahonia nervosa</i>	1 gallon	2-3'	TBD
Shrub	Salal	<i>Gaultheria shallon</i>	1 gallon	2-3'	TBD
Fern	Sword fern	<i>Polystichum munitum</i>	4" pot	2'	TBD

8.2 Wetland Enhancement

A total of 21,000 square feet of WL2 will be enhanced where the new stream channel will discharge. The area is currently dominated by aggressive reed canary grass and blackberry, which will be controlled prior to planting. The area will be planted with hardy, fast-growing species with the ability to compete with the invasive vegetation. Enhancement plantings will follow Ecology and other restoration guidance recognized as the best available science. The species selected are considered relatively low-maintenance, can tolerate variable conditions, can compete with aggressive weeds. Trees will be installed at 15-foot triangular spacing and large growing shrubs will be installed in random groupings of five plants at 4-5-foot triangular spacing.

Stratum	Common Name	Latin Name	Size	Spacing	Quantity
Tree	Red alder	<i>Alnus rubra</i>	3' tall	15'	TBD
Tree	Black cottonwood	<i>Populus balsamifera</i>	3' tall	15'	TBD
Tree	Pacific crabapple	<i>Malus fusca</i>	3' tall	15'	TBD
Tree	Pacific willow	<i>Salix lucida</i>	1 gallon	15'	TBD
Tree	Sitka willow	<i>Salix sitchensis</i>	1 gallon	15'	TBD
Shrub	Red-osier dogwood	<i>Cornus sericea</i>	1 gallon	4-5'	TBD
Shrub	Salmonberry	<i>Rubus spectabilis</i>	1 gallon	4-5'	TBD
Shrub	Douglas spirea	<i>Rubus spectabilis</i>	1 gallon	4-5'	TBD

8.3 Monitoring, Maintenance, and Bonding

For the stream restoration and vegetation enhancements, additional details will be provided in subsequent submittals. Per MMC 22E.010.140 additional wetland mitigation plan requirements will include detailed planting plan, monitoring and maintenance plan, contingency plan, estimated cost, and estimated bond amount.

8.4 Bank Use Credits

For the permanent impacts on 2,000 square feet of Category III wetland and 16,400 square feet its associated buffer, mitigation bank use credits at a certified wetland mitigation bank in the area. Demonstration of compliance with local and interagency guidance, including consistency with mitigation through a watershed approach, shall be addressed in a subsequent version of this mitigation plan.

9.0 LIMITATIONS

This report documents existing conditions, best professional judgment, and conclusions based on the site conditions encountered at the time of this study. The information contained in this report is correct and complete to the best of our knowledge. It should be considered a preliminary jurisdictional determination of wetlands and other waters until it has been reviewed and approved in writing by the appropriate jurisdictional authorities. The final determination of the wetland boundary, classification, and required setback and buffer will be made by local, state, and federal jurisdictions.

10.0 REFERENCES

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APPENDIX A
Wetland Rating Forms

Wetland name or number: WL1

RATING SUMMARY - Western Washington

Name of wetland (or ID#): WL1 Date of site visit: 09/26/2023
 Rated By: Andrea Bachman Trained by Ecology? Yes No Date of Training: 05/16/2015
 HGM Class used for rating: Depressional
 Wetland has multiple HGM classes? Yes No

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category III] (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

Score for each function based on three ratings
 (order of ratings is not important)
 9 = H,H,H 6 = M,M,M
 8 = H,H,M 5 = H,L,L
 7 = H,H,L 5 = M,M,L
 7 = H,M,M 4 = M,L,L
 6 = H,M,L 3 = L,L,L

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	M	L	
Landscape Potential	M	H	L	
Value	H	H	M	
Score Based on Ratings	7	8	4	Total 19

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

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	1-2
Hydroperiods	D 1.4, H 1.2	1-3
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	1-1
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	1-6
Map of the contributing basin	D 4.3, D 5.3	1-4
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	1-5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	1-7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1-8

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>What are the characteristics of surface water outflows from the wetland?</u> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 1	Score: 1
D 1.2 <u>Can the soil 2in below the surface be identified as true clay or organic soil?</u> None of the above	points = 0	Score: 0
D 1.3 <u>What are the characteristics and distribution of persistent plants?</u> Wetland has persistent, ungrazed, plants > 95% of area	points = 5	Score: 5
D 1.4 <u>What are the characteristics of seasonal ponding or inundation in the wetland area?</u> Area seasonally ponded is > 25% total area of wetland	points = 2	Score: 2
Total for D 1:		8

Rating of Site Potential

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 <u>Does the wetland unit receive stormwater discharges?</u> Yes	points = 1	Score: 1
D 2.2 <u>Is >10% of the area within 150ft of the wetland in land uses that generate pollutants in surface runoff?</u> Yes	points = 1	Score: 1
D 2.3 <u>Are there septic systems within 250ft of the wetland?</u> No	points = 0	Score: 0

Wetland name or number: WL1

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? No	points = 0	Score: 0
D 2.5 What are the other sources of pollutants coming into the wetland?		
Total for D 2:		2

Rating of Landscape Potential

3-4 = H 1-2 = 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? No	points = 0	Score: 0
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes	points = 1	Score: 1
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality? Yes	points = 2	Score: 2
Total for D 3:		3

Rating of Value

2-4 = H 1 = M 0 = L

Record the rating on the first page

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 What are the characteristics of surface water outflows from the wetland? Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 0
D 4.2 What is the depth of storage during the wet periods? Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	Score: 3
D 4.3 What is the contribution of the wetland to storage in the watershed? The area of the basin is less than 10 times the area of the unit	points = 5	Score: 5
Total for D 4:		8

Wetland name or number: WL1

Rating of Site Potential

[] 12-16 = H [X] 6-11 = M [] 0-5 = L

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1 Does the wetland unit receive stormwater discharges? Yes	points = 1	Score: 1
D 5.2 Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes	points = 1	Score: 1
D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human land uses? Yes	points = 1	Score: 1
Total for D 5:		3

Rating of Landscape Potential

[X] 3 = H [] 1-2 = 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 Is the wetland in a landscape that has flooding problems? Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2	Score: 2
D 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? No	points = 0	Score: 0
Total for D 6:		2

Rating of Value

[X] 2-4 = H [] 1 = M [] 0 = L

Record the rating on the first page

HABITAT FUNCTIONS		
These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat		
H 1.0 Does the wetland have the potential to provide habitat for many species?		
H 1.1 What is the structure of the plant community?		
<input type="checkbox"/> Aquatic Bed		
<input checked="" type="checkbox"/> Emergent		
<input checked="" type="checkbox"/> Scrub-shrub		
<input type="checkbox"/> Forested		
<input type="checkbox"/> Multiple strata within the Forested class (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)		
2 structures	points = 1	Score: 1

Wetland name or number: WL1

H 1.2 <u>What are the hydroperiods that meet the size thresholds in the wetland?</u>		
<input type="checkbox"/> Permanently flooded or inundated		
<input checked="" type="checkbox"/> Seasonally flooded or inundated		
<input type="checkbox"/> Occasionally flooded or inundated		
<input checked="" type="checkbox"/> Saturated only		
<input checked="" type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland		
<input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland		
<input type="checkbox"/> Lake Fringe wetland		
<input type="checkbox"/> Freshwater Tidal wetland		
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2	Score: 2
H 1.3 <u>What is the richness of the plant species in the wetland?</u>		
5-19 species	points = 1	Score: 1
H 1.4 <u>What is the interspersion of habitats?</u>		
Low	points = 1	Score: 1
H 1.5 <u>What are the special habitat features in the wetland?</u>		
<input type="checkbox"/> Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
<input type="checkbox"/> Standing snags (dbh >4in) within the wetland		
<input type="checkbox"/> Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33ft (10m)		
<input type="checkbox"/> 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 (cut shrubs or trees that have not yet weathered where wood is exposed)		
<input type="checkbox"/> At least 0.25ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)		
<input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)		
Total for H 1:		5

Rating of Site Potential

[] 15-18 = H [] 7-14 = M [X] 0-6 = L

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?		
H 2.1 <u>What is the percentage of accessible habitat within 1km of the wetland?</u>		
<10% of 1km Polygon	points = 0	Score: 0
H 2.2 <u>What is the percentage of total habitat in a 1km polygon around the wetland?</u>		
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	Score: 1

Wetland name or number: WL1

H 2.3 What is the land use intensity in the 1km polygon?

50% of the Polygon is high intensity land use

points = -2

Score: -2

Total for H 2: -1

Rating of Landscape Potential

[] 4-6 = H [] 1-3 = M [X] 0 = L

Record the rating on the first page

H 3.0 Is the habitat provided by the site valuable to society?

H 3.1 Does the site provide habitat for species valued in laws, regulations, or policies?

- Aspen Stands
- Biodiversity Areas and Corridors
- Herbaceous Balds
- Old-growth/Mature Forests
- Oregon White Oak
- Riparian
- Westside Prarie
- Fresh Deepwater
- Instream
- Nearshore (Coastal, Open Coast, Puget Sound)
- Caves
- Cliffs
- Snags and Logs
- Talus

The following criteria automatically score 2 points:

- The wetland provides habitat for Threatened or Endangered species
- The wetland is mapped as a location for an individual WDFW priority species
- The wetland is a Wetland of High Conservation Value
- The wetland has been categorized as an important habitat site in a local plan

The site has 1 or 2 WDFW priority habitats within 100m

points = 1

Score: 1

Total for H 3: 1

Rating of Value

[] 2 = H [X] 1 = M [] 0 = L

Record the rating on the first page

Wetland name or number: WL1

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?

- The dominant water regime is tidal
 The wetland is vegetated
 The water salinity is greater than 0.5 ppt

No - Not an Estuarine Wetland

Result: Not an Estuarine Wetland

SC 2.0 Wetlands of High Conservation Value

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?

No - Go to SC 2.2

Result: Go to SC 2.2

SC 3.0 Bogs

SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16in or more of the first 32in of the soil profile?

No - Go to SC 3.2

Result: Go to SC 3.2

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?

No - Not a Bog Wetland

Result: Not a Bog Wetland

SC 4.0 Forested Wetlands

SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following criteria?

- Old-growth forests
 Mature forests

No - Not a Forested Wetland

Result: Not a Forested Wetland

Wetland name or number: WL1

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- 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 rocks
- The depression 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 open water area (measured near the bottom)

No - Not a Coastal Lagoon Wetland

Result: Not a Coastal Lagoon Wetland

SC 6.0 Interdunal Wetlands

SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership WBUO)?

No - Not an Interdunal Wetland

Result: Not an Interdunal Wetland

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not Applicable

WLI—Depressional, Category III

Rating Figures

Figure 1-1. Outlets



Figure 1-2. Cowardin Classes

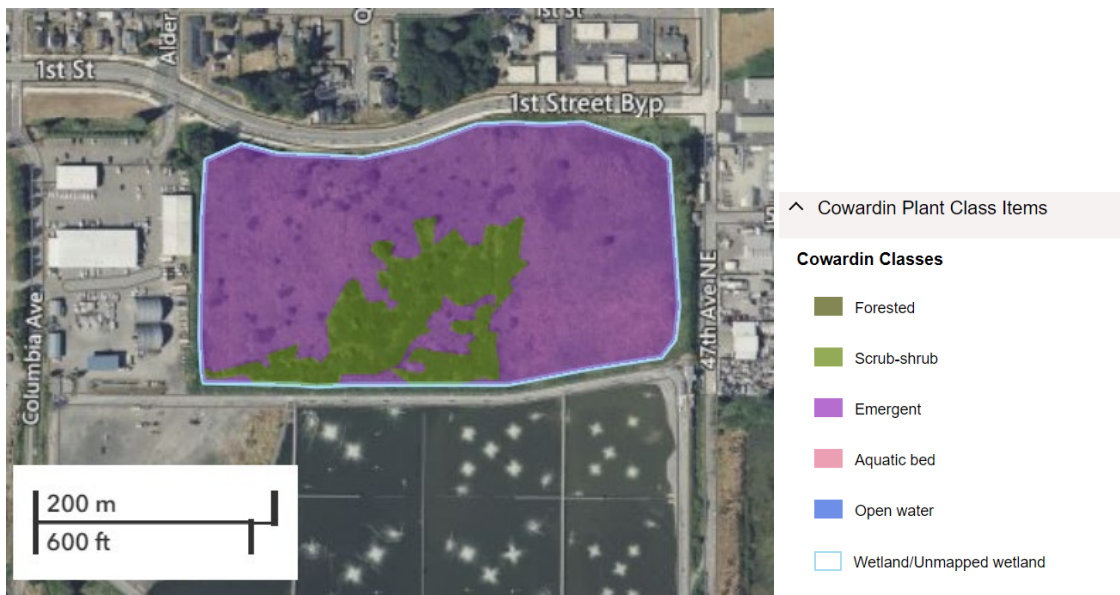


Figure 1-3. Hydroperiod

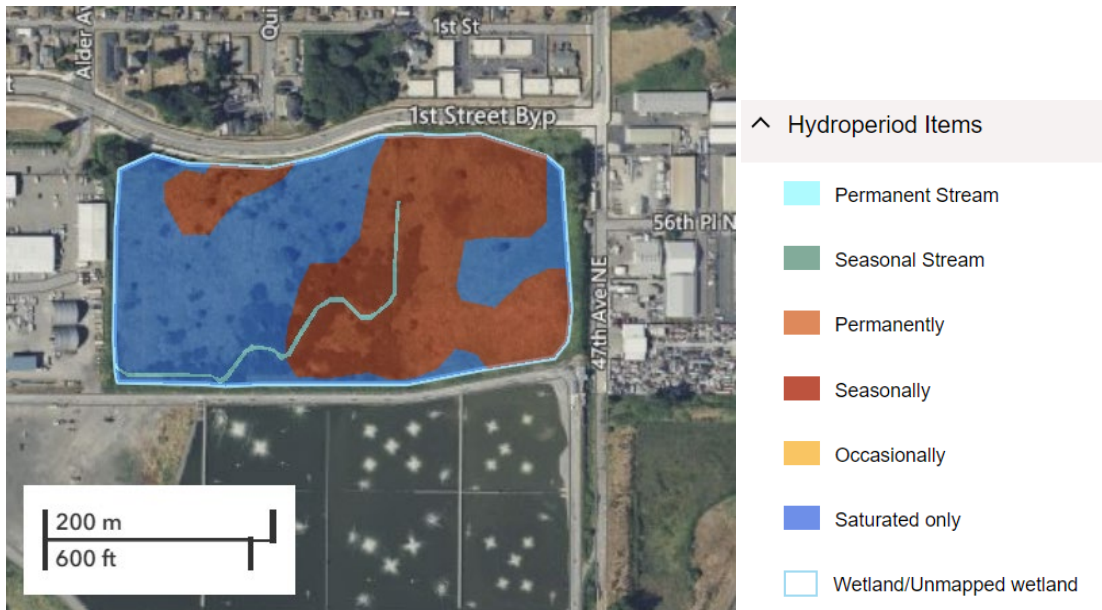


Figure 1-4. Contributing Basin

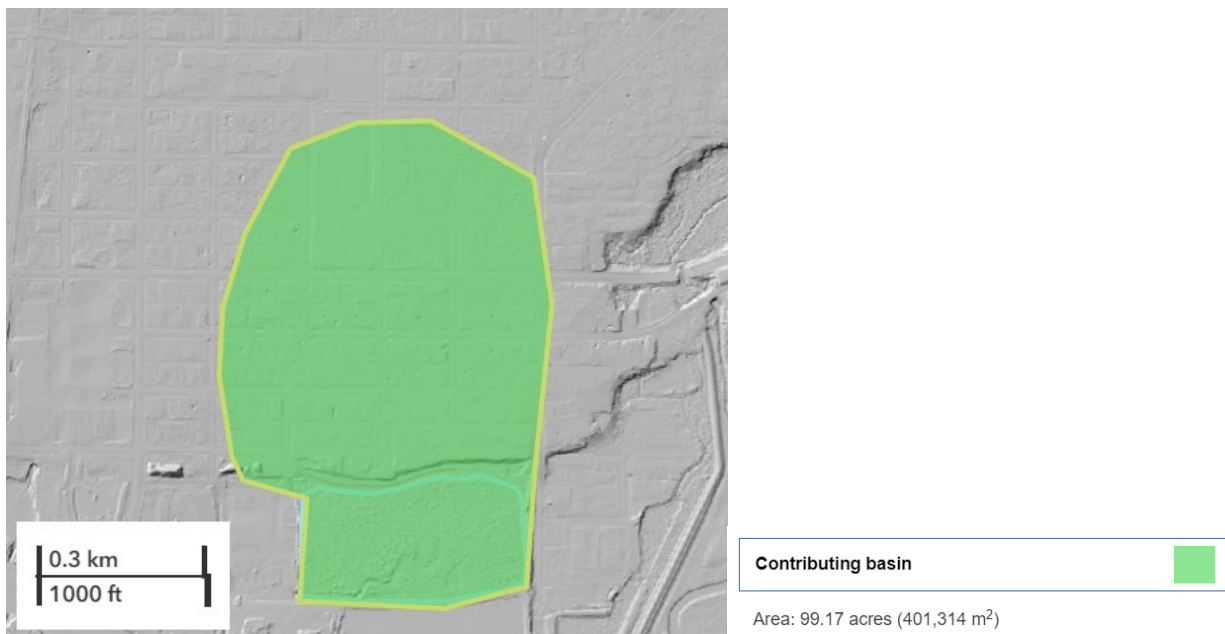


Figure 1-5. Available Habitat within 1KM

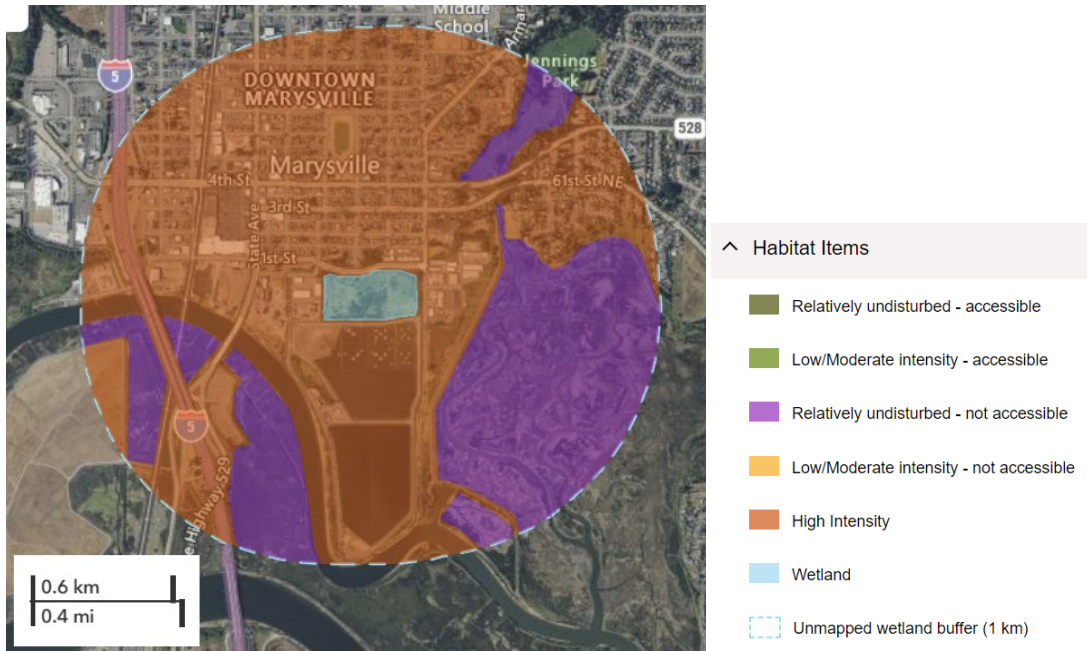


Figure 1-6. 303d Waters

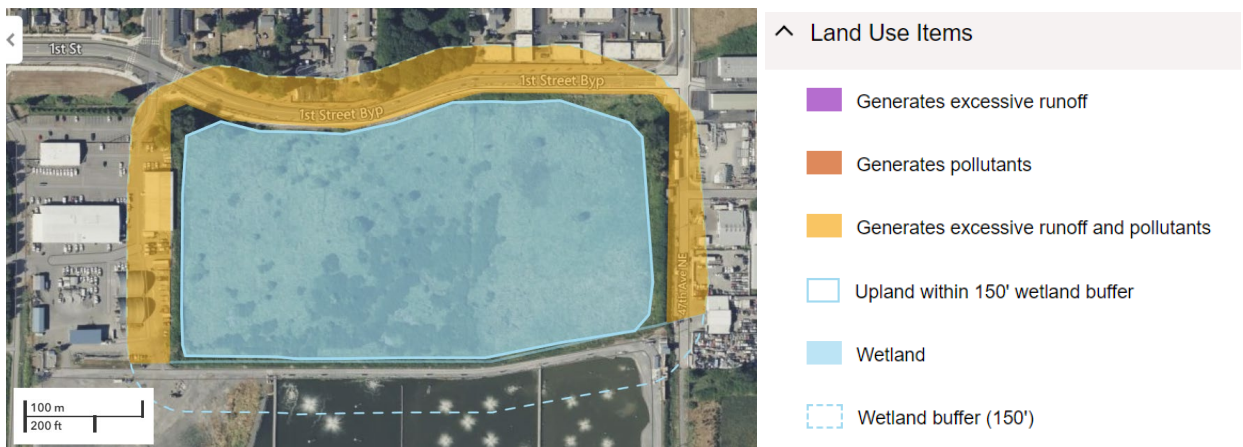


Figure 1-7. 303d Waters

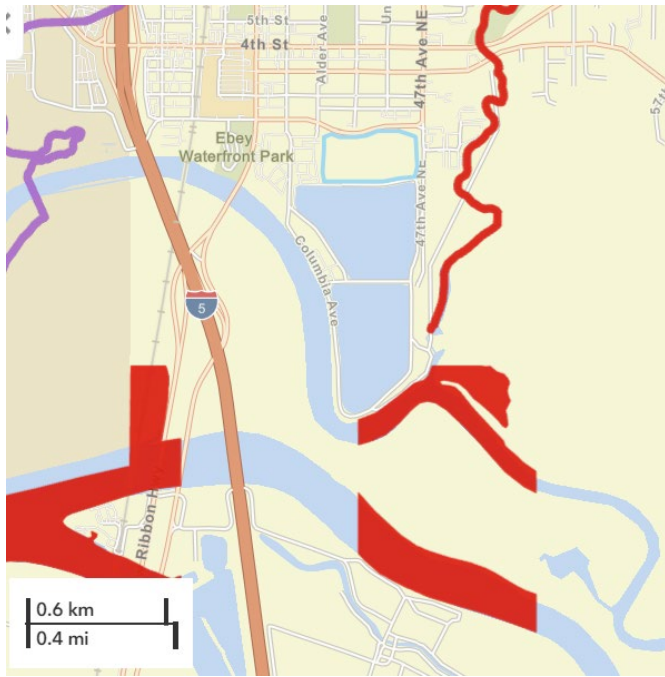


Figure 1-8. TMDLs



Wetland name or number: WL2

RATING SUMMARY - Western Washington

Name of wetland (or ID#): WL2 **Date of site visit:** 09/26/2023
Rated By: Andrea Bachman **Trained by Ecology? Yes [X] No []** **Date of Training:** 05/16/2015
HGM Class used for rating: Depressional
Wetland has multiple HGM classes? Yes [] No [X]

NOTE: Form is not complete without the figures requested (figures can be combined).
Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category III] (based on functions [X] 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

Score for each function based on three ratings
 (order of ratings is not important)
 9 = H,H,H 6 = M,M,M
 8 = H,H,M 5 = H,L,L
 7 = H,H,L 5 = M,M,L
 7 = H,M,M 4 = M,L,L
 6 = H,M,L 3 = L,L,L

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	M	L	
Landscape Potential	M	H	L	
Value	H	H	M	Total
Score Based on Ratings	7	8	4	19

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

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	2-2
Hydroperiods	D 1.4, H 1.2	2-3
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	2-1
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	2-6
Map of the contributing basin	D 4.3, D 5.3	2-4
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2-5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	2-7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	2-8

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>What are the characteristics of surface water outflows from the wetland?</u> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 1	Score: 1
D 1.2 <u>Can the soil 2in below the surface be identified as true clay or organic soil?</u> None of the above	points = 0	Score: 0
D 1.3 <u>What are the characteristics and distribution of persistent plants?</u> Wetland has persistent, ungrazed, plants > 95% of area	points = 5	Score: 5
D 1.4 <u>What are the characteristics of seasonal ponding or inundation in the wetland area?</u> Area seasonally ponded is > 50% total area of wetland	points = 4	Score: 4
Total for D 1:		10

Rating of Site Potential

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 <u>Does the wetland unit receive stormwater discharges?</u> Yes	points = 1	Score: 1
D 2.2 <u>Is >10% of the area within 150ft of the wetland in land uses that generate pollutants in surface runoff?</u> Yes	points = 1	Score: 1
D 2.3 <u>Are there septic systems within 250ft of the wetland?</u> No	points = 0	Score: 0

Wetland name or number: WL2

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? No	points = 0	Score: 0
D 2.5 What are the other sources of pollutants coming into the wetland?		
Total for D 2:		2

Rating of Landscape Potential

3-4 = H 1-2 = 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? No	points = 0	Score: 0
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes	points = 1	Score: 1
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality? Yes	points = 2	Score: 2
Total for D 3:		3

Rating of Value

2-4 = H 1 = M 0 = L

Record the rating on the first page

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 What are the characteristics of surface water outflows from the wetland? Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	Score: 0
D 4.2 What is the depth of storage during the wet periods? Marks of ponding are at least 0.5ft to <2ft from the surface or the bottom of the outlet.	points = 3	Score: 3
D 4.3 What is the contribution of the wetland to storage in the watershed? The area of the basin is less than 10 times the area of the unit	points = 5	Score: 5
Total for D 4:		8

Wetland name or number: WL2

Rating of Site Potential

[] 12-16 = H [X] 6-11 = M [] 0-5 = L

Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1 Does the wetland unit receive stormwater discharges? Yes	points = 1	Score: 1
D 5.2 Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes	points = 1	Score: 1
D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human land uses? Yes	points = 1	Score: 1
Total for D 5:		3

Rating of Landscape Potential

[X] 3 = H [] 1-2 = 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 Is the wetland in a landscape that has flooding problems? Flooding occurs in a sub-basin that is immediately down-gradient of the wetland.	points = 2	Score: 2
D 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? No	points = 0	Score: 0
Total for D 6:		2

Rating of Value

[X] 2-4 = H [] 1 = M [] 0 = L

Record the rating on the first page

HABITAT FUNCTIONS		
These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat		
H 1.0 Does the wetland have the potential to provide habitat for many species?		
H 1.1 What is the structure of the plant community?		
<input type="checkbox"/> Aquatic Bed		
<input checked="" type="checkbox"/> Emergent		
<input checked="" type="checkbox"/> Scrub-shrub		
<input type="checkbox"/> Forested		
<input type="checkbox"/> Multiple strata within the Forested class (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)		
2 structures	points = 1	Score: 1

Wetland name or number: WL2

H 1.2 <u>What are the hydroperiods that meet the size thresholds in the wetland?</u>		
<input type="checkbox"/> Permanently flooded or inundated		
<input checked="" type="checkbox"/> Seasonally flooded or inundated		
<input type="checkbox"/> Occasionally flooded or inundated		
<input checked="" type="checkbox"/> Saturated only		
<input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland		
<input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland		
<input type="checkbox"/> Lake Fringe wetland		
<input type="checkbox"/> Freshwater Tidal wetland		
2 types present	points = 1	Score: 1
H 1.3 <u>What is the richness of the plant species in the wetland?</u>		
5-19 species	points = 1	Score: 1
H 1.4 <u>What is the interspersion of habitats?</u>		
Low	points = 1	Score: 1
H 1.5 <u>What are the special habitat features in the wetland?</u>		
<input type="checkbox"/> Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
<input type="checkbox"/> Standing snags (dbh >4in) within the wetland		
<input type="checkbox"/> Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33ft (10m)		
<input type="checkbox"/> 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 (cut shrubs or trees that have not yet weathered where wood is exposed)		
<input type="checkbox"/> At least 0.25ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)		
<input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)		
No habitats selected	points = 0	Score: 0
	Total for H 1:	4

Rating of Site Potential

[] 15-18 = H [] 7-14 = M [X] 0-6 = L

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?		
H 2.1 <u>What is the percentage of accessible habitat within 1km of the wetland?</u>		
<10% of 1km Polygon	points = 0	Score: 0
H 2.2 <u>What is the percentage of total habitat in a 1km polygon around the wetland?</u>		
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	Score: 1

Wetland name or number: WL2

H 2.3 What is the land use intensity in the 1km polygon?	points = -2	Score: -2
50% of the Polygon is high intensity land use		
Total for H 2:		-1

Rating of Landscape Potential

[] 4-6 = H [] 1-3 = M [X] 0 = L

Record the rating on the first page

H 3.0 Is the habitat provided by the site valuable to society?

H 3.1 Does the site provide habitat for species valued in laws, regulations, or policies?		
<input type="checkbox"/> Aspen Stands <input type="checkbox"/> Biodiversity Areas and Corridors <input type="checkbox"/> Herbaceous Balds <input type="checkbox"/> Old-growth/Mature Forests <input type="checkbox"/> Oregon White Oak <input checked="" type="checkbox"/> Riparian <input type="checkbox"/> Westside Prarie <input type="checkbox"/> Fresh Deepwater <input checked="" type="checkbox"/> Instream <input type="checkbox"/> Nearshore (Coastal, Open Coast, Puget Sound) <input type="checkbox"/> Caves <input type="checkbox"/> Cliffs <input type="checkbox"/> Snags and Logs <input type="checkbox"/> Talus		
The following criteria automatically score 2 points:		
<input type="checkbox"/> The wetland provides habitat for Threatened or Endangered species <input type="checkbox"/> The wetland is mapped as a location for an individual WDFW priority species <input type="checkbox"/> The wetland is a Wetland of High Conservation Value <input type="checkbox"/> The wetland has been categorized as an important habitat site in a local plan		
The site has 1 or 2 WDFW priority habitats within 100m	points = 1	Score: 1
Total for H 3:		1

Rating of Value

[] 2 = H [X] 1 = M [] 0 = L

Record the rating on the first page

Wetland name or number: WL2

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 2.0 Wetlands of High Conservation Value

SC 3.0 Bogs

SC 4.0 Forested Wetlands

Wetland name or number: WL2

SC 5.0 Wetlands in Coastal Lagoons

SC 6.0 Interdunal Wetlands

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not Applicable

WL2—Depressional, Category III

Rating Figures

Figure 2-1. Outlets



Figure 2-2. Cowardin Classes



Figure 2-3. Hydroperiod

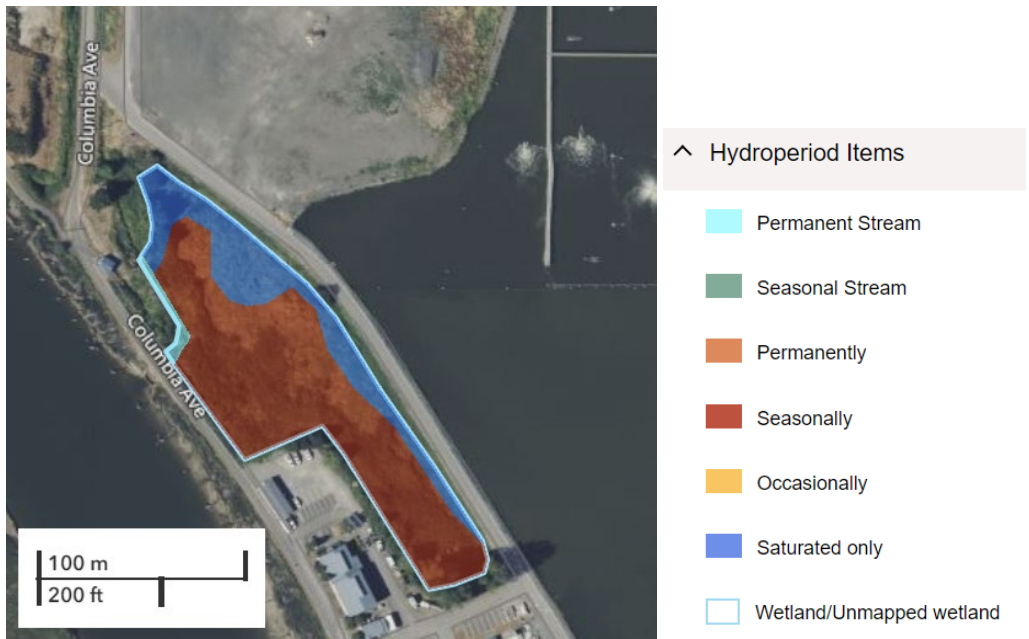


Figure 2-4. Contributing Basin



Figure 2-5. Available Habitat within 1KM

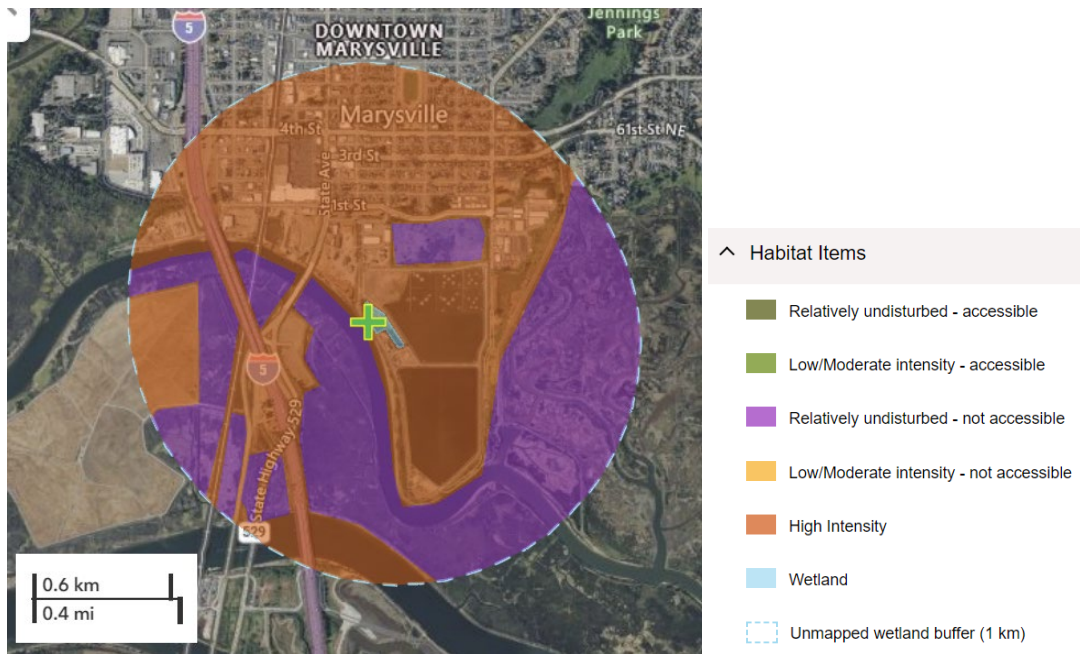


Figure 2-6. Land Use



Figure 1-9. 303d Waters

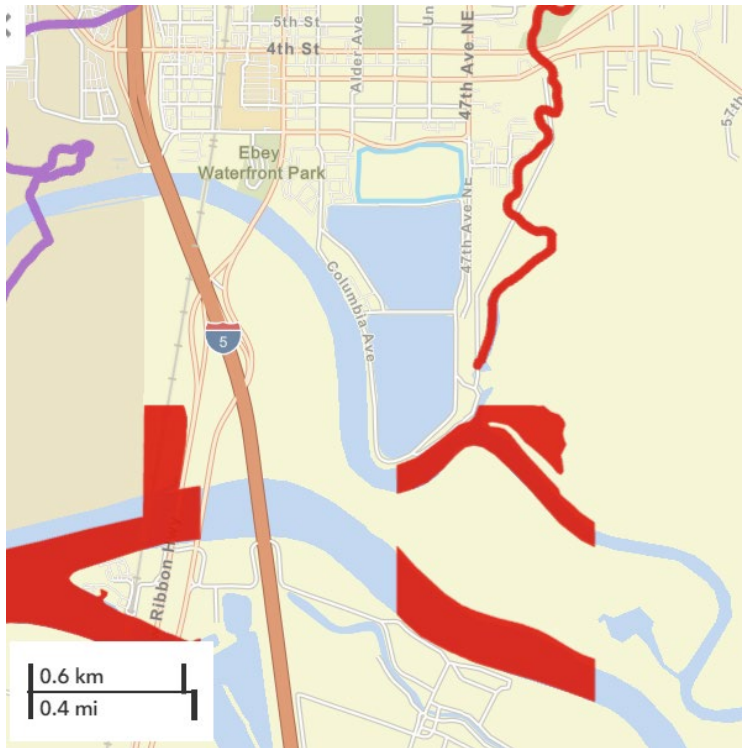


Figure 1-10. TMDLs



Wetland name or number: WL3

RATING SUMMARY - Western Washington

Name of wetland (or ID#): WL3 **Date of site visit:** 09/26/2023
Rated By: Andrea Bachman **Trained by Ecology? Yes** **No** **Date of Training:** 05/16/2015
HGM Class used for rating: Freshwater Tidal Fringe
Wetland has multiple HGM classes? Yes **No**

NOTE: Form is not complete without the figures requested (figures can be combined).
Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category II] (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

Score for each function based on three ratings
 (order of ratings is not important)
 9 = H,H,H 6 = M,M,M
 8 = H,H,M 5 = H,L,L
 7 = H,H,L 5 = M,M,L
 7 = H,M,M 4 = M,L,L
 6 = H,M,L 3 = L,L,L

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	M	L	
Landscape Potential	H	H	M	
Value	M	H	H	Total
Score Based on Ratings	7	8	6	21

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Maps and figures required to answer questions correctly for Western Washington

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	3-1
Hydroperiods	H 1.2	3-2
Ponded depressions	R 1.1	none
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	3-6
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	3-3
Map of the contributing basin	R 2.2, R 2.3, R 5.2	3-4
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	3-5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	3-7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	3-8

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

R 1.0 Does the site have the potential to improve water quality?

R 1.1 <u>What is the total area of surface depressions within the Riverine wetland that can trap sediments during a flooding event?</u> No depressions present	points = 0	Score: 0
R 1.2 <u>What is the structure of plants in the wetland?</u> Ungrazed, herbaceous plants cover (>6in high) >66% area of the wetland	points = 6	Score: 6
Total for R 1:		6

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

R 2.0 Does the landscape have the potential to support the water quality function of the site?

R 2.1 <u>Is the wetland within an incorporated city or within its UGA?</u> Yes	points = 2	Score: 2
R 2.2 <u>Does the contributing basin to the wetland include a UGA or incorporated area?</u> Yes	points = 1	Score: 1
R 2.3 <u>Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?</u> Yes	points = 1	Score: 1

Wetland name or number: WL3

R 2.4 Is >10% of the area within 150ft of the wetland in land uses that generate pollutants? Yes	points = 1	Score: 1
R 2.5 Are there other sources of pollutants coming into the wetland that are not listed in question R 2.1-R 2.4? No	points = 0	Score: 0
R 2.6 What are the other sources of pollutants coming into the wetland?		
Total for R 2:		5

Rating of Landscape Potential

3-4 = H 1-2 = M 0 = L

Record the rating on the first page

R 3.0 Is the water quality improvement provided by the site valuable to society?		
R 3.1 Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi? No	points = 0	Score: 0
R 3.2 Is the wetland along a stream or river that has TMDL limits for nutrients, toxics, or pathogens? Yes	points = 1	Score: 1
R 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality? No	points = 0	Score: 0
Total for R 3:		1

Rating of Value

2-4 = H 1 = M 0 = L

Record the rating on the first page

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation		
R 4.0 Does the site have the potential to reduce flooding and erosion?		
R 4.1 What are the characteristics of the overbank storage the wetland provides? If the ratio is < 1	points = 1	Score: 1
R 4.2 What are the characteristics of plants that slow down water velocities during floods? Forest or shrubs cover >33% of the wetland area OR emergent plants cover >66% of the wetland area	points = 7	Score: 7
Total for R 4:		8

Rating of Site Potential

12-16 = H 6-11 = M 0-5 = L

Record the rating on the first page

R 5.0 Does the landscape have the potential to support the hydrologic functions of the site?		
R 5.1 Is the stream or river adjacent to the wetland downcut? No	points = 1	Score: 1
R 5.2 Does the up-gradient watershed include a UGA or incorporated area? Yes	points = 1	Score: 1
R 5.3 Is the up-gradient stream or river controlled by dams? No	points = 1	Score: 1
Total for R 5:		3

Rating of Landscape Potential

3 = H 1-2 = M 0 = L

Record the rating on the first page

Wetland name or number: WL3

R 6.0 Are the hydrologic functions provided by the site valuable to society?		
R 6.1 What is the distance to the nearest areas downstream that have flooding problems? The sub-basin immediately down-gradient of the wetland has flooding problems	points = 2	Score: 2

R 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? No	points = 0	Score: 0
Total for R 6:		2

Rating of Value [X] 2-4 = H [] 1 = M [] 0 = L *Record the rating on the first page*

HABITAT FUNCTIONS
These questions apply to wetlands of all HGM classes - Indicators that the site functions to provide important habitat

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?

Aquatic Bed
 Emergent
 Scrub-shrub
 Forested
 Multiple strata within the Forested class (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)

1 structure points = 0 **Score: 0**

H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?

Permanently flooded or inundated
 Seasonally flooded or inundated
 Occasionally flooded or inundated
 Saturated only
 Permanently flowing stream or river in, or adjacent to, the wetland
 Seasonally flowing stream in, or adjacent to, the wetland
 Lake Fringe wetland
 Freshwater Tidal wetland

3 types present or Lake Fringe / Freshwater Tidal Fringe points = 2
 1 type present points = 0 **Score: 2**

H 1.3 What is the richness of the plant species in the wetland?

5-19 species points = 1 **Score: 1**

H 1.4 What is the interspersation of habitats?

Low points = 1 **Score: 1**

Wetland name or number: WL3

H 1.5 <u>What are the special habitat features in the wetland?</u>		
<input type="checkbox"/> Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
<input type="checkbox"/> Standing snags (dbh >4in) within the wetland		
<input type="checkbox"/> Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33ft (10m)		
<input type="checkbox"/> 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 (cut shrubs or trees that have not yet weathered where wood is exposed)		
<input type="checkbox"/> At least 0.25ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)		
<input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)		
1 habitat selected	points = 1	Score: 1
Total for H 1:		5

Rating of Site Potential [] 15-18 = H [] 7-14 = M [X] 0-6 = L *Record the rating on the first page*

H 2.0 <u>Does the landscape have the potential to support habitat functions of the site?</u>		
H 2.1 <u>What is the percentage of accessible habitat within 1km of the wetland?</u>		
20-33% of 1km Polygon	points = 2	Score: 2
H 2.2 <u>What is the percentage of total habitat in a 1km polygon around the wetland?</u>		
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	Score: 1
H 2.3 <u>What is the land use intensity in the 1km polygon?</u>		
50% of the Polygon is high intensity land use	points = -2	Score: -2
Total for H 2:		1

Rating of Landscape Potential [] 4-6 = H [X] 1-3 = M [] 0 = L *Record the rating on the first page*

Wetland name or number: WL3

H 3.0 Is the habitat provided by the site valuable to society?

H 3.1 Does the site provide habitat for species valued in laws, regulations, or policies?

- Aspen Stands
- Biodiversity Areas and Corridors
- Herbaceous Balds
- Old-growth/Mature Forests
- Oregon White Oak
- Riparian
- Westside Prarie
- Fresh Deepwater
- Instream
- Nearshore (Coastal, Open Coast, Puget Sound)
- Caves
- Cliffs
- Snags and Logs
- Talus

The following criteria automatically score 2 points:

- The wetland provides habitat for Threatened or Endangered species
- The wetland is mapped as a location for an individual WDFW priority species
- The wetland is a Wetland of High Conservation Value
- The wetland has been categorized as an important habitat site in a local plan

The wetland has 3 or more WDFW priority habitats within 100m, or meets the criteria for societal value points = 2 **Score: 2**

Total for H 3: 2

Rating of Value [X] 2 = H [] 1 = M [] 0 = L *Record the rating on the first page*

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?

- The dominant water regime is tidal
- The wetland is vegetated
- The water salinity is greater than 0.5 ppt

No - Not an Estuarine Wetland **Result: Not an Estuarine Wetland**

Wetland name or number: WL3

SC 2.0 Wetlands of High Conservation Value**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?

No - Go to SC 2.2

Result: Go to SC 2.2**SC 3.0 Bogs****SC 3.1** Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16in or more of the first 32in of the soil profile?

No - Go to SC 3.2

Result: Go to SC 3.2**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?

No - Not a Bog Wetland

Result: Not a Bog Wetland**SC 4.0 Forested Wetlands****SC 4.1** Does the wetland have at least 1 contiguous acre of forest that meets one of the following criteria? Old-growth forests Mature forests

No - Not a Forested Wetland

Result: Not a Forested Wetland**SC 5.0 Wetlands in Coastal Lagoons****SC 5.1** Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? 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 rocks The depression 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 open water area (measured near the bottom)

No - Not a Coastal Lagoon Wetland

Result: Not a Coastal Lagoon Wetland

Wetland name or number: WL3

SC 6.0 Interdunal Wetlands	
SC 6.1 <u>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership WBUO)?</u>	
No - Not an Interdunal Wetland	Result: Not an Interdunal Wetland
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	Final Category: Not Applicable

WL3— Freshwater Tidal Fringe, Category II

Rating Figures

Figure 3-1. Cowardin Classes



Figure 3-2. Hydroperiods

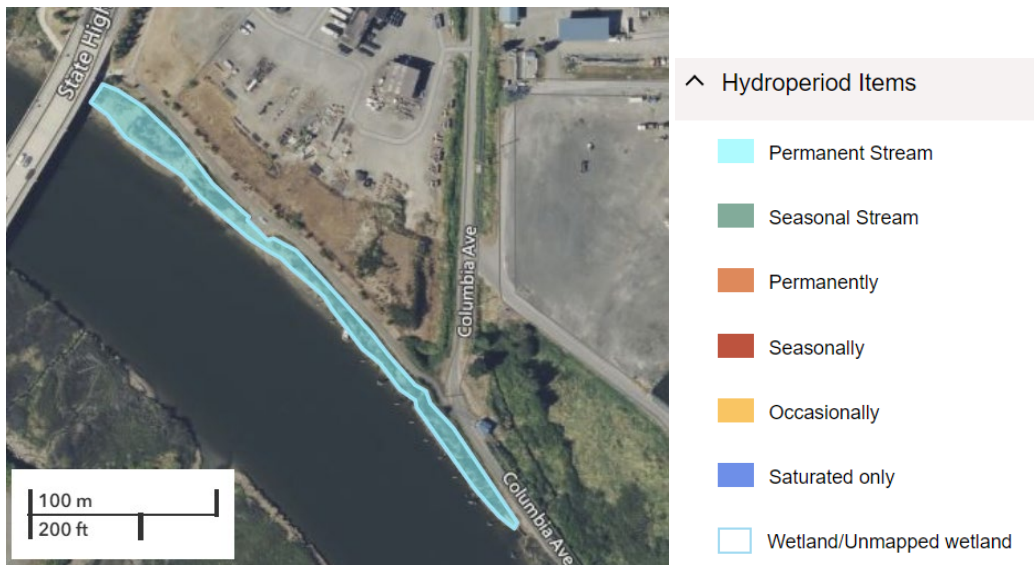


Figure 3-3. Width of Unit vs. Width of Stream



Figure 3-4. Contributing Basin

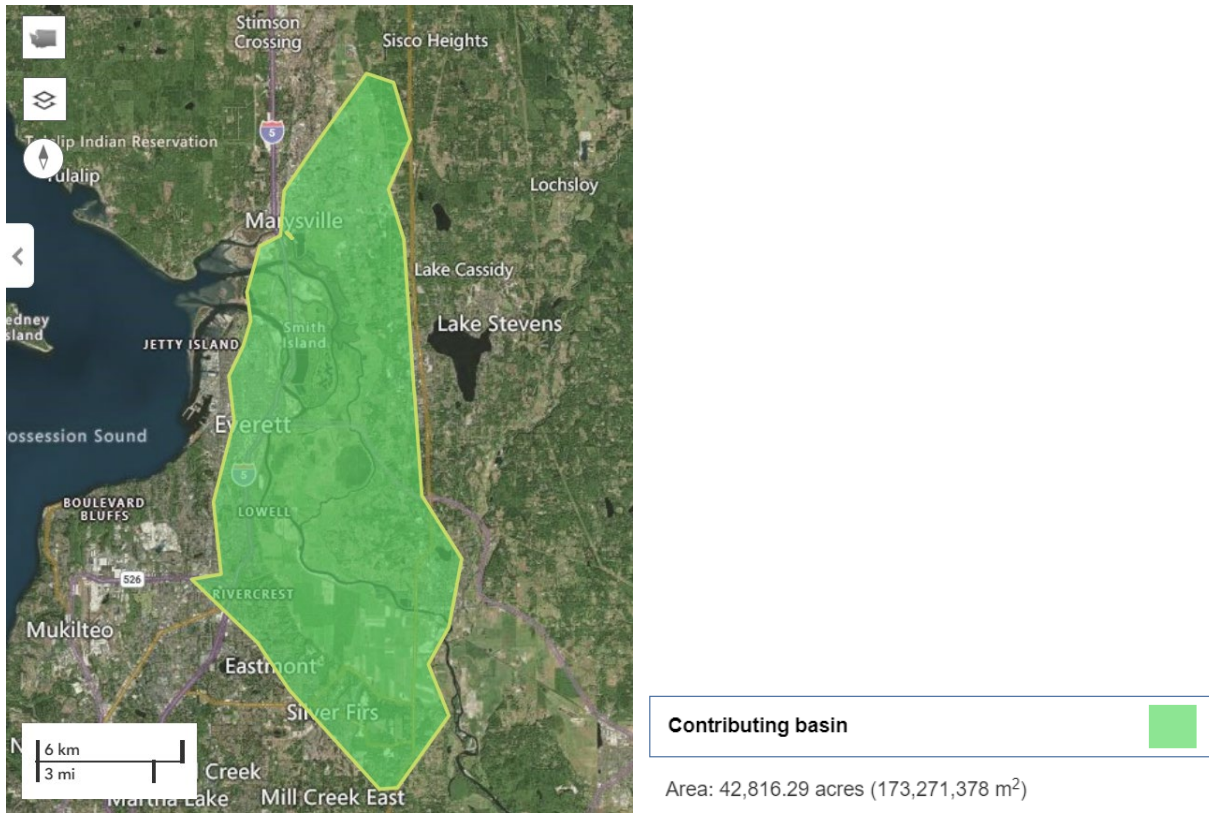


Figure 3-5. Available Habitat within 1KM

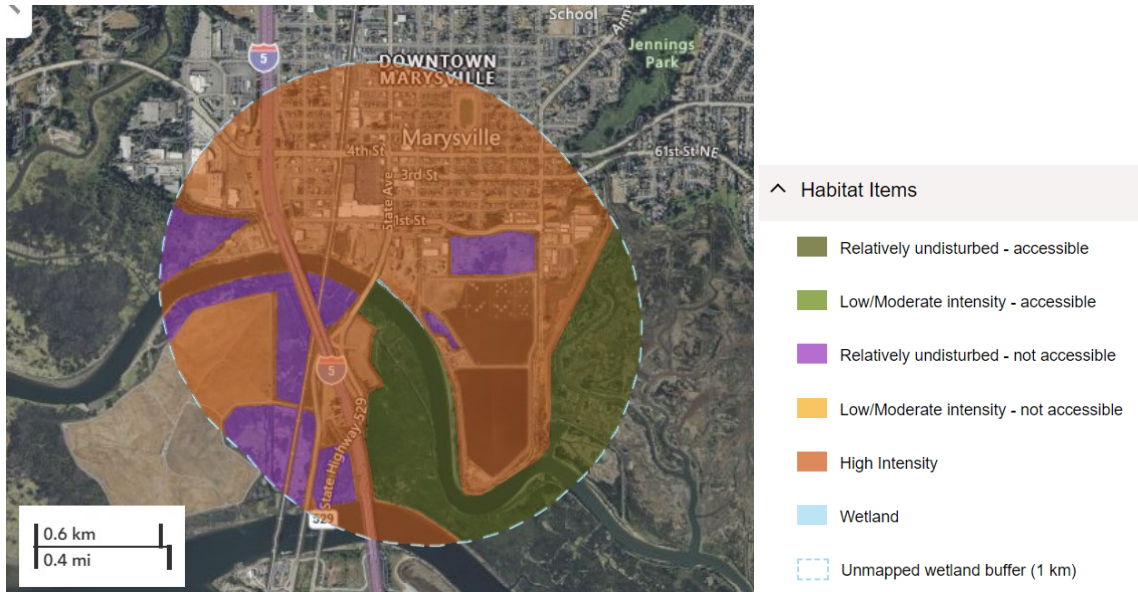


Figure 3-6. Land Use



Figure 3-7. 303d Waters

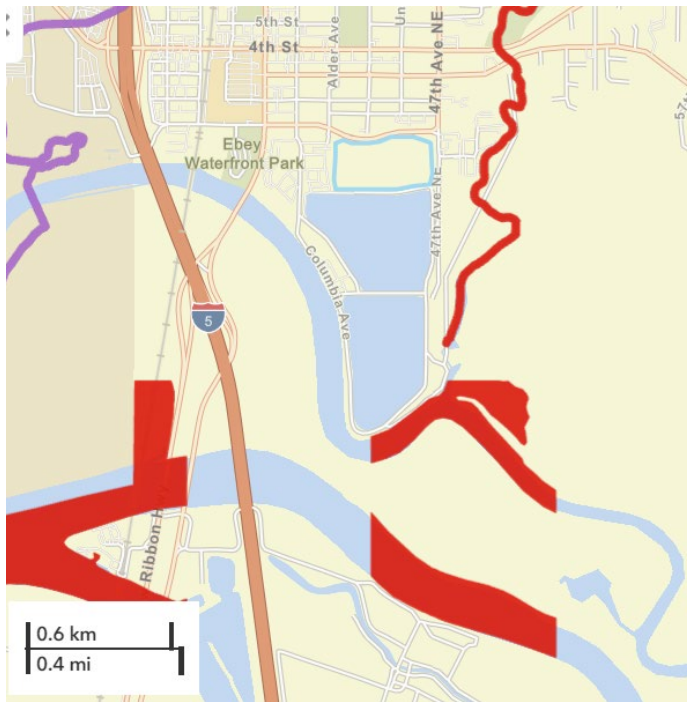


Figure 3-8 TMDLs

