

# Habitat Management Plan for Buck Lake Campground Association with Wetlands, Hydrology and Critical Areas



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## PREPARED FOR:

Buck Lake Campground  
Association

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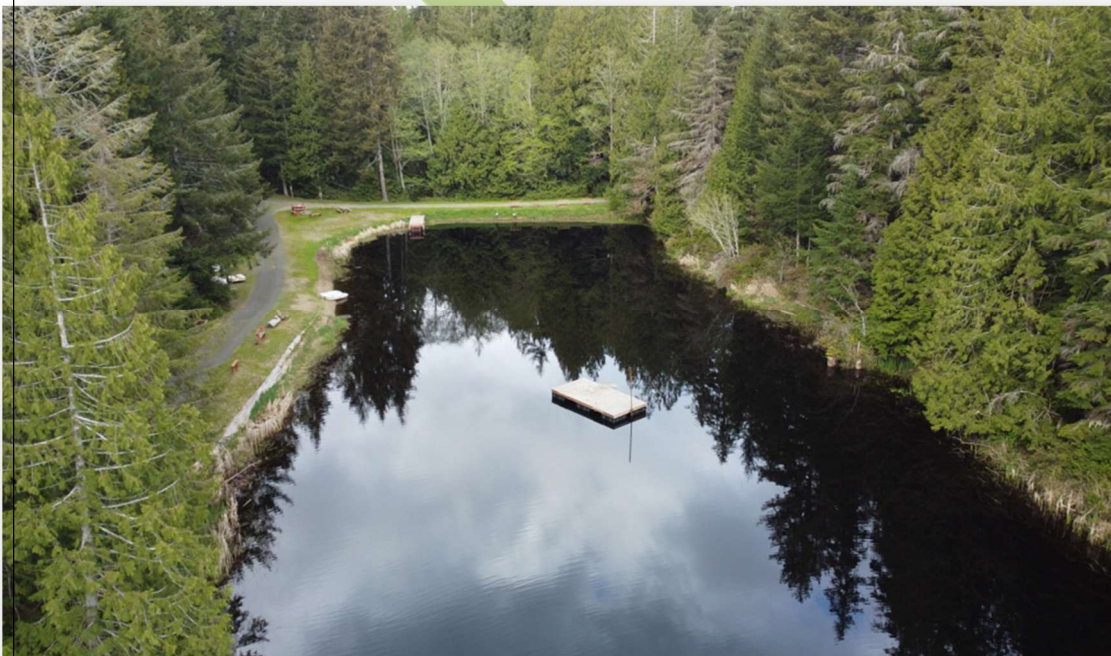




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This report has been prepared by EcoAssets Environmental, LLC for use by Buck Lake Campground Association of Mason County, WA for planning site development. The results and conclusions in this report represent the professional opinion of EcoAssets Environmental, LLC. The work described in this report was performed according to accepted standards in the field of wetland and riparian science and management. The US Army Corps of Engineers has final authority over the determination of jurisdictional wetland boundaries regulated under the Clean Water Act. Authority over land use and development activities within regulated wetlands and buffers abide with the jurisdictional federal, state, and local agencies. Therefore the findings and conclusions in this report should be reviewed by appropriate regulatory agencies before detailed site planning and/or construction activities occur. Additional review, reporting, and/or planning may be required to meet regulatory agency requirements for activities affecting wetlands.

A handwritten signature in blue ink, appearing to read 'Larry Dominguez', is written over a horizontal line.

Larry Dominguez, MES Principal Ecologist  
EcoAssets Environmental, LLC

Date: April 5, 2024

## Summary, Project Authorization, and Scope of Work

Applicant name: Buck Lake Campground Association

Contact: Nick Ankenman, Board of Directors

Analyst: Larry Dominguez, MES, ph. 360-915-4194; e-mail LD50\_@msn.com

This Assessment was performed by Larry Dominguez, MES, Aquatic Scientist and Regulatory Permit Specialist. Mr. Dominguez has over 30 years of professional experience in federal, state and local environmental regulation compliance, salmon and aquatic ecology, watershed assessment, stream restoration, freshwater, wetland, estuarine, nearshore, marine and floodplain ecology, natural resource management, wetland delineation and functional assessment, education and outreach, public facilitation, project management and program development. He specializes in river, wetland, floodplain, estuarine, and riparian processes and their conservation and restoration techniques.

Site Location: The Buck Lake Campground Association is located at East 641 Phillips Lake Loop Road, Shelton, Mason County, WA 98584 (Mason County Parcels # 220054100000 and #220051400000). It is east of Phillips Lake reachable turning east off SR 3 north of Shelton onto East Pickering Road about 8 miles NE of Shelton. The parcel occurs in Township 20N Range 2W at coordinate degrees -123.953, 47.249.

Description: The total 48.97-acre subject property is a private campground preparing a Critical Areas Report and Habitat Management Plan for activities within or adjacent to wetland buffers and Fish and Wildlife Habitat Conservation Areas. The membership-based campgrounds have been established for several decades. At the request of BLCA, EcoAssets Environmental LLC, verified wetlands, conducted a delineation and georeferenced the active stream channel location and existing road and trail network. The assessment included accessing the complete parcel to determine extent of critical areas. This report is organized to meet the requirements of Mason County Title 8.52 Resource Ordinance.

Permitting: No permits are proposed. The Critical Areas Report is conducted in support of the Habitat Management Plan to propose little to no impact operations of camp maintenance activities in the interest of owner/member/user safety, camp aesthetics, water quality and fish and wildlife habitat.

Executive Summary of Effects Analysis: The analyst finds that the majority of proposed activities are consistent with low impact practices allowed under critical areas ordinances for individual parcels such as danger tree removal, access management, and bank/shoreline activities. The special circumstances at BLCA is that there are multiple individually-used campsites that could have bearing on the cumulative effects of allowed practices for each individual site.

In the analysis, field reviews, impact assessments, and anecdotal evidence from past and ongoing practices, the proposed management activities related to parcel access and recreational use of campsites will have a negligible effect on buffer and riparian zone functions of preserving water quality, nutrient input, bank stability, shading and fish and wildlife habitat structure.

## INTRODUCTION

This Buck Lake Critical Areas Report and Habitat Management Plan (HMP) is created in response to Mason County's Resource Ordinance that identifies how impacts upon habitat from a proposed use or activity will be avoided or mitigated. Several campsites and common areas of Buck Lake Campground persist in Fish and Wildlife Habitat Conservation Areas (FWHCA) and within wetland buffers and setbacks. Buck Lake Campground maintains many memberships that utilize the lots according to a set of rules designed for low impact natural area conservation and seasonal recreational use. This HMP shall consider measures to preserve and protect the wildlife habitat and shall consider effects of land use intensity, buffers, setbacks, impervious surfaces, erosion control and retention of natural vegetation on the functions and values of the FWHCA.

In such natural resource areas, land planning, management and activities should be consistent with helping maintain species in suitable habitats within their natural geographic distribution so that isolated populations are not created. This Habitat Management Plan (HMP) evaluates baseline conditions and current management and operations and outlines consistencies and inconsistencies of meeting Mason County Resource Ordinance (MCC 8.52) objectives. The main objective of this analysis is to determine if impacts to fish or their habitat or to fish and wildlife conservation areas are being managed for functional habitats and if avoidance, minimization and/or mitigation procedures are consistent with maintaining properly functioning condition of resources. In general the Habitat Management Plan is provided to:

- Protect critical habitat features to support genetically viable populations of fish and wildlife species and allow for commercial and non-commercial uses.
- Protect the biological, physical, and chemical components of water quality for the benefit of aquatic and terrestrial resources, as well as human consumptive uses.
- Ensure that natural stream functions such as flow patterns, production of sediment and large woody debris are maintained with minimal interference or impact to private property, and
- Protect habitat for federal or state listed endangered, threatened or sensitive fish and wildlife.

Relevant resources to the Code: Wetlands ([MCC 8.52.110](#)), Fish and wildlife habitat conservation areas ([MCC 8.52.170](#)) and Variances from standards ([MCC 8.52.220](#))

Fish and Wildlife Habitat Conservation Area Categories relevant to Buck Lake Campground include: Naturally occurring lakes and ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat, streams and state sensitive fish and wildlife species

## LOCATION

The Buck Lake Campground Association is located at East 641 Phillips Lake Loop Road, Shelton, Mason County, WA 98584 (Mason County Parcels # 220054100000 (south 30-acres) and #220051400000 (north 18.97 acres). The total 48.97-acre subject property is just east of Phillips Lake reachable turning east off SR 3 north of Shelton onto East Pickering Road about 8 miles NE of Shelton. The parcel occurs in Township 20N Range 2W at coordinate degrees -123.953, 47.249.

## ASSESSMENT OF EXISTING SITE CONDITIONS

### General

The parcel is owned by the BLCA and currently occupied by members of the Association with caretakers in residence. The parcel is 30 acres and includes a network of gravel roads and natural walking trails. Facilities include sheltered community area with playground, showers/bathroom facilities, pump house, maintenance sheds and single family dwelling for staff. Facility waste water is managed through adjacent septic systems.

The property is bordered by green Diamond Resource Company to the east, private landownership to the south that includes agricultural use, Phillips Lake community residents and lake to the west and private lands, comprised of natural area, to the north. There is gravel area surface parking at the BLCA entrance and the gravel roads have some pullout areas. There are no paved areas and some of the common areas (bathrooms, kitchens, shelters, shops) have cement aprons, or sidewalks directly adjacent.

### Review of Existing Information

EcoAssets reviewed existing literature, maps, and other materials to identify wetlands, streams, or site characteristics that are indicative of these features in the study area. These sources can only indicate the likelihood of the presence of streams or wetlands; actual determinations were based upon data obtained from field investigations. Sources of information included the following list.

- Aerial imagery (Google Earth, ESRI, Mason County)
- Mason County GeoData
- National Wetland Inventory (NWI) dataset
- Natural Resource Conservation Service (NRCS) soil survey Web map
- Washington State Department of Fish and Wildlife (WDFW) priority habitat and species data.
- Washington State Department of Natural Resources (DNR) Forest Practice Activity Mapping
- DNR LiDAR Portal dataset mapping application
- US Geological Survey StreamStats database
- Washington Natural Heritage Program database
- Soil descriptions for the study area vicinity (Soil Conservation Service [SCS] 1990)
- NRCS Hydric soils list for Washington State
- NRCS Field Indicators of Hydric Soil in the United States
- SalmonScape mapping (2020) and NatureServe (ArcGIS Atlas)



- 303(d) Atlas Washington Department of Ecology's Water Quality website noting listing status of waterways pertaining to the Clean Water Act

### Watershed and Natural Systems Parcel Characterization

Buck Lake is within WRIA 14 Kennedy Goldsborough and is part of larger lakes and wetland complex that includes Little Twin Lake and Timber Lake to the southeast and Phillips Lake to the west. They collectively drain northeasterly either through surface or groundwater connectivity through the Jones Creek Basin into Pickering Passage. The flat area of the region's surface geology is Quaternary unconsolidated or semi-consolidated alluvial clay, silt, sand, gravel, and (or) cobble deposits and the low lying depressional areas include peat, muck, and diatomite. Approximately 90% of rainfall occurs between October and April. Summers are typically dry with little rainfall from July to August.

This headwater wetland/tributary area of Jones Creek tributary has some suitability for salmonid fishes. Downstream of the dam in recent years there have been sightings of larger-bodied salmon. Most likely they were chum salmon during abundant years since they tend to have a higher stray rate into new watersheds. Since the overall wetland complex likely did not have gravel-bottomed channels historically for spawning, it is possible that the impoundment from the Buck Lake dam retained enough water to concentrate flows and during heavy runoff periods formed a small section of channel from the concentrated flows of the culvert outlet. Repeated observation in coming years would suggest that spawning is successful and the returning adults are homing to that location. Since there are extensive wetlands in the area, the larger bodied fish of the grass carp could have also been observed there as they would also use sections of running waters for spawning.

### Land Use

The central ponded area of the wetland began to take shape in the 1970s as excavation deepened the wetland channel and the impoundment dam with water control structure was placed. The wetland pond, the main aquatic feature of the camp, is part of extensive wetland that extends north south and east of the parcel ownership. Since it has been a long time from the original habitat type and the forest and vegetation have since recovered naturally, it is difficult to predict what impact the current baseline, as a result of the alteration, had on the landscape. While losing perhaps vegetation features of shallow wetland, their impoundment may be providing positive benefits to downstream fish habitats whereas channels may dry up.

There is no anadromous fish spawning habitat that would be added should fish passage be made through the impoundment structure. Juvenile fish could potentially benefit if adult spawning regularly occurred downstream of the impoundment in which there is spawn-able gravel present. This spawning gravel may have only become manifest post-dam construction from the concentrated flows of a narrow outlet channel and short reach of would cause downstream scour

The property is utilized in campground fashion with emphasis on recreational use. Small lots throughout the parcels are utilized for low-impact camping and RV use. The Campground Handbook contains the operations and expectations of users where the outcomes of natural preservation and cleanliness are emphasized. Some conservation practices are mentioned in the handbook and support the objectives of an HMP. Those elements are brought forth in this plan when they support HMP objectives and other

Critical Area objectives. BLCA also stocks trout from the Nisqually Trout Farm annually April/May. Typically there 900-1100 trout of various sizes planted each year.

## Results of Field Investigation

### Topography/Soils

A soil survey map is attached in the Appendix. The property is gently sloped with very nearly flat elevations in bottomlands along the wetlands with gentle rise across forested uplands. The stream channel in the north parcel has some ravine characteristic with side slopes averaging 15% not exceeding 20%. The property is located in a region heavily shaped by glacial activity in the ancient past with the abundance of lakes in the region formed as kettle lakes during glacial retreat or physical scour during advances. The well-drained nature of the upland soils is testament to the historic gravel depositions.

Soils in the bottomlands are mapped as Sinclair shotty loam with till plains landform. This is a moderately-drained gravelly loam at the surface whereby water depth has been enhanced by the detention structure. Historically this site would exhibit emergent and forested wetland characteristics as upstream and downstream areas are characterized. Alderwood gravelly loam comprises the other bottomland soil type in the eastern portions of the parcels. The very gravelly sandy loam profile runs consistently deep down to 60 inches suggesting subsurface hydrologic connectivity between Buck Lake and adjacent wetlands. This prime farmland type soil is moderately well-drained its parent material being glacial drift or outwash from glaciers running through Pickering Passage in the ancient past.

Upland soils west of the lake are mapped as Everett gravelly loamy sand and are somewhat excessively drained with water table down to 6 feet or more. This is not rated as a hydric soil. The road network and facilities using gravel are of imported gravel and is not representative of native soils. Cumulatively, common area gravel surfaces account for an estimated <2 % of the acreage.

We noted that there were no steep or unstable slopes and exposed mineral soils were associated with access roads, trails, or foot trafficked areas around facilities.

### Existing Site Vegetation

The predominant vegetation species are listed below. The main tree species observed that comprise the forest community include:

- **Western Hemlock** (*Tsuga heterophylla*)
- **Douglas Fir** (*Pseudotsuga menziesii*)
- **Western Red Cedar** (*Thuja plicata*)
- **Red Alder** (*Alnus rubra*)
- **Big-leaf Maple** (*Acer macrophyllum*)
- **Cottonwood** (*Populus trichocarpa*)

These tree species are well-adapted to the local climate and can thrive in well- to moderately-drained soils. Their presence contributes to the overall biodiversity and provides habitat for various wildlife. Alder, cottonwood and maple comprise forest canopy at the wetland margins.

In addition to the trees, the site also hosts a diverse understory shrub community, including more common species below:

- **Salmonberry** (*Rubus spectabilis*)
- **Vine Maple** (*Acer circinatum*)
- **Evergreen Huckleberry** (*Vaccinium ovatum*)
- **Red Elderberry** (*Sambucus racemos*)
- **Indian Plum** (*Oemleria cerasiformus*)
- **Common Snowberry** (*Symphoricarpos albus*)
- **Salal** (*Gaultheria shallon*)
- **Oregon Grape** (*Mahonia aquifolium*)
- **Rhododendron** (*Rhododendron* spp.)
- **Bracken Fern** (*Pteridium aquilinum*)
- **Sword Fern** (*Polystichum munitum*)

These shrubs, along with various herbs and wetland plant species, contribute to the overall ecosystem health by providing cover, food, and nesting sites for birds and small mammals. They also enhance soil stability and prevent erosion.

In the absence of a well-developed shrub and herb layer, **mosses** are predominant. Moss mats can make it difficult to native shrub and herb species to develop naturally. Mosses thrive in the damp and shaded conditions, adding to the overall biodiversity and ecological complexity of the site.

A variety of wetland plants round out the plant diversity including salmonberry, cattails, slough sedge, common rush, and spirea. Along roads and in playfields or open areas, perennial grasses such as *Poa* sp. and *Agrostis* (bent-grass) along with clover and annual ryegrasses sp. comprise the rest of vegetation composition.

### Existing Wildlife Species

Species known to occur (not comprehensive) in BLCA include:

Mink	Raccoon	Coyote	Cougar
Black-tailed deer	Bald eagle	Osprey	Red-tailed hawk
Pileated woodpecker	Barred Owl	White-tailed ear	Raven
Canada goose	Common merganser	Bufflehead	Ring-necked duck
Mallard	Wood duck	Black bear	Fishers
Deer mouse	Forest deer mouse	Blue heron	squirrels
chipmunks	bats	Downy woodpeckers	Red-breasted nuthatch
Pine siskin	White-crowned sparrow	goldfinch	Black-capped chickadees
Swainson's thrush	American robin	Varied thrush	Brown creeper
Water ouzel (dipper)	Dark-eyed junco	Spotted towhee	House sparrow
Yellow-rumped warbler	Spotted towhee	Anna's hummingbird	Northern flicker
Dace sp.	Resident coastal cutthroat trout	Beaver	Amphibians and reptiles (frogs, salamanders, newts, garter snakes)

### Hydrology

The majority of the parcel in the lower elevations contains high volumes of water in the man-made Buck

Lake, beaver pond and other low-lying depressional areas. The shallow water table is enhanced by Buck Lake's impoundment and likely retains enough water to augment low summer flows in downstream reaches. Buck Lake construction occurred in the 1970s via excavation of wetland area. Potentially the original wetland extent was made larger during this period. The landscape maintained sufficient hydroperiods to develop soils that meet hydric soil indicators and support the current-day wetland extent.

#### Flood Hazard and High Groundwater

There is no flood hazard as the lake complex and surrounding wetlands are extensive. Some overland flooding may occur in the natural areas if beaver dams persist in Wetland 2. The dam maintains overflow culverts that become active in lake high water levels. There have been no overtopping flows. Buck Lake contains some floodplain bench that will occupy and backwater southward into the adjacent parcel wetland complex prior to any flood hazard to stream or pond-adjacent sites.

The site is densely vegetated with invasive canary grass and practically functions as a headwater wetland. Presence of high groundwater level is due to the flat and depressional terrain of the lowlands and quickly lowers outside of the wetland boundaries into sloped terrain.

#### Stream and Wetland Verification

Available information indicated presence of 3 wetlands and a reach of stream joining two wetlands. Wetland 1 is the largest wetland (Buck Lake). Wetland 2 is the beaver pond east of Buck Lake and Wetland 3 is north of the dam culvert outlet. Other than the identified stream, no other streams are mapped on the subject property. A small channel joins the beaver pond wetland but maintains wetland characteristics and is describes as a connective feature. Wetland 1 and 2 have differing characteristics thus although having hydrologic connectivity were rated and determined separately. The National Wetland Inventory (NWI) indicates observed wetlands throughout the site and identifies hydric soil features as potential wetland sites. The NWI identifies riverine, palustrine and emergent wetlands as the varying types.

#### Field Inspection

Field inspections occurred in November 2023 resulting in determination of three wetlands on the parcel. The wetlands was delineated, classified, rated and prescribed a regulated buffer. Wetland 1's extent is through over half of the subject parcel. Analysts trekked the complete parcel verifying hydric soils and vegetation and hydrology indicators throughout the parcels.

#### Effects Analysis

Campground formation and improvements since the 1990s have developed out of goals for conservation and aesthetic preservation for private outdoor recreational enjoyment. To determine the past ecological effects of enhancing the pond, building the dam, installing the road network is not possible. The analyst surmises that potentially the enhanced water volume impoundment has raised the water table, possibly altering the wetland edge vegetation composition from forested to scrub shrub on the margins in some locations. There was likely a loss of trees due to inundation and eventual removal from flooded areas if hazardous. Downstream hydrology was likely affected by withholding winter rainfall and water storage longer into the spring and summer, possibly maintaining downstream flows, whereas prior, the channels may have had seasonal or intermittent flows.



Given the goals of maintaining native landscape, keeping common areas and private sites clean and roads well-managed along with many other stewardship principles written in the BLCA handbook; the site has performed ecologically well. Stream and wetland buffer functions of woody debris input, litterfall, nutrient input, bank stability, shade, forest canopy and plant diversity, and cover habitat have either remained intact since inception or have recovered due to the low intensity use over the decades.

The potential effect of the status quo campground and recreational activities should not impact riparian zone or wetland buffer function. The three delineated wetlands will be unaffected by the ongoing normal maintenance and site use/occupancy patterns experienced through the years.

### Threatened and Endangered Species

There are no critical habitats of federal threatened and endangered species

Species that could occur in the area include:

Marbled Murrelet                      *Brachyramphus marmoratus*                      Threatened

- If supporting mature timber in project area there are no harvest plans

Streaked Horned Lark                      *Eremophila alpestris strigata*                      Threatened

- Habitat not present on parcels

Yellow-billed Cuckoo                      *Coccyzus americanus*                      Threatened

- May use canopy in campsites as other migratory birds and local species

Northwestern Pond Turtle                      *Actinemys marmorata*                      Proposed Threatened

- May be present; habitat type conducive to their reproduction – no in-water or shoreline bank area would disturb habitats. Shoreline debris placement may enhance habitats.

Bull Trout CH                      *Salvelinus confluentus*                      Threatened

- Saltwater habitat, no access to site

Monarch Butterfly                      *Danaus plexippus*                      Candidate

- Objectives for native vegetation and conservation consistent with habitat requirements

Proposed ongoing management activities within the wetland buffers, which are akin to are not likely to adversely affect habitats or above-listed species. Additional enhancement and mitigation ideas, if necessary are outlined in the accompanying Habitat Management Plan.

## HABITAT MANAGEMENT PLAN

A habitat management plan (HMP) is required for Buck Lake Campground Association (BLCA) due to past, ongoing and future activities within buffers and setbacks of Wetlands and Fish and Wildlife Habitat Conservation Areas (FWHCA). This is a unique HMP in that there are no proposed substantial developments within sensitive areas but developments and activities have occurred in the past and BLCA is proposes to develop a means through the HMP to continue with camp management and maintenance actions, many of which fit into allowances under Mason County Critical Areas Code. The proposed campground management activities are somewhat low impacting since they involve camping and recreational type living and land use.

The HMP is the framework to 1) continue maintenance of existing sites within the buffer areas, 2) make improvements to mapped lots within BLCA buffered areas that have had no or temporary use, 3) to conduct maintenance activities within occupied sites (primarily vegetation management and small storage or shelter units (i.e. utility sheds, RV covers, gathering area covers), and 4) develop upland sites that may encroach to or within newly designated wetland buffers.

The accompanying Wetland and Hydrology Report and Critical Areas Report provide the environmental assessment necessary for an HMP.

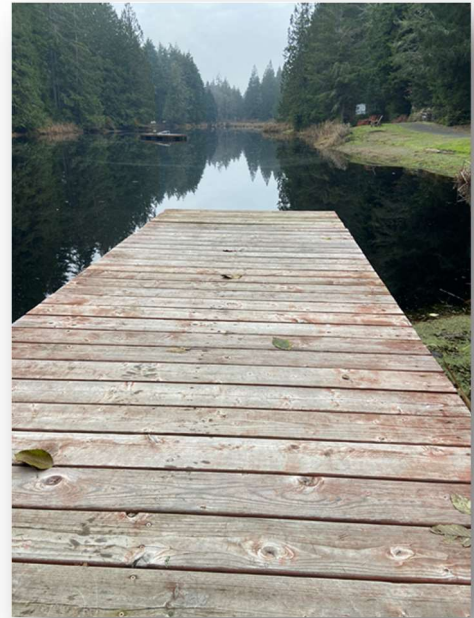
### Relevant Definitions from Mason County Critical Areas Code

**Danger tree:** a tree with a high probability of falling due to a debilitating disease, a structural defect, a root base more than fifty percent exposed, or having been exposed to wind throw within the past ten years, and where there is a residence or residential accessory structure within a tree length of the base of the trunk, or where the top of a bluff or steep slope is endangered. Where not immediately apparent to the review authority, the danger tree determination shall be made after review of a report prepared by an arborist or forester.

**Fish and wildlife habitat conservation areas (FWHCA):** areas that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term. These areas may include, but are not limited to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors; and areas with high relative population density or species richness.

**Structure:** a permanent or temporary building or edifice of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner, whether installed on, above, or below the surface of the ground or water, except for vessels. Retaining walls, decks, bulkheads, roads, fences, and similar improvements to real property are all examples of structures.

**Practicable alternative:** an alternative that is available and capable of being carried out after taking into consideration cost, existing technology, and logistics in light of overall project purposes, and having fewer impacts to designated wetlands. It may include an area not owned by the applicant which could reasonably have been or be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity.



## Property History and Management

The subject parcels are adjacent parcels numbers 220051400000 (19 acres) and 220054200000 (30 acres) and are owned by the Buck Lake Campground Association (BLCA) 1313 Fryar Avenue PO BOX 609, Sumner WA 98390. BLCA had its formal founding in 1974 and through 1988 established most of its modern sites for campground style use. It is a private, member's only facility with principal use of outdoor recreation and registered with the State of Washington as a RV and Camp resort. BLCA Bylaws guide leadership and management and has had their latest comprehensive updates in April 2022.

The rules of the BLCA clearly define rules and regulations to meet primary goals of preserving the natural beauty of the property and include enforcement measures to ensure healthy natural area standards and a peaceful social environment. In general, the atmosphere is typical of what one would find in state and federal campgrounds, with even higher standards of cleanliness, orderliness and beautification due to the collective management by membership.

Buck Lake Campground policies and handbook can be viewed at their website [www.bucklake.org](http://www.bucklake.org).

### **Proposed and/or Ongoing Activities in Buffers**

The main ongoing actions within riparian or buffer zones include road maintenance, ditch/swale improvements to route overland flows, vegetation management, camp site maintenance, camp site structures, utility maintenance (water and electric supply lines), danger or hazard tree management, recreational access to lake, and site rehabilitation or restoration.

### **Proposed Mitigation Measures to Avoid or Minimize Impacts**

Lighting, rain and potential contaminant runoff, hazard/ tree removal, pet and human disturbance, shrub removal and relocation, and potential disruption of habitat connectivity to uplands are the potential effects of the current and proposed activities at BLCA. The following general practices are encouraged across the BLCA and for this HMP some particular BMPs will be emphasized for properties within the wetland or FWHCA buffers:

#### Wildlife:

- Security lights be directed towards uplands or directed with light shields to minimize light pollution.
- Maintain quiet hours per BLCA handbook
- Dense native vegetation planting between sites to dampen noise from multiple site use

#### Water Quality

- Ensure individual sites retain or detain runoff through vegetated areas on site margins or directed to swales or ditches for infiltration.
- Maintain densely vegetated wetland margins for infiltration and filtering of overland runoff
- No use of herbicides within the first 100 feet of the wetland boundary and used for nonnative or invasive species management
- All pest management standards applied using licensed professionals for applications.
- Vehicle repair and lubrication changes are prohibited from campsites and allowed at the BLCA maintenance shop near the entrance. Exceptions are made for emergency situations.

#### Physical Boundaries of Wetland Pond Edge

- Use designated areas for water access; maintain live grasses and minimize bare soil exposure
- Identify opportunities to restore native plant vegetation where non-native plants (canary grass, Japanese knotweed, Himalayan blackberry, Scotch broom) are present.
- Foot trails setback to allow vegetative strip to grow.

#### Connectivity between pond and forested uplands

- Improve natural areas with minimum trees or shrubs to maintain habitat connectivity between pond and uplands.
- Maintain core native vegetation zones from water's edge to 20 feet upland for sites that have been previously established within buffers.

#### Pond Margin –Waterward

- Maintain woody debris naturally recruited or if safety hazard, modify location or submerge in areas not utilized for swimming.
- A wildlife conservation area is proposed for establishment at the south end of the lake for placing trees that are removed as hazard or danger trees. They can be partially submerged or along the low lying landscape for habitat structure, bird and turtle habitat and cover for lake fish.

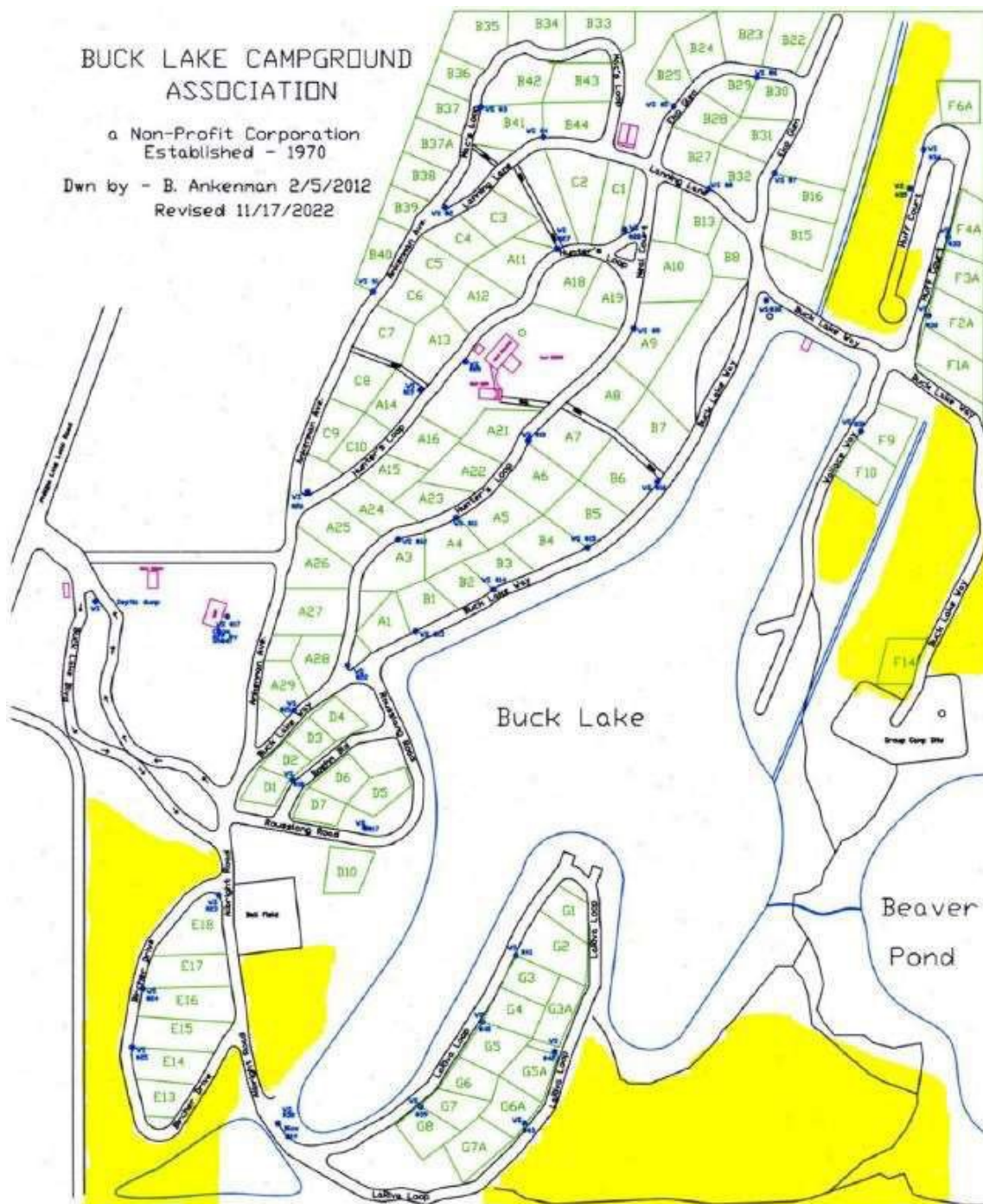
#### Road Maintenance or Expansion

- No new main roads are necessary to access new campsites
- In current conditions, there are no campsites waterward of roads. This is allowing any roads that are near water bodies to have vegetation and filter strips manage any road runoff. There were no observations or evidence of erosion or sediment transport from roads during the analysis.
- Any access needed for new sites will be developed through spurs off of main roads outside of the buffer zones.
- Proposed areas for expansion that were observed are flat in slope and either cleared from past use or young sapling young forest stands mixed conifer/hardwood.
- Larger diameter trees (>24 " diameter dbh) will be avoided for clearing to maintain mature forest effect aesthetically and for habitat function.
- Traffic will remain low use to weekend and seasonal use. The analysis of roads during the assessment indicated that low traffic volume and use of the sites minimize on road conditions.

### **Proposed Activities to Add Campsite Units Outside of Buffers or Adjacent to Existing Sites Within Buffers**

The following site plan highlights areas that are under evaluation for additional campsites and additional bathrooms. Hard structure facilities will be located outside of buffers so will undergo regular planning department interaction. The proposed sites within buffers will also be under the same stewardship guidelines in this HMP/Critical Areas Report. The assessment considered the effects of up to 10 new individual campsites.





The Analysis determined that the areas outlined above (yellow polygons) that could serve under the same types of low to negligible impact uses. These are primarily areas outside of buffers, landward side of access roads or in areas of low likelihood of overland runoff or effect on riparian functions. These areas can be either for enhanced conservation (wildlife enhancement, mitigation), field areas, day use, shared use, general recreational use or trails, or additional campsites using existing road or walk-in access depending on potential effect.

## Effects Analysis of Proposed Activities on Baseline Conditions

Buck Lake Campground Association has been in operation for decades under low impact recreational use. The landscape is a mix of managed areas with shelters, open field, mature timber, hardwood and coniferous forests with a road and trail network throughout the uplands and within riparian areas. In combination with:

- 1) past stewardship activities and continued use of widely accepted best management practices,
- 2) general goals of natural areas protection,
- 3) effective road, grounds and facilities maintenance to manage storm runoff well, and
- 4) a list of mitigation strategies to be applied if necessary,

the proposed activities are not likely to adversely affect Fish and Wildlife Habitat Conservation Areas and Wetland Buffers.

### Vegetation Management

Currently, the BLCA Campground handbook has provision for vegetation management within buffer areas. For example:

Members are prohibited from cutting or removing any trees. No live tree in excess of four (4) inches in trunk diameter may be removed. Exceptions are made for preparation of designated roads, community parking areas, diseased trees, wind damage mitigation, etc. These exceptions need to be approved by Board of Directors (BOD) and then tagged for removal by the BOD.

- Tree cutting permits will be issued by BOD to have posted on site during scheduled tree cutting
- Underbrush shall not be cleared closer than 5 feet to campsite boundary.
- No stacking of brush on the side of the roads of the sites since this is a fire hazard.
- Caretaker can manage brush at the maintenance area burn pile.
- Greenbelts (trails, corridors, non-site natural areas, natural areas between sites, natural areas in commons) shall not be encroached upon or used by individual membership sites.

Replanting additional trees and/or other native shrubs are recognized as effective riparian mitigation. The objective of BLCA is to align with best management practices and mitigation strategies that align with the Mason County Critical Areas or another practicable alternative.

The following are the types of plants that can be used in vegetation planting.

Plant/tree List Suitable for Mitigation areas

Species	Scientific name	Comments	Pot (P) or Live Stake (LS)
Red osier dogwood	<i>Cornus sericea</i>	very versatile	P LS
Swamp rose	<i>Rosa pisocarpa</i>	In or adjacent to wetlands	P
Black twinberry	<i>Lonicera involucrata</i>	In or adjacent to wetlands	P

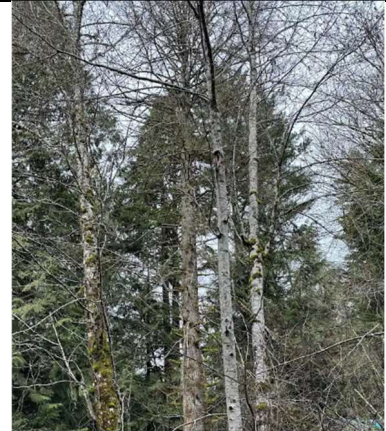
Pacific ninebark	<i>Physocarpus capitatus</i>	very versatile	P
Black cottonwood	<i>Populus balsamifera</i>	In or adjacent to wetlands	LS
Red alder	<i>Alnus rubra</i>	very versatile; riparian	P
Black hawthorn	<i>Crataegus douglasii</i>	Uplands	P
Salmonberry	<i>Rubus spectabilis</i>	needs moisture in summer	P
Nootka rose	<i>Rosa nutkana</i>	versatile	P
Sitka spruce	<i>Picea sitchensis</i>	stream adjacent	P
Cascara	<i>Rhamnus purshiana</i>	good choice for riparian	P
Western Red Cedar	<i>Thuja plicata</i>	Adjacent to wetlands/streams	P 3-5 yr. old
Douglas Fir	<i>Pseudotsuga menziesii</i>	uplands	P 3-5 yr. old
Vine maple	<i>Acer circinatum</i>	versatile	P
Big leaf maple	<i>Acer macrophyllum</i>	versatile	P
Snowberry	<i>Symphoricarpos albus</i>	very versatile	P LS
Red elderberry	<i>Sambucus racemosa</i>	Adjacent to wetlands/uplands	P
Thimbleberry	<i>Rubus parviflorus</i>	good choice for riparian, versatile	P
Western hazelnut	<i>Corylus cornuta</i>	Adjacent to wetlands/uplands	P





## Hazard/Danger Tree Maintenance

**Example Hazard Tree Scenarios.** **Top row** left to right: hazard trees in roadside management area, single dead and dying hazard trees, cluster; diseased or dying, dead tops and large branch. **Middle row:** conifer, dead/dying or storm damage, down wood (uplands) near trails or sites, down wood – within buffers. **Bottom row:** down wood, removal/relocation in or affecting sites, loose woody vegetation removal, wildlife damage trees/snag creation. Depending on condition of downed wood, site administrators can determine fate for use as habitat elements, firewood, or disposal.





Under current Critical Areas Ordinances Activities in FWHCA's or buffers that do not require a habitat management plan include:

Danger Trees (Felling of). The felling of danger trees is allowed within buffers without a habitat management plan provided the following conditions are met:

When it is demonstrated to the satisfaction of the administrator that an imminent threat exists to public health or safety, or the safety of private or public property. Landowner shall provide to the administrator a written statement describing tree location, danger it poses, and proposed mitigation.

Should the imminent threat not be apparent to the administrator (as danger trees are defined in Section 8.52.030), the administrator may require the landowner submit a report from a professional forester or certified arborist.

Before a danger tree may be felled or removed, with the exception of an emergency pursuant to Section 8.52.240, the landowner shall obtain written approval from the administrator. This approval shall be processed promptly and may not be unreasonably withheld. If the administrator fails to respond to a danger tree removal request within ten business days, the landowner's request shall be conclusively allowed.

## Mitigation Planning

Mason County's Code of Ordinance Title 8 - ENVIRONMENTAL POLICY describes mitigation as actions necessary to replace project-induced critical area and buffer area losses, including land acquisition, planning, construction plans, monitoring and contingency actions. Replacing project-induced critical area losses or impacts, will be met by following mitigation sequencing described in 16.20.030 Protection of critical area. This includes, but is not limited to, the following:

(1) Avoiding the impact altogether by not taking a certain action or parts of an action; (2) Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology; or by taking affirmative steps to avoid or reduce impacts; (3) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (4) Reducing or eliminating the impact over time by preservation and maintenance operations; (5) Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and (6) Monitoring the impact and the compensation projects and taking appropriate corrective measures.

Mitigation for individual actions may include a combination of the above measures.

"Mitigation, compensatory or compensation, or compensatory mitigation" means a form of mitigation that replaces project-induced wetland or habitat losses or impacts, and includes, but is not limited to, restoration, enhancement, substitute resources, creation, and preservation. "Substitute resources" means actions performed to provide for an alternative environmentally sensitive area. "Preservation" means actions taken to ensure the permanent protection of existing, high-quality environmentally sensitive areas. Compensation also is not limited to mitigation at or adjacent to the site on which a critical area has been impacted by a regulated activity.

Proposed activities within the buffer areas were evaluated in light of the following mitigation compliance standards (**16.20.070**):

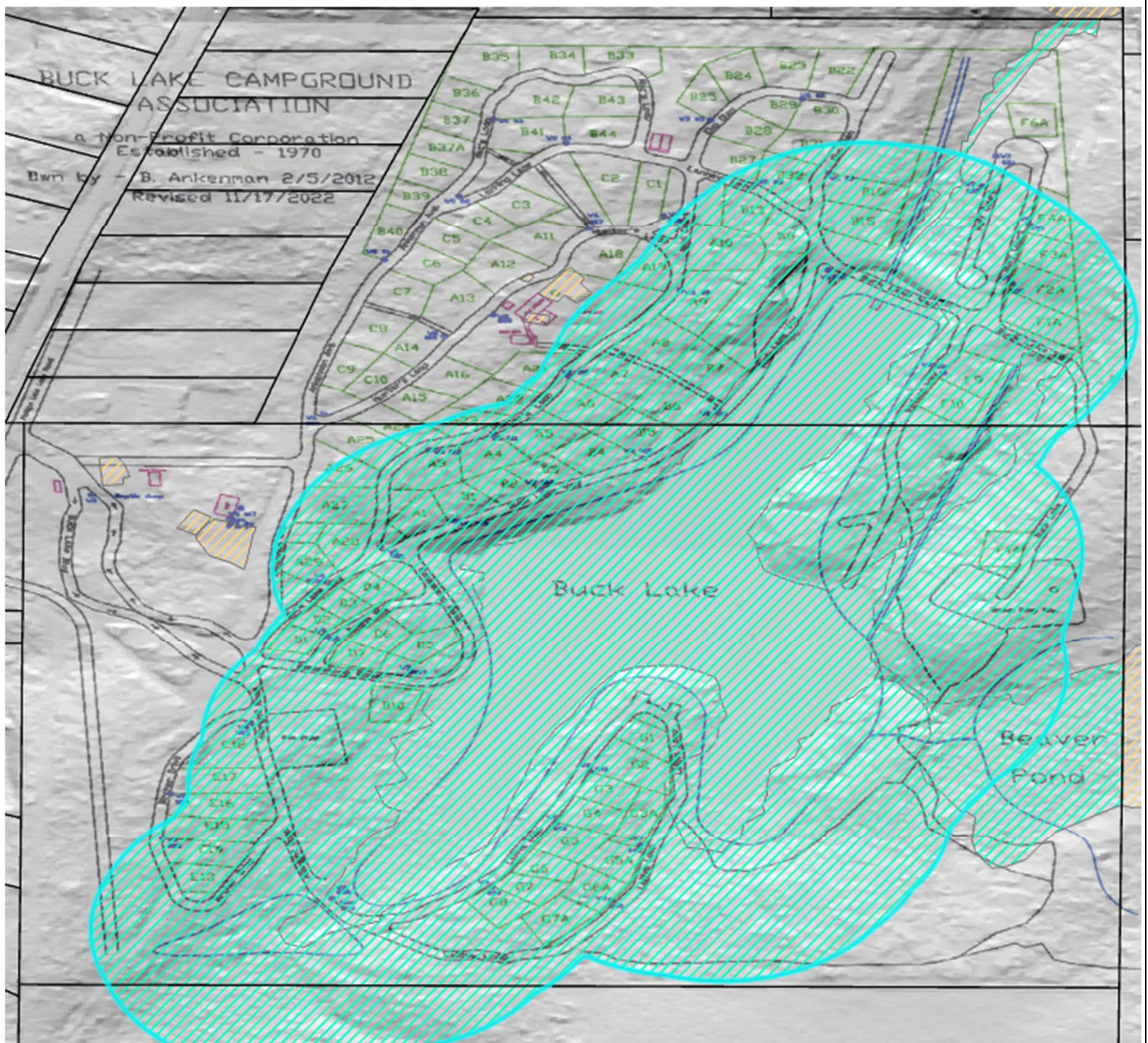
1. The proposal minimizes the impact on critical areas in accordance with mitigation sequencing (BIMC 16.20.030.A).
2. The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal site.
3. The proposal is consistent with the general purposes of Title 8 -Environmental and the public interest.
4. Any alterations permitted in the critical area are mitigated in accordance with mitigation requirements in BIMC 16.20.030.A.
5. The proposal protects the critical area functions and values consistent with the best available science and results in no net loss of critical area functions and values.
6. The proposal addresses cumulative impacts of the action; and
7. The proposal is consistent with other applicable regulations and standards.

Buck Lake Campground Association has developed 3 Mitigation Areas described as the following:

**Mitigation Area 1** First 20 feet from wetland edge: For activities that occur within 35 feet of the wetland edge (core buffer area) - plantings will occur within the first twenty feet of the wetland, where needed, for shade, replacement of non-native species, or wetland cover habitat.

**Mitigation Area 2** Area within buffer 20 – 50 ft from wetland edge. For vegetation disturbing actions occurring from 35 feet to the outside edge of the buffer, upland tree or herb/shrub species will be planted. Number and size to be determined commensurate with the disturbance or removal

**Mitigation Area 3** Southwest Buck Lake Aquatic Enhancement Zone: For activity occurring anywhere within campsites within the buffer area, the southwest area of Buck Lake can provide for commensurate mitigation. That is if a danger tree, dead or dying or diseased tree is removed, one can be planted in this area, or dead and down wood can be placed as a habitat element. This area would be most responsive to habitat enhancement for wildlife species since it is the least disturbed shoreline area, habitat for turtles and land mammals, and popular nesting and roosting area for migratory birds.



225=ft wetland buffer with georeferenced plot map of Buck Lake. The plot map is approximate.

The official buffer map is on page 34





Three distinct mitigation areas are displayed. Area 1 and area 2 are polygonal bands around the wetland margins. Area 1 is from the wetland edge to 20 feet landward and Area 2 is from the 20-foot boundary to landward 50 feet from the wetland edge. Activities that may be more impacting to aquatic resources will look at mitigation within Area 1 and activities within the buffer with less or negligible impacting actions will consider use of Area 2. Area 3 are two aquatic and wetland margin areas at the south end of the lake that can be utilized for placement of down, dead or dying trees that can be translocated from sites to provide fish wildlife values and riparian functions.

Potential activities within the wetland buffer zone of 225 feet and proposed mitigative Actions

Action	Location of Activity	Mitigation action/area
Dead and Dying Tree Removal	Replace with 3 foot tree	Discretionary within 100 feet of removal area, can be other sites or commons.
Hazard Tree Removal	Within 50 feet of wetland boundary	Riparian tree in Area 1.
Vegetation Removal Herb Shrub	Within sites during prep	Area 3 – native planting within canary grass or blackberry, or Site boundary native planting one 1 gallon plant for every 3 square feet disturbed. Construct small berms to direct water to areas of infiltration.
Live Tree Removal < 6" diameter <sup>1</sup>	Within sites	1 native shrub or 3-yr old tree within Area 1 or Area 2.
Live Tree Removal > 6" - 12" diameter	Within sites	2 shrubs or two 3-yr old trees within are 1 or 3; larger trees removed in this diameter class can be place in Area 3.
Live Tree Removal > 12" diameter	Area	Place tree in Area 3, if within 25 feet of wetland place on wetland margin or within water.
Gravel placement	On sites	Ensure water directed towards vegetated areas or small berm construction to direct overland water to vegetated areas.
Gravel placement	On roads	Small crown in road or ensure water directed towards vegetated areas or small berm construction to direct overland water to vegetated areas.
Storage boxes	Within sites	If feasible mount on blocks or beams allowing water to run under and infiltrate if vegetation lacking on site.
Car/Trailer ports	Within sites	No concrete pads, gutter system to divert to infiltration area within site or gravel infiltration along length of roof drip line. May use concrete pavers for support/stability.

1. Diameter equals diameter at breast height

## APPENDICES

Images

Site Maps

Wetland Determination Forms

Wetland Rating Forms

Wetland Rating Figures

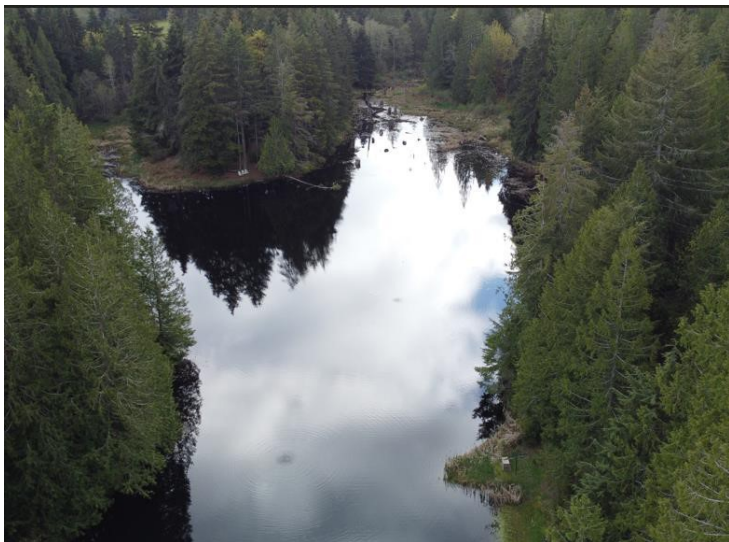
Supporting Ecological Maps



## Natural Area Views



North aerial view of water control structure and riparian habitat at north end of Buck Lake.



South aerial view of Wetland 1.



Aerial View south depicting shoreline habitat elements of woody debris and dense vegetation. Footpaths present in lower left of photo. Footpaths and gravel roads within buffer zones are typical of setbacks found within state or federal park systems.



View southward from mid-lake east bank



Full view southward from water detention structure. Wetland adjacent road on this viable stretch (right of photo) is the closest encroachment of the road system that is managed for lake access.



Wetland east (Wetland 2) of Buck Lake that extends off-parcel. A highly functional wetland with seasonal ponding (most all year) and beaver activity.





Culvert outlet, that drains the water control structure, north of the dam. An incised channel is evident from concentrated flows and persists for about 140 feet until flattening into the wetland area north of the large wetland.



Stream channel north of the culvert outlet. In this area there was some improvements to a campsite but due to close proximity to the wetland channel, a restoration action that include vegetation planting was conducted.



North of the stream channel, more wetland habitat forms (Wetland 3). Buck Lake parcel ends near the far tree line. There is no proposed management activity in this area.





Southeast of the South Parcel contains agriculture fields. Some additional campsites are proposed in future plans outside of wetland buffers in vegetated wetlands. The fence line is the approximate parcel boundary with BLC on the left.



Mature timber persists on the landscape and is preserved to the maximum extent practical amongst campsites for privacy and aesthetics



This area adjacent to stream and wetland channel (within 25 feet) was cleared of organic debris and some vegetation for establishing a campsite. It was rehabilitated with native vegetation species. There was no evidence of damage to soils or input to streams or wetlands. Some sites that are extremely close to resources are candidates for short term or day use rather than long term establishment of camp units.



## Campsite Use Views



Secured and regulated traffic control and monitoring helps manage access for owners who operate under Buck Lake Campground Management policy.



Waste Management and recycling occurs throughout the site with receptacles in public use areas and strict campsite rules on waste management and aesthetics.



Recreational use areas such as playgrounds, fields, boat ramps, dock area, recreational equipment storage, and pond-side seating are maintained for cleanliness and drainage is directed to open areas for infiltration or through vegetation strips prior to pond entry of overland flows during rainstorms.





Public use areas; shelters and restrooms, and service outbuildings; maintenance shop, pump house, are managed with rain gutters and dispersal to overland flow with splash guards.



Typical site, overwintered, noting vegetated perimeter of sites. Summer season exhibits denser herb and shrub growth.



Typical road section exhibiting graded gravel with a slight crown and vegetated swale, or if adjacent to upsloping terrain hydrology is managed via infiltration through duff layer and underlying soil.



Surface area of impervious surfaces; outbuildings, maintenance shops, shelters and bathrooms, all outside of buffers, cumulatively determined to be insignificant in relation to overall acreage and surface water management.



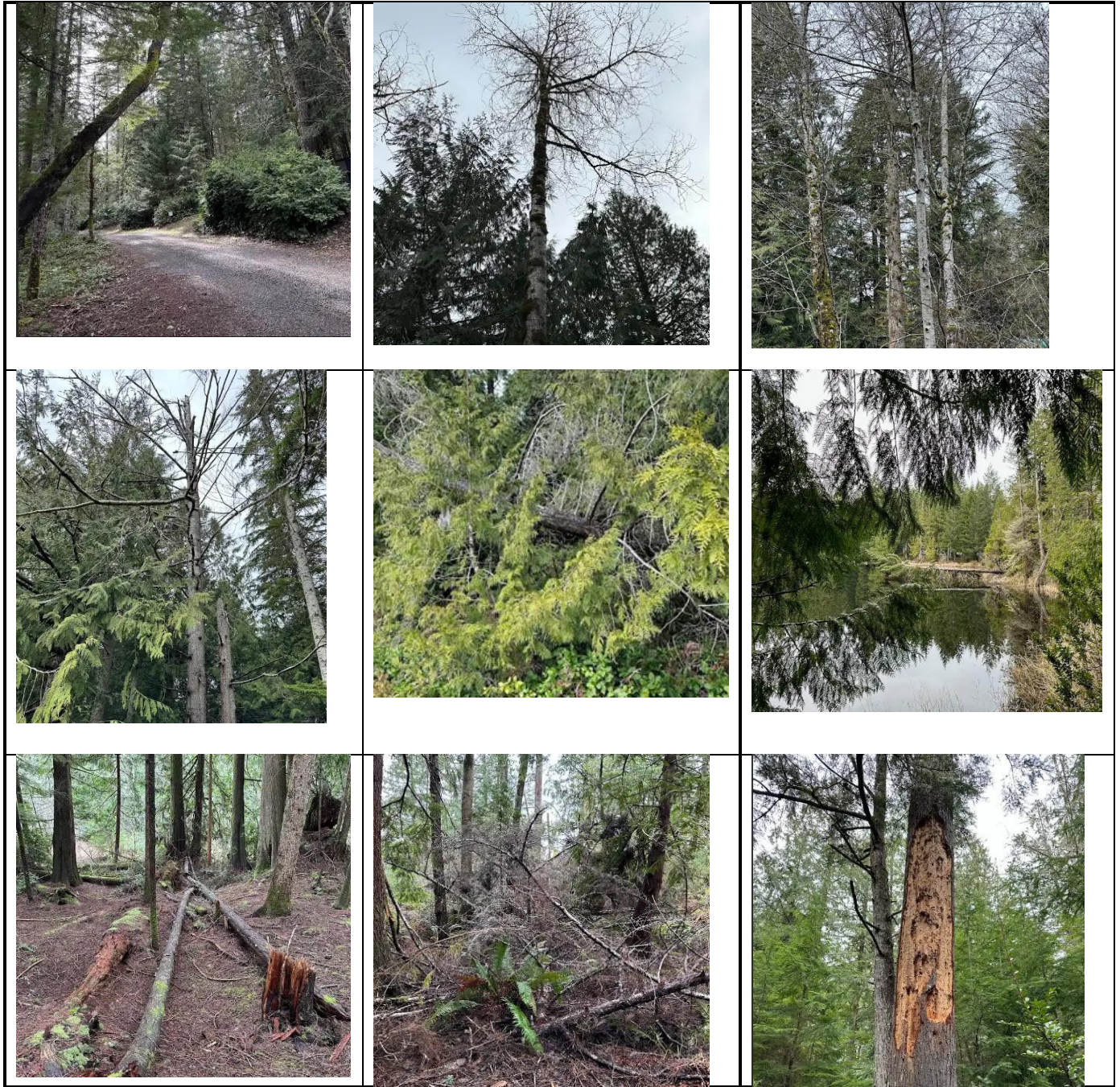
Previously occupied but currently unmanaged sites or ones proposed to be developed will maintain all Best Management practices of the Habitat Management Plan and Buck Lake Campground handbook.



A proposed project for 2024 is to place a lining in the culverted water control structure to help manage pond surface level elevation.

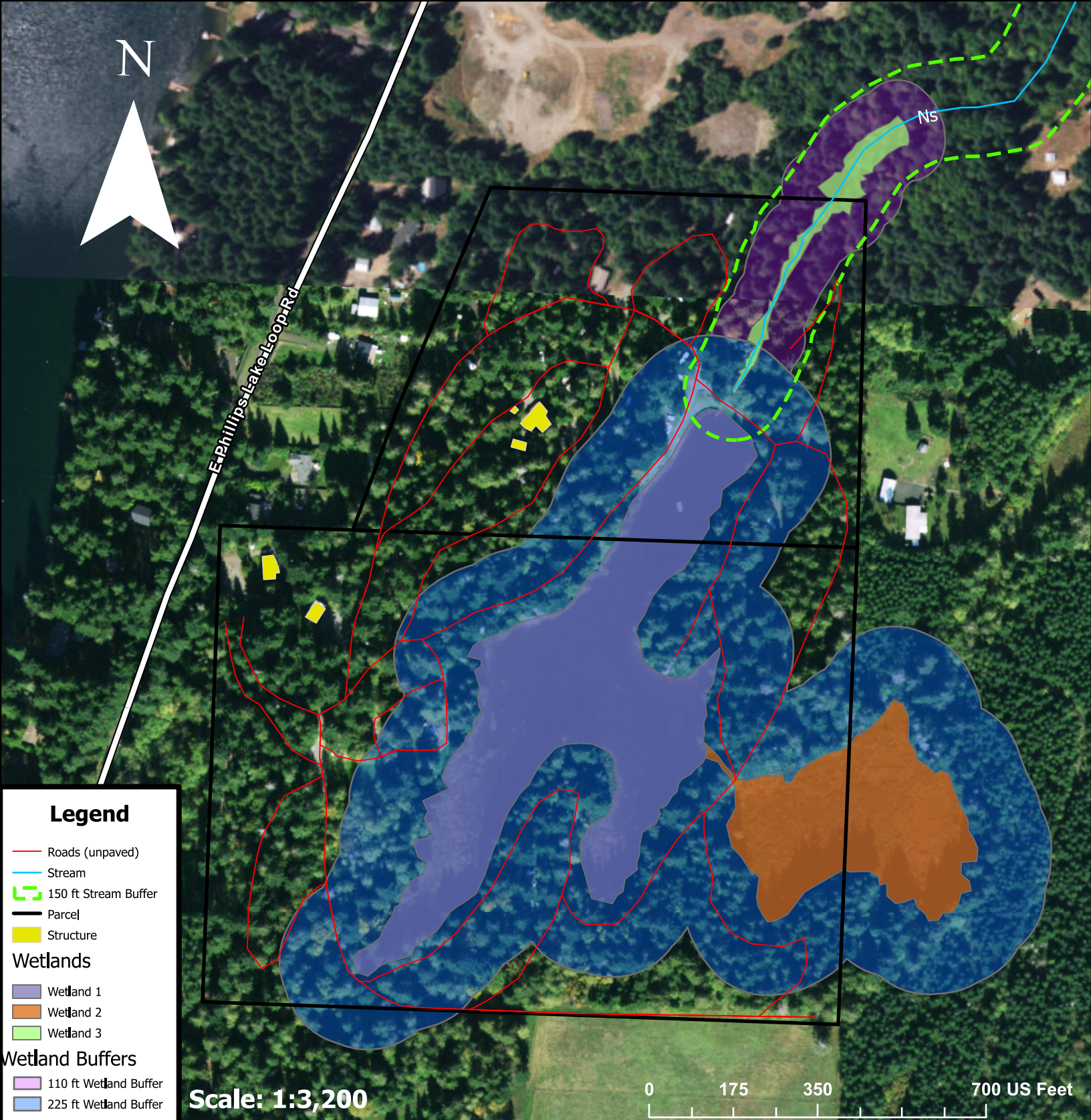


## Hazard/Danger Tree Maintenance



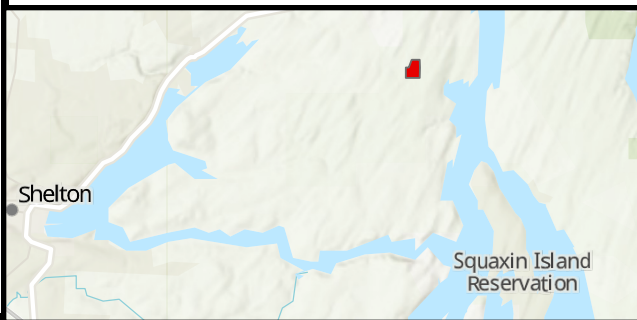
**Example Hazard Tree Scenarios.** **Top row** left to right : hazard trees in roadside management area, single dead and dying hazard trees, cluster diseased or dying, top and large branch. **Middle row:** conifer, dead/dying or storm damage, down wood (uplands) near trails or sites, down wood – within buffers. **Bottom row:** down wood, removal/relocation in or affecting sites, loose woody vegetation removal, wildlife damage trees. Depending on condition of downed wood, site administrators can determine fate for use as habitat elements, firewood, or disposal.





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## Official buffer Map Site Overview



Bucks Lake Private Campground:

641 E Phillips Lake Loop Rd, Shelton, WA 98584

South Parcel:  
220054100000  
North Parcel:  
220051400000

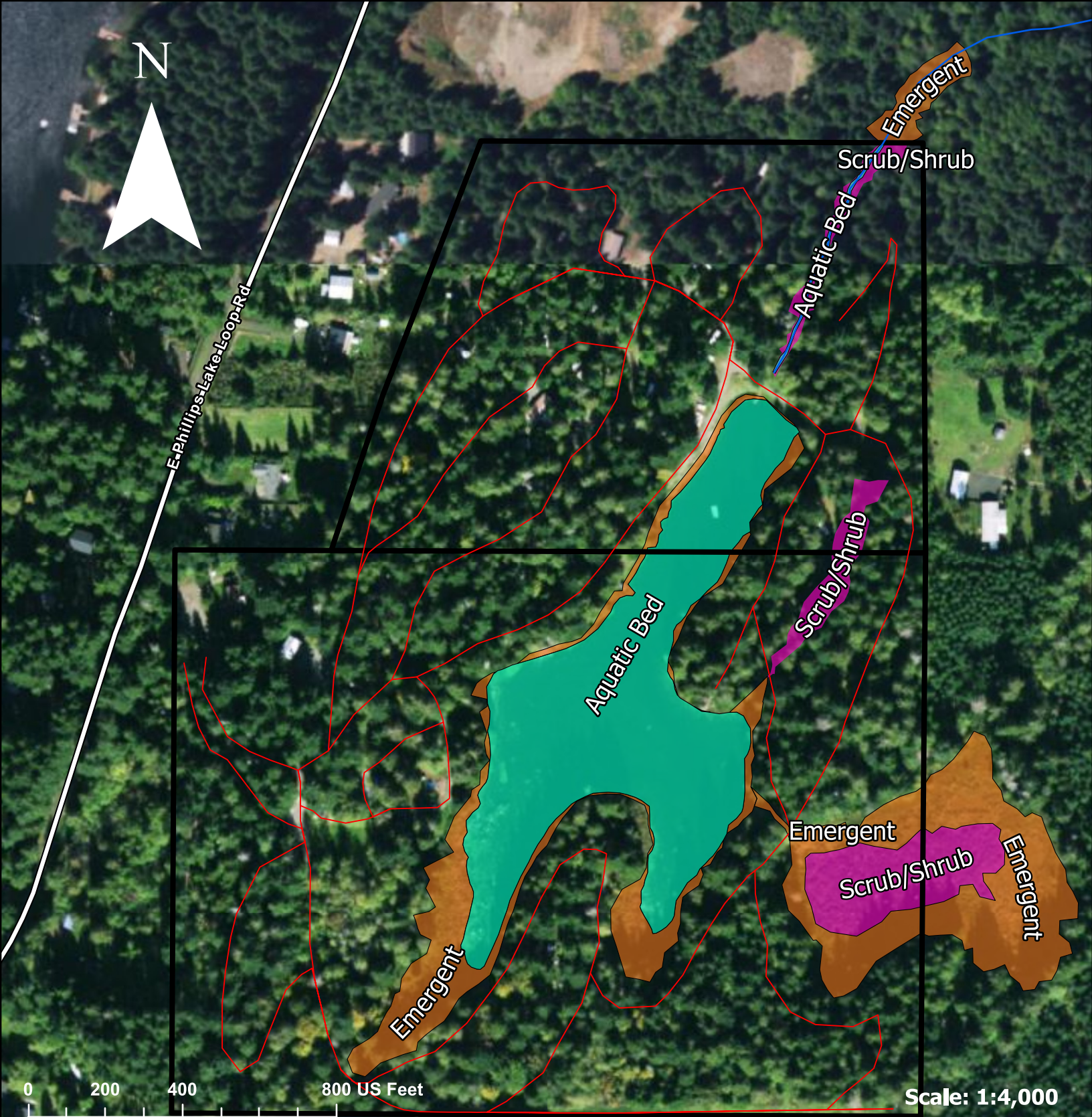
**Figure: A**











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## Cowardin Classes

### Legend

NHD Stream

Parcel

Unpaved Roads

#### Cowardin Class

Aquatic Bed

Emergent

Forest

Scrub\_Shrub

Bucks Lake Private Campground:

641 E Phillips Lake Loop Rd, Shelton, WA 98584

South Parcel: 220054100000  
North Parcel: 220051400000

### Figure: 1

EcoAssets Environmental, LLC





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## Hydroperiod & Outlet

### Legend

#### Stream

Stream

#### Parcel

Parcel

#### Hydroperiod

Occassionaly Flooded or Indundated

Seasonally Flooded or Inundated

Permenently Flooded or Inundated

Saturated Only

Seasonally Flowing Stream

Bucks Lake Private Campground:

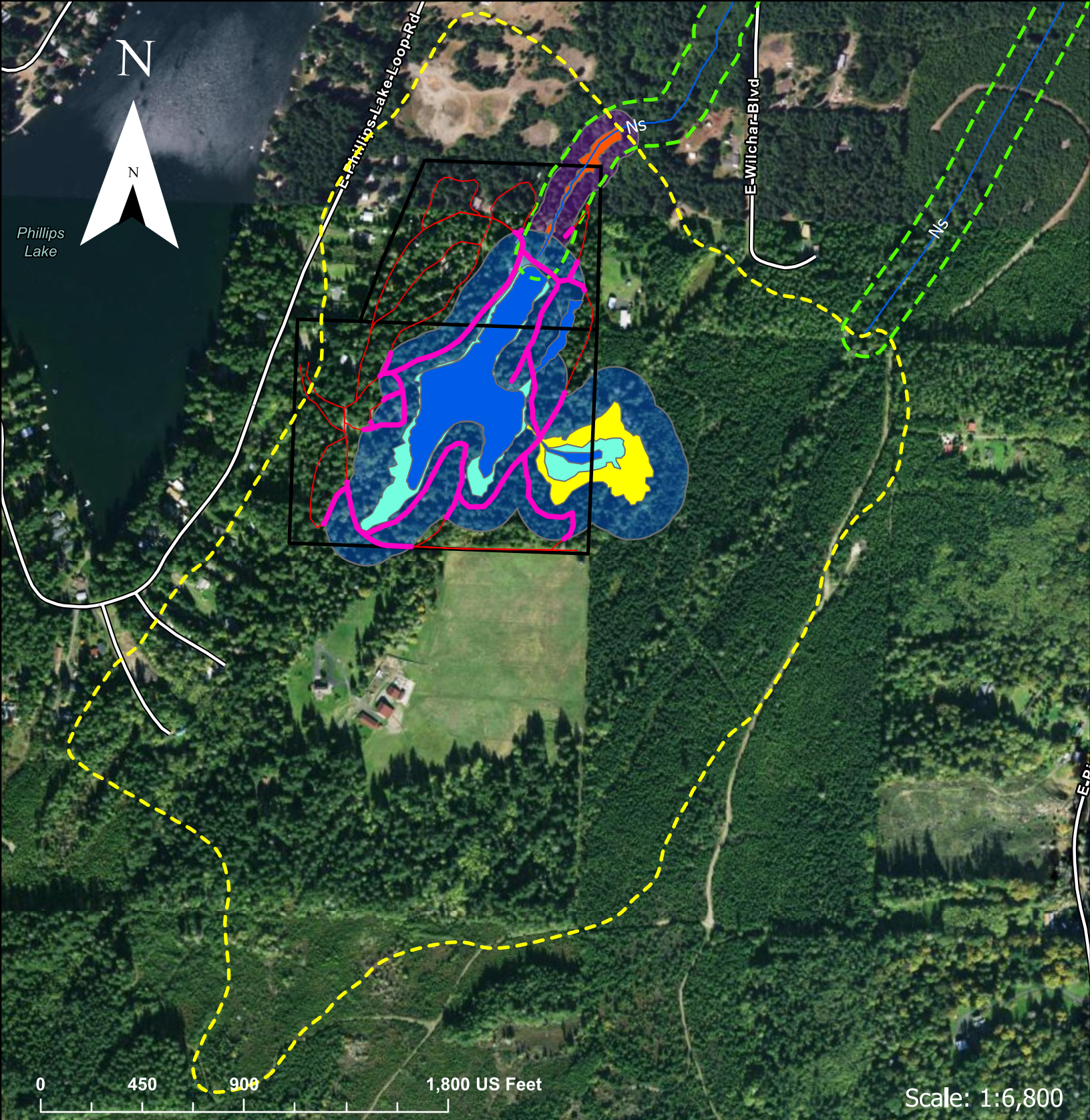
641 E Phillips Lake Loop Rd, Shelton, WA 98584

South Parcel: 220054100000  
North Parcel: 220051400000

**Figure: 2**







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## Contributing Basin & Wetland Buffer

### Legend

- 
- Legend:**
- Roads (unpaved)
  - Stream
  - Parcel
  - Contributing Basin
  - 150 ft Stream Buffer
  - Potential Pollutants
  - 225 ft Wetland Buffer
- Hydroperiod**
- Occasionally Flooded or Indundated
  - Seasonally Flooded or Indundated
  - Permanently Flooded or Indundated
  - Saturated Only
  - Seasonally Flowing Stream
- Wetland Buffers**
- 110 ft Wetland Buffer

Bucks Lake  
Private Campground:

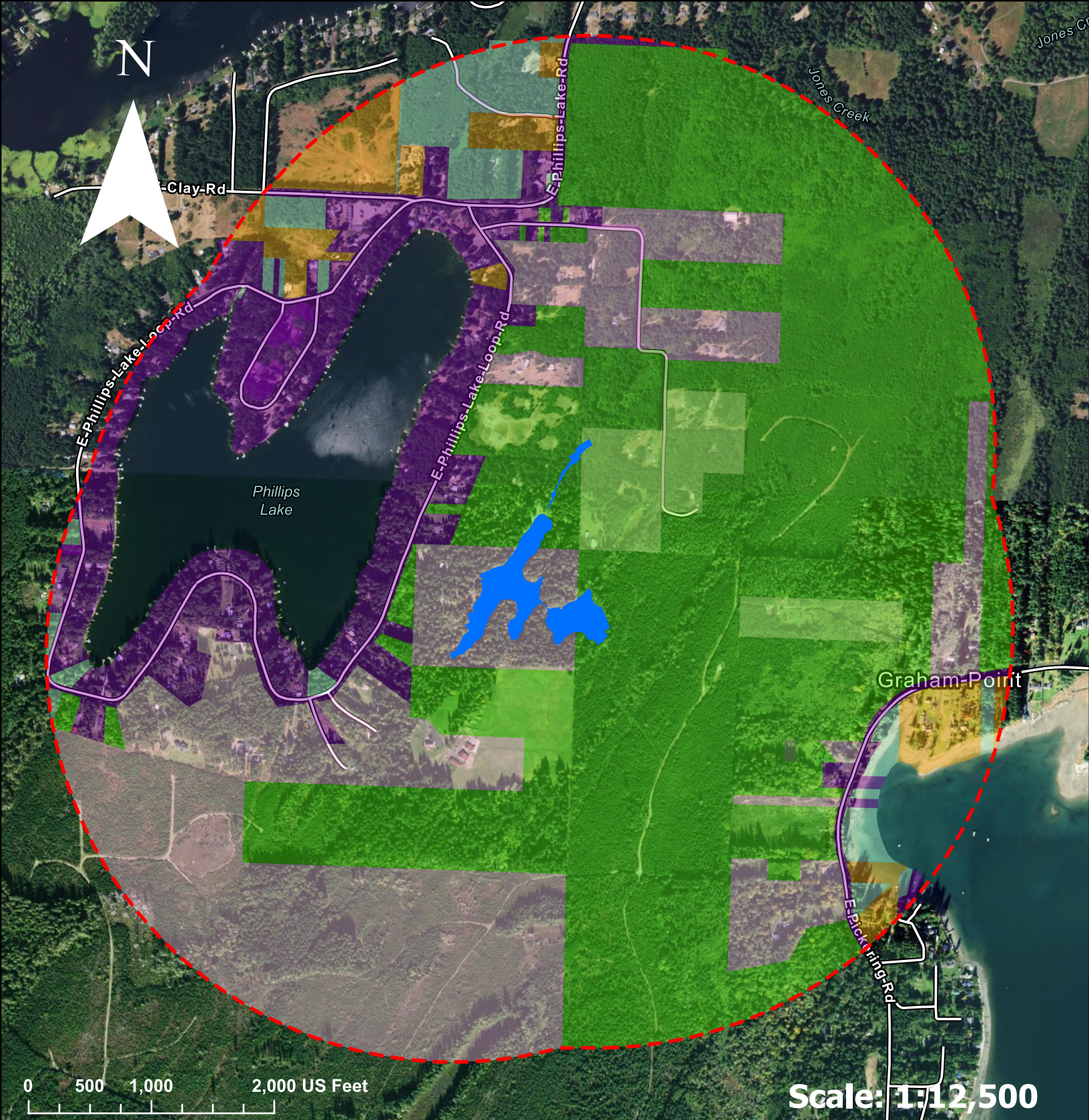
641 E Phillips Lake  
Loop Rd, Shelton,  
WA 98584

South Parcel:  
220054100000  
North Parcel:  
220051400000

### Figure: 3







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

# Land Use & Habitat Accessibility (1 km)

## Legend

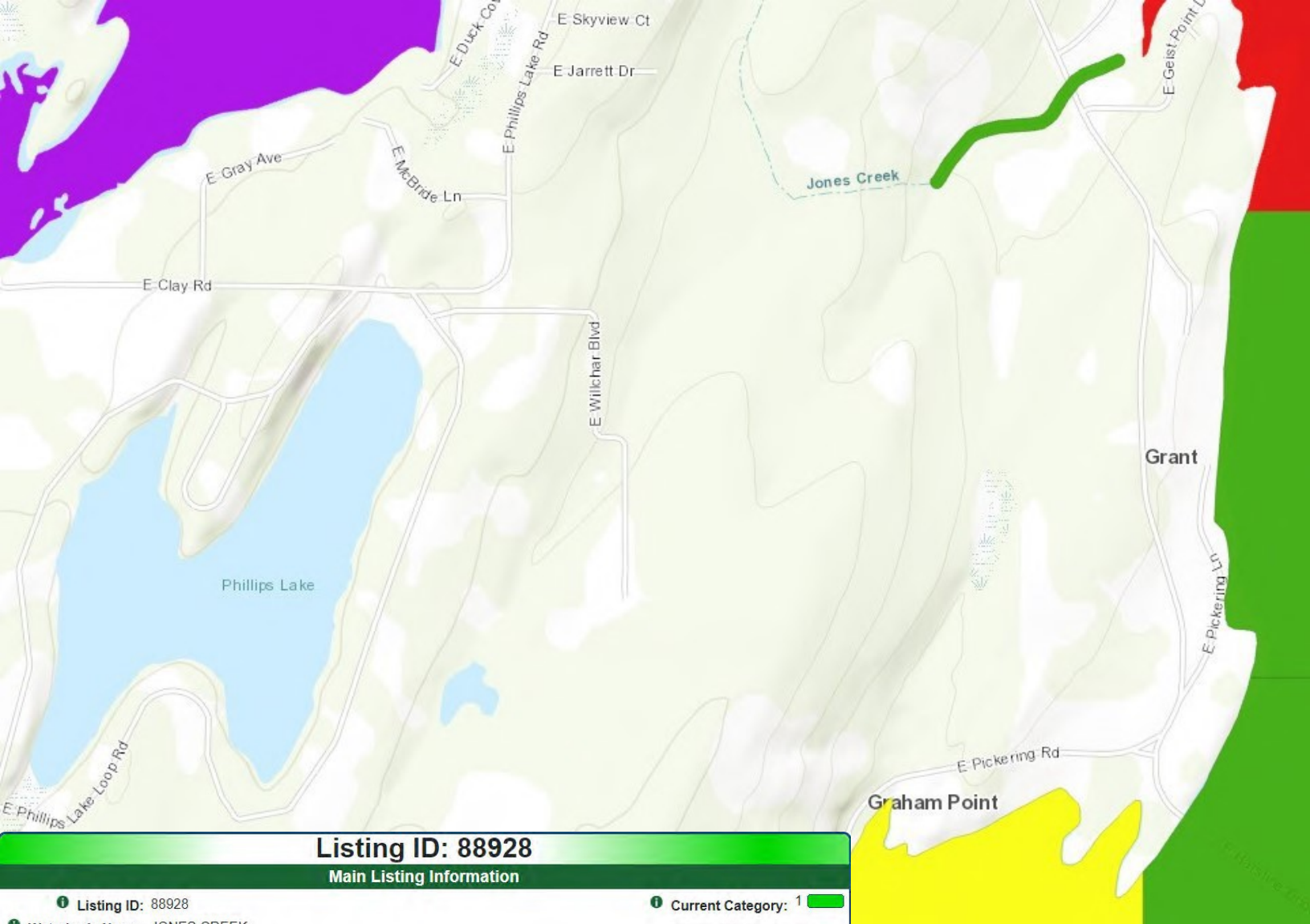
- 1 km Land use Buffer
- Bucks Lake Wetlands
- High Intensity (14%)
- Low and Moderate Intensity (4%)
- Undisturbed (3%)
- Accessible Undisturbed (50%)
- Accessible Low & Moderate (29%)

Bucks Lake Private Campground:  
641 E Phillips Lake Loop Rd, Shelton, WA 98584  
  
South Parcel: 220054100000  
North Parcel: 220051400000

**Figure: 4**







## Listing ID: 88928

### Main Listing Information

Listing ID: 88928

Waterbody Name: JONES CREEK

Medium: Water

Parameter: Bacteria - Fecal coliform

WQI Project: None

Designated Use: Recreation - Primary Contact

Current Category: 1

[View Category History](#)

### Assessment Unit

Assessment Unit ID: 17110019000713\_001\_001

Size: 0.554 Kilometers

County: Mason

WRIA: Kennedy-Goldsborough

Associated Component(s): Reach: 17110019000713 0% - 100%, Type: Rivers/Streams

### Basis Table

Assessment Year

2018

Sampling Year	Excursion Count	Sample Count	Criterion/Threshold	Aggregate	Calculated Value	Criterion 2	Aggregate 2	Calculated Value 2
2015	0	10	200 #col/100ml	Highest daily average	130	100 #col/100ml	Three-month geometric mean	45
2014	0	12	200 #col/100ml	Highest daily average	140	100 #col/100ml	Three-month geometric mean	83

Category 1 water:



1 listing found

Parameter:

Bacteria - Fecal coliform

Medium:

Water

Listing ID:

88928

View Details:

[View](#)

Highlight Listing:

[Show](#)

Assessment Unit ID: 17110019000713\_001\_001

Waterbody Name: Jones Creek

## 303d Listed Waters (DoE)

Bucks Lake Private Campground:

641 E Phillips Lake Loop Rd, Shelton, WA 98584

South Parcel: 220054100000  
North Parcel: 220051400000

## Figure: 5



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# 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 _____	No _____	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes _____	No _____	
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> 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)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
		_____ = Total Cover		<b>Prevalence Index worksheet:</b> 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 = _____
<b>Sapling/Shrub Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
		_____ = Total Cover		<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Herb Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
		_____ = Total Cover		
<b>Woody Vine Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
		_____ = Total Cover		
% Bare Ground in Herb Stratum _____				
Remarks:				

## SOIL

Sampling Point: \_\_\_\_\_

[illegible]

## HYDROLOGY

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

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

Project/Site: \_\_\_\_\_ 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 _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes _____ No _____	
Remarks:	

## VEGETATION – Use scientific names of plants.

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

**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:**  
\_\_\_\_ 1 - Rapid Test for Hydrophytic Vegetation  
\_\_\_\_ 2 - Dominance Test is >50%  
\_\_\_\_ 3 - Prevalence Index is  $\leq 3.0^1$   
\_\_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
\_\_\_\_ 5 - Wetland Non-Vascular Plants<sup>1</sup>  
\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No \_\_\_\_\_

## SOIL

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                                  |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                              |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                              |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Dark Surface (F6)                           |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present? Yes \_\_\_\_\_ No \_\_\_\_\_**

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

**Secondary Indicators (2 or more required)**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches): \_\_\_\_\_

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

**Wetland Hydrology Present? Yes \_\_\_\_\_ No \_\_\_\_\_**

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

Remarks:

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

Project/Site: \_\_\_\_\_ 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 _____ No _____	Hydric Soil Present? Yes _____ No _____	Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: Beaver controlled outlet, Diverse Plant, Disturbed hydrology - managed channelized outlet.			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> 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 = _____
<b>Sapling/Shrub Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is $\leq 3.0^1$ ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No _____
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				



## SOIL

Sampling Point: \_\_\_\_\_

[illegible]

## HYDROLOGY

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

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

Project/Site: \_\_\_\_\_ 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 _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present?	Yes _____ No _____	
Wetland Hydrology Present?	Yes _____ No _____	
Remarks:		

## VEGETATION – Use scientific names of plants.

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

## SOIL

Sampling Point: \_\_\_\_\_

[illegible]

## HYDROLOGY

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

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

Project/Site: \_\_\_\_\_ 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 _____ No _____	Hydric Soil Present? Yes _____ No _____	Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks:			

## VEGETATION – Use scientific names of plants.

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

## SOIL

Sampling Point: \_\_\_\_\_

<b>Profile Description:</b> (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>  <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Histosol (A1)  <input type="checkbox"/> Histic Epipedon (A2)  <input type="checkbox"/> Black Histic (A3)  <input checked="" type="checkbox"/> Hydrogen Sulfide (A4)  <input type="checkbox"/> Depleted Below Dark Surface (A11)  <input type="checkbox"/> Thick Dark Surface (A12)  <input type="checkbox"/> Sandy Mucky Mineral (S1)  <input type="checkbox"/> Sandy Gleyed Matrix (S4)         </div> <div style="width: 48%;"> <input type="checkbox"/> Sandy Redox (S5)  <input type="checkbox"/> Stripped Matrix (S6)  <input type="checkbox"/> Loamy Mucky Mineral (F1) (<b>except MLRA 1</b>)  <input type="checkbox"/> Loamy Gleyed Matrix (F2)  <input checked="" type="checkbox"/> Depleted Matrix (F3)  <input type="checkbox"/> Redox Dark Surface (F6)  <input type="checkbox"/> Depleted Dark Surface (F7)  <input type="checkbox"/> Redox Depressions (F8)         </div> </div>	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>  <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
---	---

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

<b>Restrictive Layer (if present):</b>  Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes ____ No ____
Remarks:	

## HYDROLOGY

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

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

Project/Site: \_\_\_\_\_ 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 _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes _____ No _____	
Remarks:	

## VEGETATION – Use scientific names of plants.

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

**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:**  
\_\_\_\_ 1 - Rapid Test for Hydrophytic Vegetation  
\_\_\_\_ 2 - Dominance Test is >50%  
\_\_\_\_ 3 - Prevalence Index is  $\leq 3.0^1$   
\_\_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
\_\_\_\_ 5 - Wetland Non-Vascular Plants<sup>1</sup>  
\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No \_\_\_\_\_



## SOIL

Sampling Point: \_\_\_\_\_

[illegible]

## HYDROLOGY

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

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Buck Lake - W1Date of site visit: 11/29/2023Rated by L. DominguezTrained by Ecology? ☒ Yes ☐ NoDate of training 2016HGM Class used for rating Depressional & FlatsWetland has multiple HGM classes? ☐ Yes ☒ No**NOTE: Form is not complete with out the figures requested** (*figures can be combined*).Source of base aerial photo/map ESRI ArcGIS Base Maps**OVERALL WETLAND CATEGORY** II (based on functions ☒ or special characteristics ☐)**1. Category of wetland based on FUNCTIONS**

- Category I** - Total score = 23 - 27
- X   **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>List appropriate rating (H, M, L)</i>				
Site Potential	M	H	M	
Landscape Potential	M	M	H	
Value	M	L	H	<b>Total</b>
<b>Score Based on Ratings</b>	6	6	8	<b>20</b>

**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	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	

## 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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to another figure</i> )	S 4.1	
Boundary of area within 150 ft of the wetland ( <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 Wetland in Western Washington

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

☒ 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.*

NOTES and FIELD OBSERVATIONS:

**DEPRESSIONAL AND FLATS WETLANDS****Water Quality Functions** - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?

D 1.1. Characteristics of surface water outflows from the wetland:Wetland is a depression or flat depression (QUESTION 7 on key)  
with no surface water leaving it (no outlet).

points = 3

Wetland has an intermittently flowing stream or ditch, OR highly  
constricted permanently flowing outlet.

points = 2

☐ Wetland has an unconstricted, or slightly constricted, surface outlet  
that is permanently flowing

points = 1

☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is  
a permanently flowing ditch.

points = 1

2

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic  
(use NRCS definitions).

Yes = 4 No = 0

0

D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or  
Forested Cowardin classes):

Wetland has persistent, ungrazed, plants &gt; 95% of area

points = 5

Wetland has persistent, ungrazed, plants &gt; 1/2 of area

points = 3

Wetland has persistent, ungrazed plants &gt; 1/10 of area

points = 1

Wetland has persistent, ungrazed plants &lt; 1/10 of area

points = 0

1

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area that is ponded for at least 2 months. See description in manual.*

Area seasonally ponded is &gt; 1/2 total area of wetland

points = 4

Area seasonally ponded is &gt; 1/4 total area of wetland

points = 2

Area seasonally ponded is &lt; 1/4 total area of wetland

points = 0

4

Total for D 1

Add the points in the boxes above

7

**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

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

0

D 2.3. Are there septic systems within 250 ft of the wetland?

Yes = 1 No = 0

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 Vehicle Traffic - Campground

Yes = 1 No = 0

1

Total for D 2

Add the points in the boxes above

1

**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

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

1

D 3.3. Has the site been identified in a watershed or local plan as important  
for maintaining water quality (answer YES if there is a TMDL for the basin in  
which the unit is found)?

Yes = 2 No = 0

0

Total for D 3

Add the points in the boxes above

1

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

Record the rating on the first page



**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 | 2 |
| Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 |   |
| Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch           | points = 1 |   |
| Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing       | points = 0 |   |

**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 | 7 |
| Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet                      | points = 5 |   |
| <input type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 |   |
| <input type="checkbox"/> 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.**

- |  |            |   |
|--|------------|---|
| <input checked="" type="checkbox"/> The area of the basin is less than 10 times the area of the unit | points = 5 | 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 |   |
| <input type="checkbox"/> Entire wetland is in the Flats class  | points = 5 |   |

**Total for D 4** Add the points in the boxes above **14****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 function of the site?****D 5.1. Does the wetland unit receive stormwater discharges?** Yes = 1 No = 0 **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 **1****D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?** Yes = 1 No = 0 **0****Total for D 5** Add the points in the boxes above **1****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):                                  |            | 0 |
| • Flooding occurs in a sub-basin that is immediately down-gradient of unit.  | points = 2 |   |
| <input type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient.   | points = 1 |   |
| <input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin.   | points = 1 |   |
| <input type="checkbox"/> 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 |   |
| <input checked="" type="checkbox"/> 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 **0****Total for D 6** Add the points in the boxes above **0****Rating of Value** If score is: ☐ 2 - 4 = H ☐ 1 = M ☒ 0 = L Record the rating on the first page

**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.*

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

H 1.2. Hydroperiods

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

- |  |                                     |          |
|--|-------------------------------------|----------|
| <input checked="" type="checkbox"/> Permanently flooded or inundated                         | 4 or more types present: points = 3 | 1        |
| <input checked="" type="checkbox"/> Seasonally flooded or inundated                          | 3 types present: points = 2         |          |
| <input type="checkbox"/> Occasionally flooded or inundated                                   | 2 types present: points = 1         |          |
| <input type="checkbox"/> Saturated only  | 1 types present: points = 0         |          |
| <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"/> <b>Lake Fringe wetland</b>  |                                     | 2 points |
| <input type="checkbox"/> <b>Freshwater tidal wetland</b>                                     |                                     | 2 points |

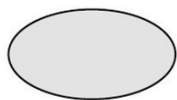
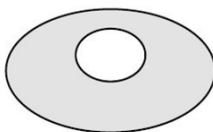
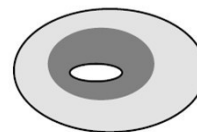
H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. *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 | 1 |
|                 | 5 - 19 species | points = 1 |   |
|                 | < 5 species    | points = 0 |   |

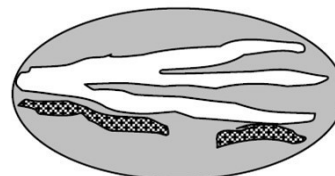
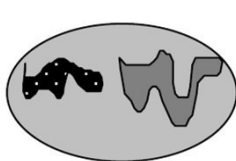
H 1.4. Interspersion of habitats

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

**None** = 0 points**Low** = 1 point**Moderate** = 2 points

2

All three diagrams  
in this row are

**HIGH** = 3 points

**H 1.5. Special habitat features:**

Check the habitat features that are present in the wetland. *The number of checks is the number of points.*

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

3

Total for H 1

Add the points in the boxes above

9

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

**H 2.0. Does the landscape have the potential to support the habitat function of the site?****H 2.1 Accessible habitat (include *only habitat that directly abuts wetland unit*).**

Calculate:

$$50 \% \text{ undisturbed habitat} + ( \underline{\hspace{2cm}} 29 \% \text{ moderate \& low intensity land uses} / 2 ) = 64.5\%$$

If total accessible habitat is:

&gt; 1/3 (33.3%) of 1 km Polygon

points = 3

20 - 33% of 1 km Polygon

points = 2

10 - 19% of 1 km Polygon

points = 1

&lt; 10 % of 1 km Polygon

points = 0

3

**H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.**

Calculate:

$$53 \% \text{ undisturbed habitat} + ( \underline{\hspace{2cm}} 33 \% \text{ moderate \& low intensity land uses} / 2 ) = 69.5\%$$

Undisturbed habitat &gt; 50% of Polygon

points = 3

Undisturbed habitat 10 - 50% and in 1-3 patches

points = 2

Undisturbed habitat 10 - 50% and &gt; 3 patches

points = 1

Undisturbed habitat &lt; 10% of 1 km Polygon

points = 0

3

**H 2.3 Land use intensity in 1 km Polygon: If**

&gt; 50% of 1 km Polygon is high intensity land use

points = (-2)

≤ 50% of 1km Polygon is high intensity

points = 0

0

Total for H 2

Add the points in the boxes above

6

**Rating of Landscape Potential** If Score is: ☒ 4 - 6 = H ☐ 1 - 3 = M ☐ ≤ 1 = L *Record the rating on the first page*

**H 3.0. Is the habitat provided by the site valuable to society?****H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated.**

Site meets ANY of the following criteria:

points = 2

- ☐ It has 3 or more priority habitats within 100 m (see next page)

- ☒ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)

- ☐ It is mapped as a location for an individual WDFW priority species

- ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources

- ☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan

Site has 1 or 2 priority habitats (listed on next page) within 100m

points = 1

Site does not meet any of the criteria above

points = 0

2

**Rating of Value** If Score is: ☒ 2 = H ☐ 1 = M ☐ 0 = L

*Record the rating on the first page*

## WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

<http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here:

<http://wdfw.wa.gov/conservation/phs/list/>

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

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

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



**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine Wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt <input type="checkbox"/> Yes - Go to <b>SC 1.1</b> <input type="checkbox"/> No = <b>Not an estuarine wetland</b>	
<b>SC 1.1.</b> 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? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No - Go to <b>SC 1.2</b>	
<b>SC 1.2.</b> Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> 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 page 25) <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or ungrazed or un-mowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Category II</b>	
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> <b>SC 2.1.</b> Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <input type="checkbox"/> Yes - Go to <b>SC 2.2</b> <input type="checkbox"/> No - Go to <b>SC 2.3</b> <b>SC 2.2.</b> Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Not WHCV</b> <b>SC 2.3.</b> Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> <input type="checkbox"/> Yes - <b>Contact WNHP/WDNR and to SC 2.4</b> <input type="checkbox"/> No = <b>Not WHCV</b> <b>SC 2.4.</b> Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Not WHCV</b>	
<b>SC 3.0. Bogs</b> 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> <b>SC 3.1.</b> 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? <input type="checkbox"/> Yes - Go to <b>SC 3.3</b> <input type="checkbox"/> No - Go to <b>SC 3.2</b> <b>SC 3.2.</b> 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? <input type="checkbox"/> Yes - Go to <b>SC 3.3</b> <input type="checkbox"/> No = <b>Is not a bog</b> <b>SC 3.3.</b> 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? <input type="checkbox"/> Yes = <b>Is a Category I bog</b> <input type="checkbox"/> No - Go to <b>SC 3.4</b> <b>NOTE:</b> 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. <b>SC 3.4.</b> 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? <input type="checkbox"/> Yes = <b>Is a Category I bog</b> <input type="checkbox"/> No = <b>Is not a bog</b>	

<p><b>SC 4.0. Forested Wetlands</b></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? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (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.</p> <p><input type="checkbox"/> <b>Mature forests</b> (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> <p><input type="checkbox"/> Yes = <b>Category I</b>    <input type="checkbox"/> No = <b>Not a forested wetland for this section</b></p>	
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 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>)</p> <p><input type="checkbox"/> Yes - Go to <b>SC 5.1</b>    <input type="checkbox"/> No = <b>Not a wetland in a coastal lagoon</b></p> <p><b>SC 5.1. Does the wetland meet all of the following three conditions?</b></p> <p><input type="checkbox"/> 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 on p. 100).</p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p><input type="checkbox"/> Yes = <b>Category I</b>    <input type="checkbox"/> No = <b>Category II</b></p>	
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p><input type="checkbox"/> Yes - Go to <b>SC 6.1</b>    <input type="checkbox"/> No = <b>Not an interdunal wetland for rating</b></p> <p><b>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)?</b></p> <p><input type="checkbox"/> Yes = <b>Category I</b>    <input type="checkbox"/> No - Go to <b>SC 6.2</b></p> <p><b>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?</b></p> <p><input type="checkbox"/> Yes = <b>Category II</b>    <input type="checkbox"/> No - Go to <b>SC 6.3</b></p> <p><b>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?</b></p> <p><input type="checkbox"/> Yes = <b>Category III</b>    <input type="checkbox"/> No = <b>Category IV</b></p>	
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Buck Lake - W2 Date of site visit: 11/29/2023Rated by L. Dominguez Trained by Ecology? ☒ Yes ☐ No Date of training 2016HGM Class used for rating Depressional & Flats Wetland has multiple HGM classes? ☐ Yes ☒ No**NOTE: Form is not complete with out the figures requested** (*figures can be combined*).Source of base aerial photo/map ESRI ArcGIS Base MapsOVERALL WETLAND 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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>List appropriate rating (H, M, L)</i>				
Site Potential	M	H	M	
Landscape Potential	L	M	H	
Value	L	L	H	<b>Total</b>
<b>Score Based on Ratings</b>	4	6	8	<b>18</b>

**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	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	

## 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
Hydroperiods	D 1.4, H 1.2	2
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	2
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	3
Map of the contributing basin	D 4.3, D 5.3	4
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	5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	6
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	7

### 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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to another figure</i> )	S 4.1	
Boundary of area within 150 ft of the wetland ( <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 Wetland in Western Washington

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

☒ 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.*

NOTES and FIELD OBSERVATIONS:

**DEPRESSIONAL AND FLATS WETLANDS****Water Quality Functions** - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?

D 1.1. Characteristics of surface water outflows from the wetland:Wetland is a depression or flat depression (QUESTION 7 on key)  
with no surface water leaving it (no outlet).

points = 3

Wetland has an intermittently flowing stream or ditch, OR highly  
constricted permanently flowing outlet.

points = 2

☐ Wetland has an unconstricted, or slightly constricted, surface outlet  
that is permanently flowing

points = 1

☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is  
a permanently flowing ditch.

points = 1

2

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic  
(use NRCS definitions).

Yes = 4 No = 0

0

D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or  
Forested Cowardin classes):

Wetland has persistent, ungrazed, plants &gt; 95% of area

points = 5

Wetland has persistent, ungrazed, plants &gt; 1/2 of area

points = 3

Wetland has persistent, ungrazed plants &gt; 1/10 of area

points = 1

Wetland has persistent, ungrazed plants &lt; 1/10 of area

points = 0

5

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area that is ponded for at least 2 months. See description in manual.*

Area seasonally ponded is &gt; 1/2 total area of wetland

points = 4

Area seasonally ponded is &gt; 1/4 total area of wetland

points = 2

Area seasonally ponded is &lt; 1/4 total area of wetland

points = 0

2

Total for D 1

Add the points in the boxes above

9

**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

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

0

D 2.3. Are there septic systems within 250 ft of the wetland?

Yes = 1 No = 0

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

0

Total for D 2

Add the points in the boxes above

0

**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

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

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

0

Total for D 3

Add the points in the boxes above

0

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

Record the rating on the first page

**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 | 2 |
| Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 |   |
| Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch           | points = 1 |   |
| Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing       | points = 0 |   |

**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 | 5 |
| Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet                      | points = 5 |   |
| <input type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 |   |
| <input type="checkbox"/> 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.*

- |   |            |   |
|---|------------|---|
| <input type="checkbox"/> The area of the basin is less than 10 times the area of the unit | points = 5 | 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 |   |
| <input type="checkbox"/> Entire wetland is in the Flats class                             | points = 5 |   |

**Total for D 4** Add the points in the boxes above **12****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 function of the site?****D 5.1. Does the wetland unit receive stormwater discharges?** Yes = 1 No = 0 **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 **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 **1****Total for D 5** Add the points in the boxes above **1****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):                                  |            | 0 |
| <ul style="list-style-type: none"> <li>• Flooding occurs in a sub-basin that is immediately down-gradient of unit.</li> </ul>  | points = 2 |   |
| <input type="checkbox"/> <ul style="list-style-type: none"> <li>• Surface flooding problems are in a sub-basin farther down-gradient.</li> </ul>   | points = 1 |   |
| <input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin.   | points = 1 |   |
| <input type="checkbox"/> 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 |   |
| <input type="checkbox"/> 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 **0****Total for D 6** Add the points in the boxes above **0****Rating of Value** If score is: ☐ **2 - 4 = H** ☐ **1 = M** ☒ **0 = L** Record the rating on the first page

**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.*

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

H 1.2. Hydroperiods

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

- |  |                                     |                 |
|--|-------------------------------------|-----------------|
| <input checked="" type="checkbox"/> Permanently flooded or inundated                         | 4 or more types present: points = 3 | 2               |
| <input checked="" type="checkbox"/> Seasonally flooded or inundated                          | 3 types present: points = 2         |                 |
| <input checked="" type="checkbox"/> Occasionally flooded or inundated                        | 2 types present: points = 1         |                 |
| <input type="checkbox"/> Saturated only  | 1 types present: points = 0         |                 |
| <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"/> <b>Lake Fringe wetland</b>  |                                     | <b>2 points</b> |
| <input type="checkbox"/> <b>Freshwater tidal wetland</b>                                     |                                     | <b>2 points</b> |

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. *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*

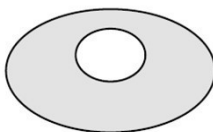
- |                 |                |            |   |
|-----------------|----------------|------------|---|
| If you counted: | > 19 species   | points = 2 | 1 |
|                 | 5 - 19 species | points = 1 |   |
|                 | < 5 species    | points = 0 |   |

H 1.4. Interspersion of habitats

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



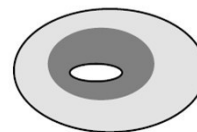
**None** = 0 points



**Low** = 1 point

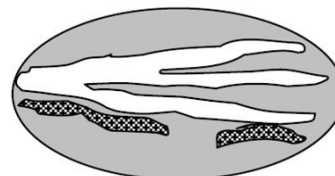
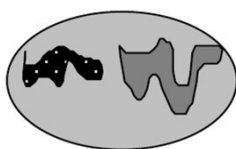


**Moderate** = 2 points



2

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



<p>H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long)</p> <p><input checked="" type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input checked="" type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 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><input checked="" type="checkbox"/> 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><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)</p>	5
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Total for H 1	Add the points in the boxes above	<b>11</b>
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**Rating of Site Potential** If Score is: ☐ 15 - 18 = H ☒ 7 - 14 = M ☐ 0 - 6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat function of the site?		
<p>H 2.1 Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> 50 % undisturbed habitat + ( <u>29</u> % moderate &amp; low intensity land uses / 2 ) = 64.5%</p> <p>If total accessible habitat is:          &gt; 1/3 (33.3%) of 1 km Polygon points = 3          20 - 33% of 1 km Polygon points = 2          10 - 19% of 1 km Polygon points = 1          &lt; 10 % of 1 km Polygon points = 0</p>	3	
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> 53 % undisturbed habitat + ( <u>33</u> % moderate &amp; low intensity land uses / 2 ) = 69.5%</p> <p>Undisturbed habitat &gt; 50% of Polygon points = 3          Undisturbed habitat 10 - 50% and in 1-3 patches points = 2          Undisturbed habitat 10 - 50% and &gt; 3 patches points = 1          Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>	3	
<p>H 2.3 Land use intensity in 1 km Polygon: If          &gt; 50% of 1 km Polygon is high intensity land use points = (-2)          ≤ 50% of 1km Polygon is high intensity points = 0</p>	0	
Total for H 2	Add the points in the boxes above	<b>6</b>

**Rating of Landscape Potential** If Score is: ☒ 4 - 6 = H ☐ 1 - 3 = M ☐ ≤ 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?	
<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><input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input checked="" type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><input type="checkbox"/> 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) with in 100m points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>	2

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



## WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

<http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here:

<http://wdfw.wa.gov/conservation/phs/list/>

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

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

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

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine Wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt <input type="checkbox"/> Yes - Go to <b>SC 1.1</b> <input type="checkbox"/> No = <b>Not an estuarine wetland</b>	
<b>SC 1.1.</b> 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? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No - Go to <b>SC 1.2</b>	
<b>SC 1.2.</b> Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> 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 page 25) <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or ungrazed or un-mowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Category II</b>	
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> <b>SC 2.1.</b> Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <input type="checkbox"/> Yes - Go to <b>SC 2.2</b> <input type="checkbox"/> No - Go to <b>SC 2.3</b> <b>SC 2.2.</b> Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Not WHCV</b> <b>SC 2.3.</b> Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> <input type="checkbox"/> Yes - <b>Contact WNHP/WDNR and to SC 2.4</b> <input type="checkbox"/> No = <b>Not WHCV</b> <b>SC 2.4.</b> Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Not WHCV</b>	
<b>SC 3.0. Bogs</b> 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> <b>SC 3.1.</b> 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? <input type="checkbox"/> Yes - Go to <b>SC 3.3</b> <input type="checkbox"/> No - Go to <b>SC 3.2</b> <b>SC 3.2.</b> 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? <input type="checkbox"/> Yes - Go to <b>SC 3.3</b> <input type="checkbox"/> No = <b>Is not a bog</b> <b>SC 3.3.</b> 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? <input type="checkbox"/> Yes = <b>Is a Category I bog</b> <input type="checkbox"/> No - Go to <b>SC 3.4</b> <b>NOTE:</b> 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. <b>SC 3.4.</b> 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? <input type="checkbox"/> Yes = <b>Is a Category I bog</b> <input type="checkbox"/> No = <b>Is not a bog</b>	

<p><b>SC 4.0. Forested Wetlands</b></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? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (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.</p> <p><input type="checkbox"/> <b>Mature forests</b> (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> <p><input type="checkbox"/> Yes = <b>Category I</b>    <input type="checkbox"/> No = <b>Not a forested wetland for this section</b></p>	
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 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>)</p> <p><input type="checkbox"/> Yes - Go to <b>SC 5.1</b>    <input type="checkbox"/> No = <b>Not a wetland in a coastal lagoon</b></p> <p><b>SC 5.1. Does the wetland meet all of the following three conditions?</b></p> <p><input type="checkbox"/> 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 on p. 100).</p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p><input type="checkbox"/> Yes = <b>Category I</b>    <input type="checkbox"/> No = <b>Category II</b></p>	
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p><input type="checkbox"/> Yes - Go to <b>SC 6.1</b>    <input type="checkbox"/> No = <b>Not an interdunal wetland for rating</b></p> <p><b>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)?</b></p> <p><input type="checkbox"/> Yes = <b>Category I</b>    <input type="checkbox"/> No - Go to <b>SC 6.2</b></p> <p><b>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?</b></p> <p><input type="checkbox"/> Yes = <b>Category II</b>    <input type="checkbox"/> No - Go to <b>SC 6.3</b></p> <p><b>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?</b></p> <p><input type="checkbox"/> Yes = <b>Category III</b>    <input type="checkbox"/> No = <b>Category IV</b></p>	
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Bucks Lake - W3Date of site visit: 11/29/2023Rated by L. DominguezTrained by Ecology? ☒ Yes ☐ NoDate of training 2016HGM Class used for rating Depressional & FlatsWetland has multiple HGM classes? ☐ Yes ☒ No**NOTE: Form is not complete with out the figures requested** (*figures can be combined*).Source of base aerial photo/map ESRI ArcGIS Base Maps**OVERALL WETLAND 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
- X   **Category III** - Total score = 16 - 19
- Category IV** - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>List appropriate rating (H, M, L)</i>				
Site Potential	M	M	M	
Landscape Potential	M	L	H	
Value	M	L	M	<b>Total</b>
<b>Score Based on Ratings</b>	6	4	7	<b>17</b>

**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	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	



## 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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to another figure</i> )	S 4.1	
Boundary of area within 150 ft of the wetland ( <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 Wetland in Western Washington

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

☒ 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.*

NOTES and FIELD OBSERVATIONS:

**DEPRESSIONAL AND FLATS WETLANDS****Water Quality Functions** - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?

D 1.1. Characteristics of surface water outflows from the wetland:Wetland is a depression or flat depression (QUESTION 7 on key)  
with no surface water leaving it (no outlet).

points = 3

Wetland has an intermittently flowing stream or ditch, OR highly  
constricted permanently flowing outlet.

points = 2

☒ Wetland has an unconstricted, or slightly constricted, surface outlet  
that is permanently flowing

points = 1

☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is  
a permanently flowing ditch.

points = 1

1

D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic  
(use NRCS definitions).

Yes = 4 No = 0

0

D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or  
Forested Cowardin classes):

Wetland has persistent, ungrazed, plants &gt; 95% of area

points = 5

Wetland has persistent, ungrazed, plants &gt; 1/2 of area

points = 3

Wetland has persistent, ungrazed plants &gt; 1/10 of area

points = 1

Wetland has persistent, ungrazed plants &lt; 1/10 of area

points = 0

5

D 1.4. Characteristics of seasonal ponding or inundation:*This is the area that is ponded for at least 2 months. See description in manual.*

Area seasonally ponded is &gt; 1/2 total area of wetland

points = 4

Area seasonally ponded is &gt; 1/4 total area of wetland

points = 2

Area seasonally ponded is &lt; 1/4 total area of wetland

points = 0

2

Total for D 1

Add the points in the boxes above

8

**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

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

0

D 2.3. Are there septic systems within 250 ft of the wetland?

Yes = 1 No = 0

1

D 2.4. Are there other sources of pollutants coming into the wetland that are  
not listed in questions D 2.1 - D 2.3?

Source

Yes = 1 No = 0

0

Total for D 2

Add the points in the boxes above

1

**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

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

1

D 3.3. Has the site been identified in a watershed or local plan as important  
for maintaining water quality (answer YES if there is a TMDL for the basin in  
which the unit is found)?

Yes = 2 No = 0

0

Total for D 3

Add the points in the boxes above

1

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

Record the rating on the first page

**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 | 2 |
| Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 |   |
| Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch           | points = 1 |   |
| Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing       | points = 0 |   |

**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 | 3 |
| Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet                                 | points = 5 |   |
| <input checked="" type="checkbox"/> 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.**

- |   |            |   |
|---|------------|---|
| <input type="checkbox"/> The area of the basin is less than 10 times the area of the unit | points = 5 | 3 |
| 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 |   |
| <input type="checkbox"/> Entire wetland is in the Flats class                             | points = 5 |   |

**Total for D 4** Add the points in the boxes above **8****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 function of the site?****D 5.1. Does the wetland unit receive stormwater discharges?** Yes = 1 No = 0 **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 **0****D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?** Yes = 1 No = 0 **0****Total for D 5** Add the points in the boxes above **0****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):                                  |            | 0 |
| <input type="checkbox"/> Flooding occurs in a sub-basin that is immediately down-gradient of unit.   | points = 2 |   |
| <input type="checkbox"/> Surface flooding problems are in a sub-basin farther down-gradient.   | points = 1 |   |
| <input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin.   | points = 1 |   |
| <input type="checkbox"/> 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 |   |
| <input checked="" type="checkbox"/> 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 **0****Total for D 6** Add the points in the boxes above **0****Rating of Value** If score is: ☐ 2 - 4 = H ☐ 1 = M ☒ 0 = L Record the rating on the first page

**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.*

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

H 1.2. Hydroperiods

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

- |  |                                     |                 |
|--|-------------------------------------|-----------------|
| <input type="checkbox"/> Permanently flooded or inundated                                    | 4 or more types present: points = 3 | 1               |
| <input checked="" type="checkbox"/> Seasonally flooded or inundated                          | 3 types present: points = 2         |                 |
| <input type="checkbox"/> Occasionally flooded or inundated                                   | 2 types present: points = 1         |                 |
| <input checked="" type="checkbox"/> Saturated only   | 1 types present: points = 0         |                 |
| <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"/> <b>Lake Fringe wetland</b>  |                                     | <b>2 points</b> |
| <input type="checkbox"/> <b>Freshwater tidal wetland</b>                                     |                                     | <b>2 points</b> |

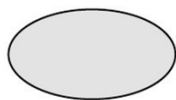
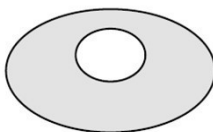
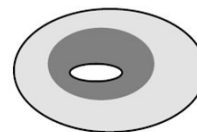
H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. *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 | 1 |
|                 | 5 - 19 species | points = 1 |   |
|                 | < 5 species    | points = 0 |   |

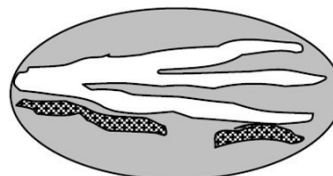
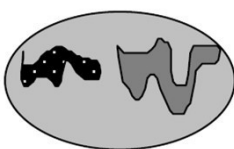
H 1.4. Interspersion of habitats

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

**None** = 0 points**Low** = 1 point**Moderate** = 2 points

2

All three diagrams  
in this row are

**HIGH** = 3 points



**H 1.5. Special habitat features:**

Check the habitat features that are present in the wetland. *The number of checks is the number of points.*

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

2

**Total for H 1**

Add the points in the boxes above

**8**

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

**H 2.0. Does the landscape have the potential to support the habitat function of the site?****H 2.1 Accessible habitat** (include *only habitat that directly abuts wetland unit*).

Calculate:

$$50 \% \text{ undisturbed habitat} + ( \underline{\hspace{1cm}} 29 \% \text{ moderate \& low intensity land uses} / 2 ) = 64.5\%$$

If total accessible habitat is:

&gt; 1/3 (33.3%) of 1 km Polygon

points = 3

20 - 33% of 1 km Polygon

points = 2

10 - 19% of 1 km Polygon

points = 1

&lt; 10 % of 1 km Polygon

points = 0

3

**H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.**

Calculate:

$$53 \% \text{ undisturbed habitat} + ( \underline{\hspace{1cm}} 33 \% \text{ moderate \& low intensity land uses} / 2 ) = 69.5\%$$

Undisturbed habitat &gt; 50% of Polygon

points = 3

Undisturbed habitat 10 - 50% and in 1-3 patches

points = 2

Undisturbed habitat 10 - 50% and &gt; 3 patches

points = 1

Undisturbed habitat &lt; 10% of 1 km Polygon

points = 0

3

**H 2.3 Land use intensity in 1 km Polygon: If**

&gt; 50% of 1 km Polygon is high intensity land use

points = (-2)

≤ 50% of 1km Polygon is high intensity

points = 0

0

**Total for H 2**

Add the points in the boxes above

**6**

**Rating of Landscape Potential** If Score is: ☒ 4 - 6 = H ☐ 1 - 3 = M ☐ ≤ 1 = L Record the rating on the first page

**H 3.0. Is the habitat provided by the site valuable to society?****H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated.**

Site meets ANY of the following criteria:

points = 2

☐ It has 3 or more priority habitats within 100 m (see next page)☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)☐ It is mapped as a location for an individual WDFW priority species☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan

Site has 1 or 2 priority habitats (listed on next page) within 100m

points = 1

Site does not meet any of the criteria above

points = 0

1

**Rating of Value** If Score is: ☐ 2 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

## WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

<http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here:

<http://wdfw.wa.gov/conservation/phs/list/>

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

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

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

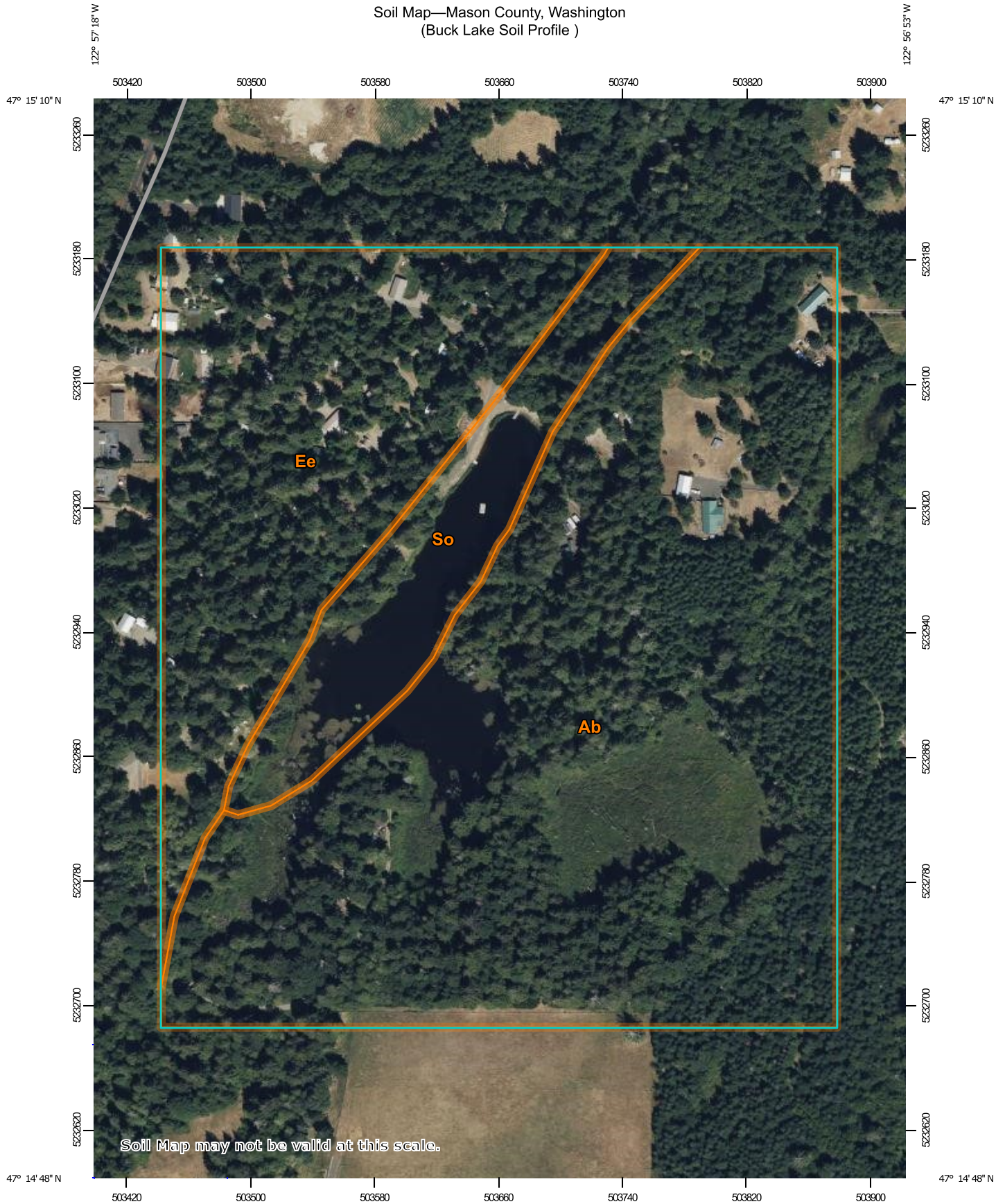
**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine Wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt <input type="checkbox"/> Yes - Go to <b>SC 1.1</b> <input type="checkbox"/> No = <b>Not an estuarine wetland</b>	
<b>SC 1.1.</b> 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? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No - Go to <b>SC 1.2</b>	
<b>SC 1.2.</b> Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> 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 page 25) <input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or ungrazed or un-mowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Category II</b>	
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> <b>SC 2.1.</b> Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <input type="checkbox"/> Yes - Go to <b>SC 2.2</b> <input type="checkbox"/> No - Go to <b>SC 2.3</b> <b>SC 2.2.</b> Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Not WHCV</b> <b>SC 2.3.</b> Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> <input type="checkbox"/> Yes - <b>Contact WNHP/WDNR and to SC 2.4</b> <input type="checkbox"/> No = <b>Not WHCV</b> <b>SC 2.4.</b> Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Not WHCV</b>	
<b>SC 3.0. Bogs</b> 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> <b>SC 3.1.</b> 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? <input type="checkbox"/> Yes - Go to <b>SC 3.3</b> <input type="checkbox"/> No - Go to <b>SC 3.2</b> <b>SC 3.2.</b> 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? <input type="checkbox"/> Yes - Go to <b>SC 3.3</b> <input type="checkbox"/> No = <b>Is not a bog</b> <b>SC 3.3.</b> 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? <input type="checkbox"/> Yes = <b>Is a Category I bog</b> <input type="checkbox"/> No - Go to <b>SC 3.4</b> <b>NOTE:</b> 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. <b>SC 3.4.</b> 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? <input type="checkbox"/> Yes = <b>Is a Category I bog</b> <input type="checkbox"/> No = <b>Is not a bog</b>	

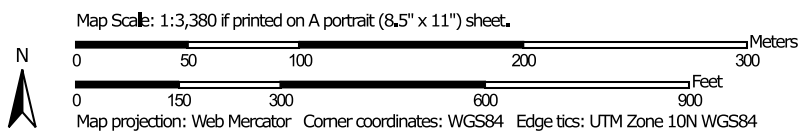


<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (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.</p> <p><input type="checkbox"/> <b>Mature forests</b> (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> <p><input type="checkbox"/> Yes = <b>Category I</b>    <input type="checkbox"/> No = <b>Not a forested wetland for this section</b></p>	
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 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>)</p> <p><input type="checkbox"/> Yes - Go to <b>SC 5.1</b>    <input type="checkbox"/> No = <b>Not a wetland in a coastal lagoon</b></p> <p><b>SC 5.1. Does the wetland meet all of the following three conditions?</b></p> <p><input type="checkbox"/> 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 on p. 100).</p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p><input type="checkbox"/> Yes = <b>Category I</b>    <input type="checkbox"/> No = <b>Category II</b></p>	
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p><input type="checkbox"/> Yes - Go to <b>SC 6.1</b>    <input type="checkbox"/> No = <b>Not an interdunal wetland for rating</b></p> <p><b>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)?</b></p> <p><input type="checkbox"/> Yes = <b>Category I</b>    <input type="checkbox"/> No - Go to <b>SC 6.2</b></p> <p><b>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?</b></p> <p><input type="checkbox"/> Yes = <b>Category II</b>    <input type="checkbox"/> No - Go to <b>SC 6.3</b></p> <p><b>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?</b></p> <p><input type="checkbox"/> Yes = <b>Category III</b>    <input type="checkbox"/> No = <b>Category IV</b></p>	
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	

# Soil Map—Mason County, Washington (Buck Lake Soil Profile )



Soil Map may not be valid at this scale.






































Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

3/15/2024  
Page 1 of 3



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
<b>Soils</b>			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
<b>Special Point Features</b>		<b>Water Features</b>	
	Blowout		Streams and Canals
	Borrow Pit	<b>Transportation</b>	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	<b>Background</b>	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:31,700.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mason County, Washington  
Survey Area Data: Version 19, Aug 29, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 31, 2022—Aug 8, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

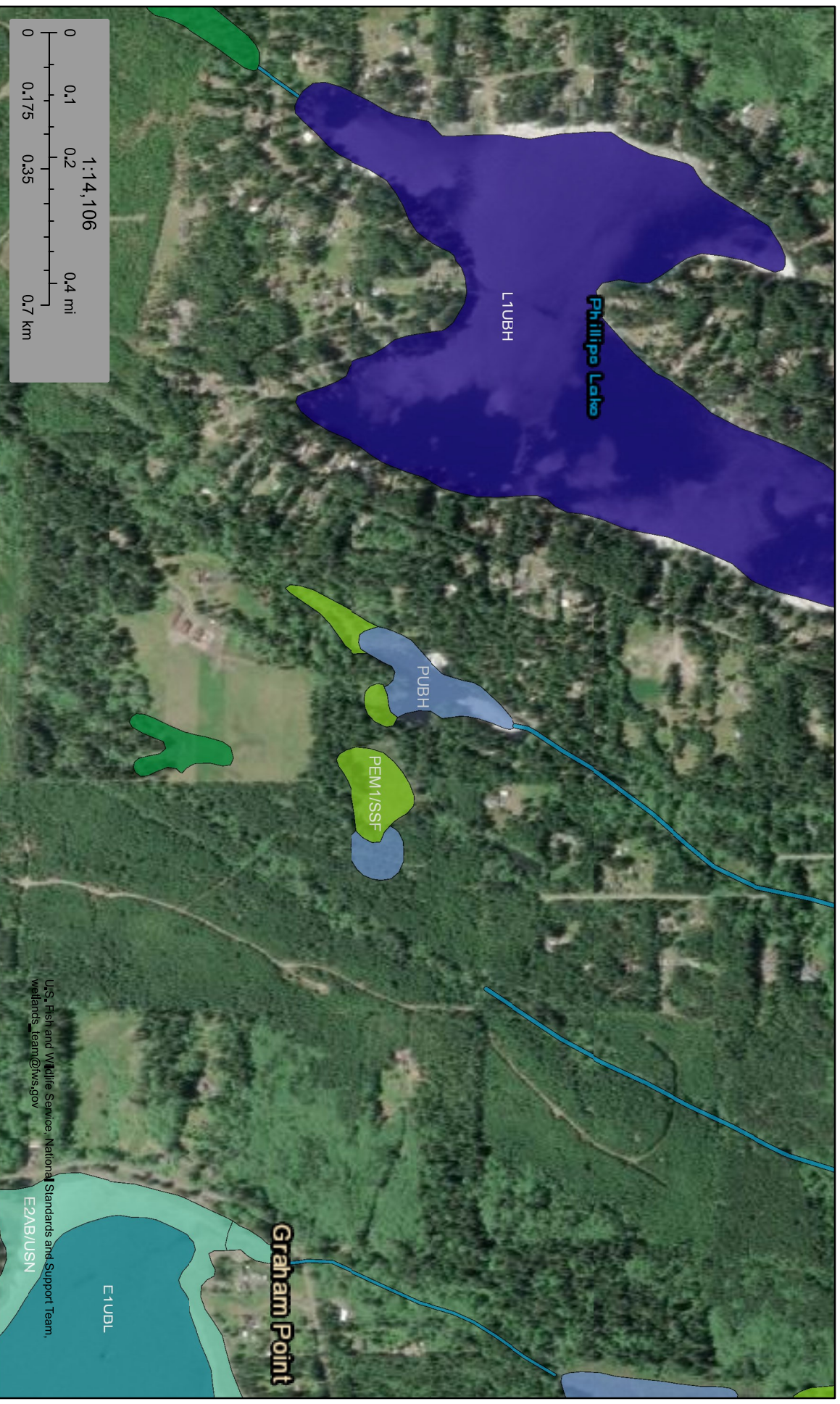
## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ab	Alderwood gravelly sandy loam, 8 to 15 percent slopes	34.2	63.1%
Ee	Everett gravelly loamy sand, 5 to 15 percent slopes	14.2	26.1%
So	Sinclair shotty loam, 5 to 15 percent slopes	5.9	10.8%
<b>Totals for Area of Interest</b>		<b>54.2</b>	<b>100.0%</b>



U.S. Fish and Wildlife Service  
National Wetlands Inventory

Buck Lake Campground Association



April 23, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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





# Priority Habitats and Species on the Web



Buffer radius: 500 Meters

Report Date: 04/23/2024

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Sensitive Location
Resident Coastal Cutthroat	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:

Resident Coastal Cutthroat	
Scientific Name	<i>Oncorhynchus clarki</i>
Priority Area	Occurrence/Migration
Accuracy	NA
Notes	LLID: 1229410472602, Fish Name: Cutthroat Trout, Run Time: Unknown or not Applicable, Life History: Unknown
Source Record	56666
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	<a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a>
Geometry Type	Lines

Freshwater Emergent Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Emergent Wetland - NWI Code: PEM1/SSF
Source Dataset	NWI Wetlands
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
Management Recommendations	<a href="http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html">http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html</a>
Geometry Type	Polygons



Freshwater Emergent Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Emergent Wetland - NWI Code: PEM1/SSF
Source Dataset	NWI Wetlands
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	<a href="http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html">http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html</a>
Geometry Type	Polygons

Freshwater Emergent Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Emergent Wetland - NWI Code: PEM1/SSF
Source Dataset	NWI Wetlands
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	<a href="http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html">http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html</a>
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: PSSC
Source Dataset	NWI Wetlands
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	<a href="http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html">http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html</a>
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.