

# Two Rivers Park Shoreline Stabilization Basis of Design Report

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Draft



Prepared for:  
City of Priest River

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## Acronyms and Abbreviations

Alta	Alta Science & Engineering
BMP	best management practice
BOD	Basis of Design
City	City of Priest River
County	Bonner County
FEMA	Federal Emergency Management Agency
FIS	Flood Insurance Study
HEC-RAS	Hydrologic Engineering Center's River Analysis System
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IDWR	Idaho Department of Water Resources
NAVD88	North American Vertical Datum of 1988
OHW	ordinary high water (defined as elevation 2067.5' NAVD88)
OLW	ordinary low water (defined as elevation 2055' NAVD88)
USACE	U.S. Army Corps of Engineers

## Units

CFS	cubic feet per second
CY	cubic yard
feet/s	feet per second
GPM	gallons per minute





## Section 1 Introduction

This Engineering Basis of Design (BOD) Report outlines the technical approach, methods, and design criteria that guide engineering solutions for protecting the site shoreline from erosion and other environmental factors. This BOD Report serves as a foundation for stakeholders including regulatory agencies, city officials, and the public to understand the shoreline stabilization design approach and the rationale for selecting this approach.

## Section 2 Background

The Two Rivers Park project site (site) is a 38.4-acre undeveloped parcel of land within the limits of the City of Priest River (City) in Bonner County, Idaho. The site is bounded by the Burlington Northern Railroad Company, Inc's railroad track to the north, the Pend Oreille River to the south, and the Priest River to the east (Figure 1).

The site was previously owned by Joslyn Manufacturing, Inc. and historically operated as a pole treatment facility in the early- to mid-1900s. Joslyn entered the Idaho Department of Environmental Quality's (IDEQ's) Voluntary Cleanup Program and undertook site assessment and remedial activities on the property from 2019 to 2021. Industrial facilities and large sources of contamination have since been removed, and the site has mostly been reclaimed by natural resources. Activity and use limitations were required based on the assessment results in an Environmental Covenant (Idaho Statute Environmental Covenant Act) and recorded with the property deed that restricted the site from residential use but is approved for uses such as recreation, commercial, and short-duration visits.

Joslyn informed the City that they wanted to give the property to the City, assuming that future beneficial reuse of the site will be restricted to community access open space. The City entered IDEQ's Brownfield program to conduct All Appropriate Inquiry in compliance with the Code of Federal Regulations, per 40 CFR Part 312 prior to acquiring the property. On December 23, 2021, Joslyn gifted the site to the City. The City prepared the Joslyn Park Master Plan (Welch Comer, 2023) to develop the site into a sustainable multi-use community park. The U.S. Environmental Protection Agency's Land Revitalization Program completed the Joslyn Park Financing Roadmap Report (Tetra Tech and Adaapta, 2024) with estimated redevelopment costs of nearly \$22 Million.

## Section 3 Project Purpose & Objectives

The purpose of this project is to stabilize the site's shoreline. The objectives are to restore environmental quality by reducing sediment loading and loss of riparian wetland areas along the Priest and Pend Oreille rivers and provide wide-spread recreational use of the property by the general public. This BOD Report focuses on establishing design conditions to achieve the following project goals:

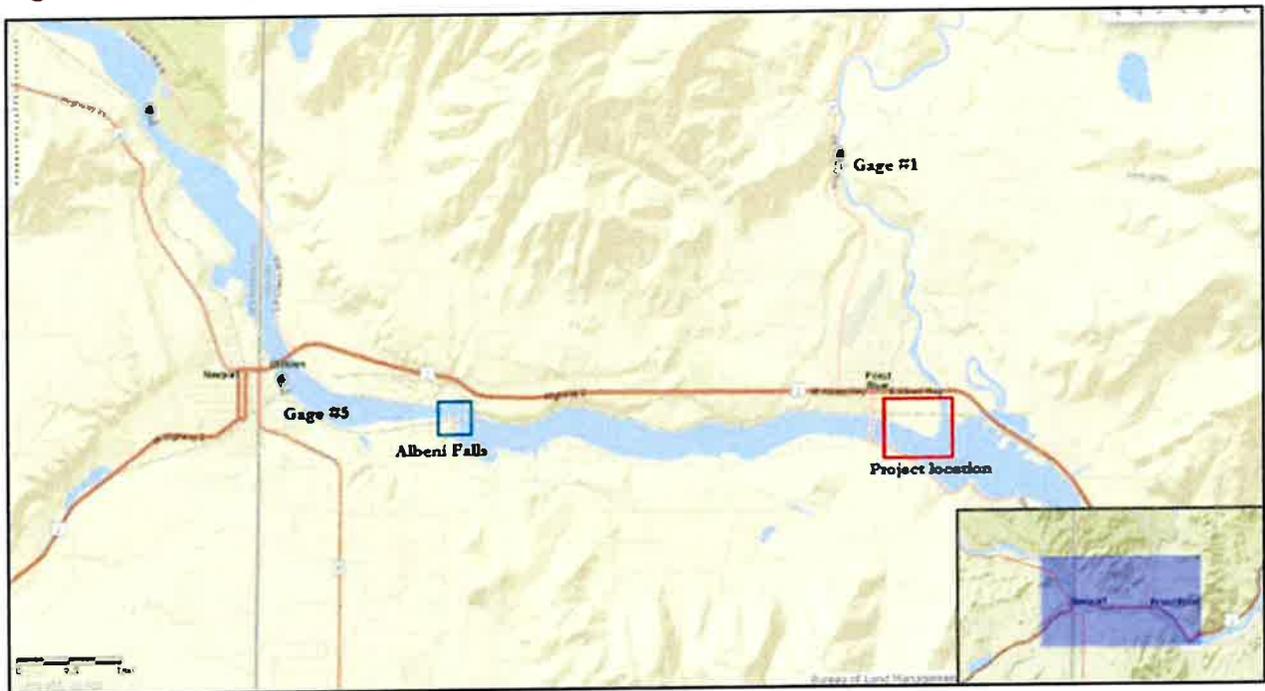
- Protect the City's downstream drinking water intake that is located on the west end of the site and extends out onto the Pend Oreille Riverbed.
- Stop shoreline erosion that is occurring at the existing stormwater outfall located on the west end of the site facing the Pend Oreille River.
- Preserve wetlands by protecting the shoreline around the perimeter of the site.
- Mitigate damage to the shoreline and protect native plant communities by designing adequate stabilization.

- Provide dedicated access points for the public.

## Section 4 Existing Shoreline Conditions Overview

The shoreline of the project site is situated at the confluence of the Priest River and the Pend Oreille River (Figure 2). The shoreline experiences accelerated erosion in areas where the two rivers collide. Both rivers are dam-controlled; unnatural seasonal water level fluctuations of more than 12 feet increase the complexity of the shoreline's erosion. The site shoreline is particularly vulnerable to shear forces exerted by the flow dynamics of the two converging rivers. These forces promote lateral displacement in the site's silty sediment. See Appendix A, for a still-photo time lapse of the site between the years 1998 and 2024. This historical imagery illustrates the shifts in sediment along the shoreline of the site and highlights areas sensitive to the behaviors of the Priest and Pend Oreille rivers.

**Figure 1. Project Location Map**



**Figure 2. 2024 Google Earth Aerial During High Water**



#### **4.1 Site Visit: Spring 2024**

On March 29, 2024, a site visit was conducted with the City of Priest River, the Idaho Department of Environmental Quality (IDEQ), and Idaho Department of Fish and Game (IDFG) to assess the condition of the project site and focus on the extent of shoreline erosion. Photos were taken during the site visit to document existing and natural conditions. Existing structures, debris, and areas of concern including exposed soil, undercut banks, and evidence of sediment displacement were of particular emphasis. Most photos were documented in a web-based mapping application (ArcGIS® Field Maps), which attached location data to each photo (see Figure 3) and allowed entering written observations. This was useful for documenting where along the shoreline condition changes occurred.



**Figure 3. Photo Documentation in Field Maps**



Water surface elevations for both the Pend Oreille and Priest rivers were at winter-pool elevations during the site visit (12 feet below summer-pool), which allowed for an unsubmerged view of the 3,350 feet of the entire shoreline length. After the site visit, the shoreline was divided into “Zones” to assess protection alternatives best suited for the observed common impacts along segments of the shoreline. The Zones are defined in Section 8, but will be referenced in this section for grouping observations.

The existing shoreline is a vertical face approximately 10 feet tall of fine sands and silts at the summer-pool water surface elevation. Below the summer-pool water surface, the shoreline is devoid of vegetation. Above the summer-pool water surface, the shoreline is naturally vegetated as observed in Figure 4.

There are old pilings and antiquated dolphin structures along the Pend Oreille River shoreline. Several old tires are dispersed along the shoreline between the low- and high-water marks. The shoreline is otherwise unprotected from erosion caused by shear forces from the river and wave action.

There is one stormwater outfall on the Pend Oreille River shoreline located near the west end of the property approximately 350 feet east of the City’s concrete pier by the water intake. The outfall consists of a three-sided wooden trough. The wooden trough is in disrepair and collapse may be imminent. There is substantial shoreline erosion around the stormwater outfall as seen in Figure 6.

The site walk began at the boat launch near the southwest corner of the site and moved east along the north side of the Pend Oreille River. The first 1,200 feet of shoreline (Zones 1 and 2) is mainly characterized by:

- Shallow, silty/sandy slopes with little to no vegetation between low- and high-water marks.
- Large debris, such as tires, littered along the first few hundred feet.

- Large wooden piers staked at the low-water line.
- Steep, eroding banks (approximately 5-feet in height) near or at the high-water line (Figure 5).

**Figure 4. Zones 1 and 2 Observed Conditions**



**Figure 5. Common Erosion at the High-Water Line in Zones 1 and 2**



Zones 1 and 2 are divided by an existing stormwater outlet, which has a constant flow that will be addressed as part of the shoreline protection design (Figure 6).

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**Figure 6. Stormwater Outlet between Zones 1 and 2**



Continuing east along the north bank of the Pend Oreille River, the shoreline begins to bend around an existing wetland that bulges out from the site. This bend is approximately 1,450 feet in length, terminates near mouth of the Priest River, and is referred to as Zones 3 and 4. Characteristics of these Zones include:

- Long stretches of shallow, silty/sandy slopes for the first 700 feet with little to no vegetation between the low- and high-water marks. These stretches narrow and disappear around the bend.
- Steep, eroding banks (approximately 6 to 8 feet in height) near or at the high-water line.
- Large plateau of wetland vegetation at the top of the steep banks (greater than approximately 8 feet).

Erosion conditions for Zones 3 and 4 appear to be similar to Zones 1 and 2 but with far more sloughing. The large wetland vegetative top layer appeared to be creating a cantilever failure scenario where the topsoil layer is strongly held together by plants, but the weaker, less cohesive layer of soil underneath is eaten away until the top layer eventually fails. Figure 7 shows the transition from Zone 3 into Zone 4 around the shoreline bend and is generally representative of the observed conditions.

**Figure 7. Zones 3 and 4 Observed Conditions**



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The group could not reach the end of the wetland bend due to the steep bank and low-water level. To view impacts near the point of confluence, the group traversed the wetland area to the Priest River side of the shoreline.

The confluence of the Priest River and the Pend Oreille River (Zone 5) appears to experience the most rapid erosion. The length of Zone 5 is approximately 250 feet and is characterized by a relatively steep bank between the high- and low-water levels. Bank failure was observed at the end of this Zone, which is approximately located at the mouth of Priest River as shown in the Bonner County Flood Insurance Study (FIS) report (Agency, 2014). This bank failure is most likely where flows are most turbulent as the two rivers collide.

**Figure 8. Zone 5 Observed Conditions**



North of the point of confluence and south of the Burlington Northern Railroad right-of-way on the west side of the Priest River is the final stretch of shoreline (Zone 6), which is approximately 700 feet long. Existing conditions are similar to the first half of shoreline around the wetland (Zone 2) with shallow, silty sand slopes meeting steep banks with a vegetative cap. See Figure 9 for the observed conditions of Zone 6.

**Figure 9. Zone 6 Observed Conditions**



At the end of Zone 6, the Priest River appears to be “pinched” by the railroad crossing. It is assumed that Priest River’s flow velocities would be greater here and will need to be considered for the shoreline protection design.

## Section 5 Rivers and Dam Operations

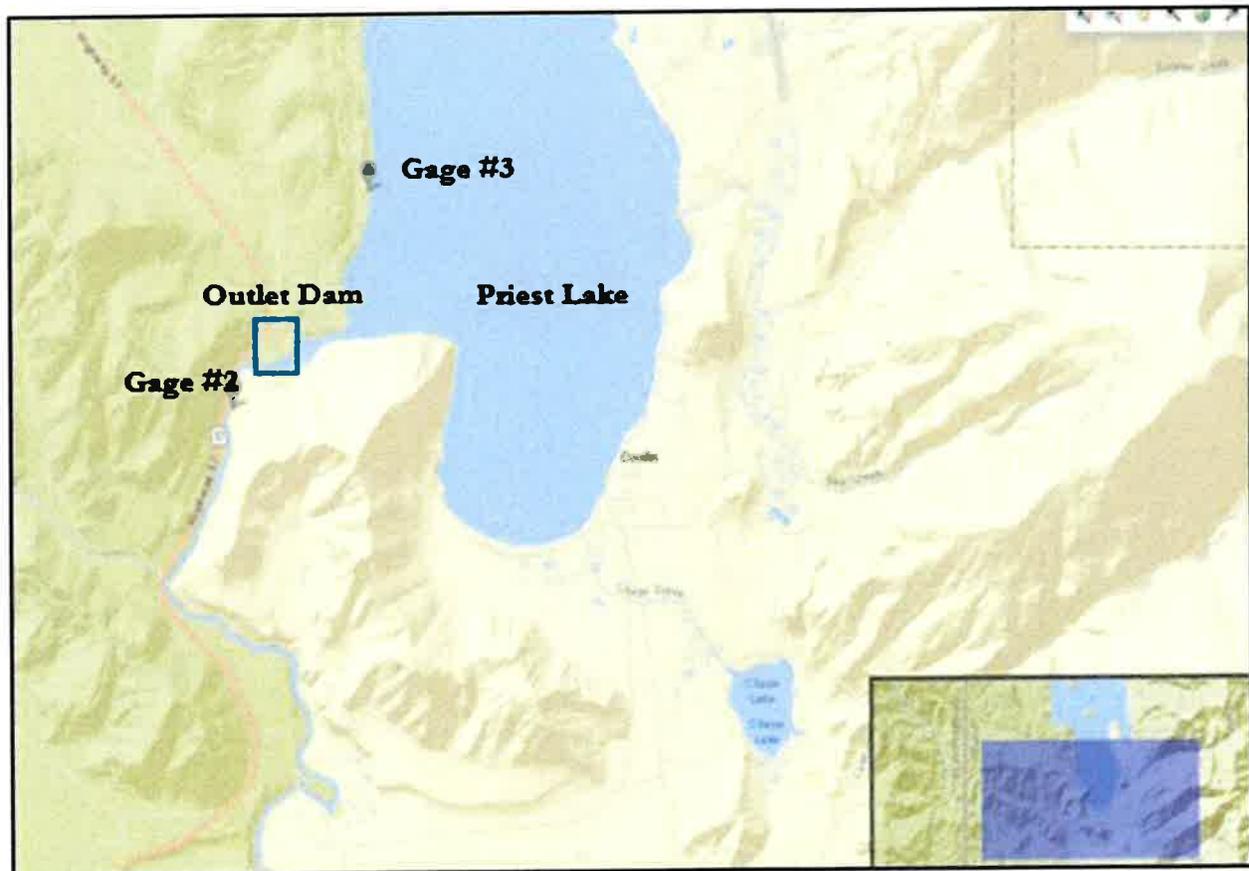
### 5.1 Hydrology

Hydrologic conditions for the project area are shaped by its proximity to the Priest River and the larger Pend Oreille River system. The project area experiences a predominantly snowmelt-driven hydrological regime, with peak flows typically occurring in late spring as mountain snowpacks melt. The Priest River contributes significantly to local water resources, providing essential habitat for fish and wildlife and supporting recreational activities surrounding the site perimeter. Seasonal variations in precipitation, including rain and snowfall, play a critical role in influencing river levels and groundwater recharge. The site is further impacted by its forested watershed, which helps regulate runoff and maintain water quality. These dynamics are crucial for managing water resources, mitigating flood risks, and protecting the ecological integrity of the area (Council, 2001).

### 5.2 Priest River and Outlet Dam

The portion of the Priest River that intersects with the Pend Oreille River is considered the Lower Priest River. The Lower Priest River begins 44 miles upstream of the project site at Priest Lake, which is held by the Outlet Dam (Figure 10).

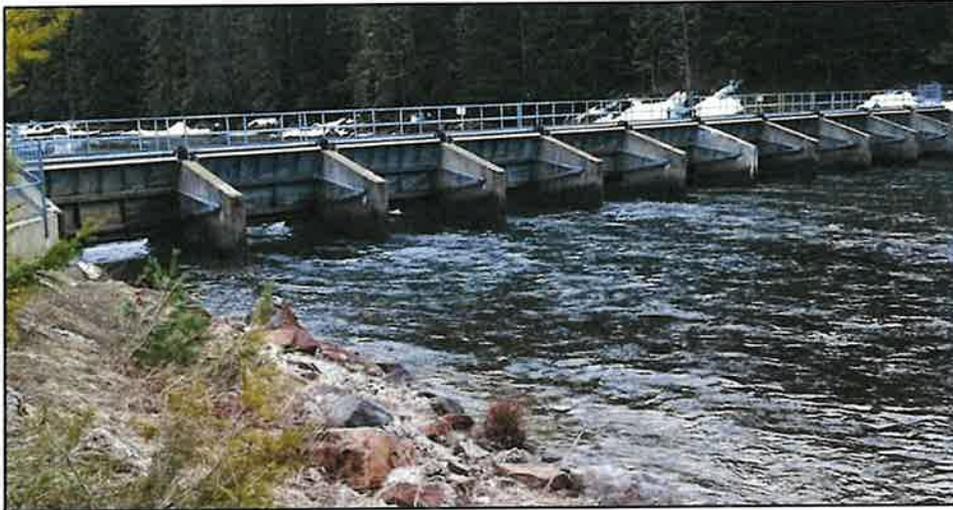
**Figure 10. Location of Outlet Dam with respect to Priest Lake**



Flow to the Lower Priest River is controlled by the Outlet Dam, which raises and lowers Priest Lake levels seasonally. These flows range between 60 cubic feet per second (CFS) (~27,000

gallons per minute [GPM]) during the recreation season and 800 CFS (~359,000 GPM) during the wet weather season. Outlet Dam operations divert the outflow of Priest Lake through a 12-foot high, 11-gate spillway (Figure 11).

**Figure 11. Outlet Dam 11-Gate Spillway**



The Idaho Department of Water Resources (IDWR) manages the operation of the Outlet Dam. The dam is not hydroelectric and is mainly used to control water elevations. In the spring of 2022, there was an expansion on all 11 gates to retain more water. Target Priest Lake depth increased from 3 feet to 3.5 feet (roughly 2,473.3 feet of elevation) during the recreation season; water levels are kept as low as 0.5 feet in the winter (roughly 2,470 feet of elevation) (IDWR, 2024).

The Lower Priest River flows from the Outlet Dam through a diverse geomorphic landscape of forested valleys shaped by glacial, fluvial, and tectonic processes until its confluence with the Pend Oreille River (Service, 2022). The mouth's water elevation is influenced by the Pend Oreille River, which fluctuates with the operation of the Albeni Falls Dam. The mouth's water elevations range from 2,055 to 2,067 feet seasonally and are explained in more depth in the following sections.

The mouth of Priest River is located adjacent to the site, and deposits sediment and nutrients (Figure 12) within a total drainage area of 907 square miles (Agency, 2014). Erosion and deposition dominate the mouth's middle and lower reaches, forming gravel bars, point bars, and floodplains that sustain dynamic riparian ecosystems. Vulnerable to Priest River activity, the site is impacted by the interactions between the Priest and Pend Oreille rivers. Fluctuations in water surface elevations (ranging between 2,055 and 2,067 feet [North American Vertical Datum of 1988 {NAVD88}]) followed by boat wakes have removed soil and vegetation from the site perimeter.

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**Figure 12. Priest River Depositing into Pend Oreille River**



(Bonner County Website, n.d.)

### **5.3 Pend Oreille River and Albeni Falls Dam**

Pend Oreille River (Figure 13) is a major waterway geomorphologically shaped by glacial, tectonic, and fluvial processes such as the Priest River. Pend Oreille River is the main outflow from Lake Pend Oreille, which is approximately 148 square miles, 1,152 feet deep, and holds around 14.2 trillion gallons of fresh water. Geomorphology varies between steep, confined reaches and wider, lower-gradient stretches where the Pend Oreille River exhibits meandering and braided patterns (Harvey, 1999). Sediment transport and deposition have created floodplains, terraces, and gravel bars that provide habitats for riparian and aquatic species.

**Figure 13. Pend Oreille River Upstream of Albeni Falls Dam during Summer-Pool**



Human interventions, such as the construction of the Albeni Falls Dam, have significantly altered the river's flow regime, sediment dynamics, and geomorphic features, and have stabilized certain sections while altering natural processes downstream (Elizabeth R. King, 1970).

Albeni Falls Dam is located approximately 5 miles downstream of the Priest River and Pend Oreille River confluence (Figure 14). Albeni Falls Dam is operated by the U.S. Army Corps of Engineers (USACE) and serves as a multipurpose solution for the towns adjacent to the Pend

Oreille watershed. In addition to hydropower and flood risk management, The Albeni Falls Dam was designed to promote recreation, navigation, sustained lake levels, and fish and wildlife conservation.

**Figure 14. Location of Albeni Falls Dam with respect to the Two Rivers Park site**

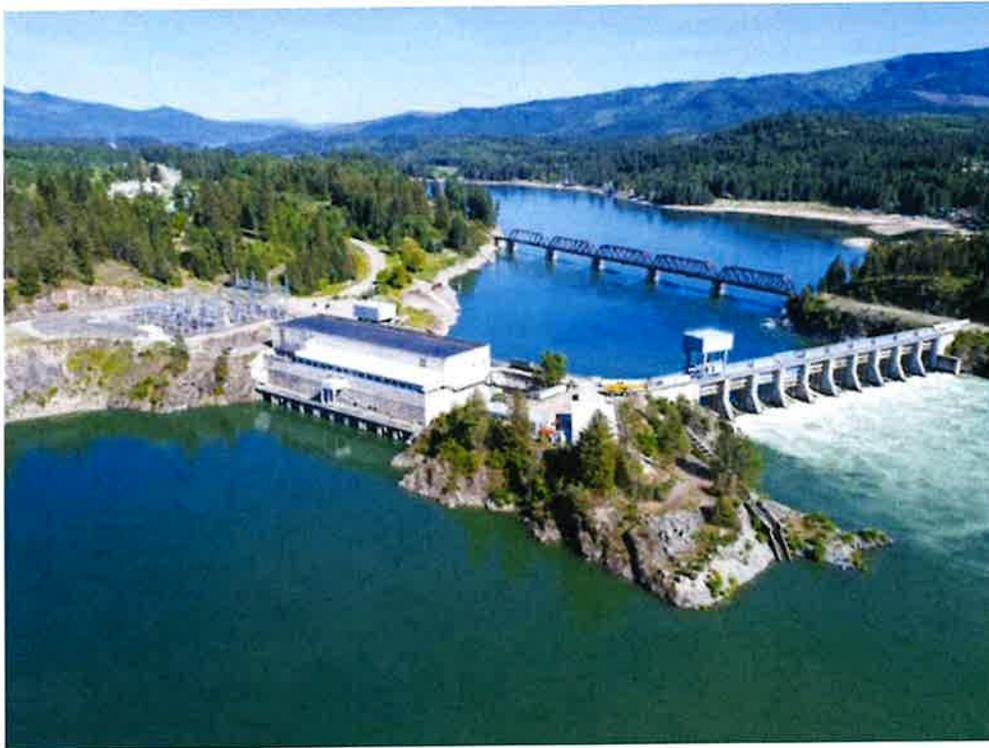


Normal dam operations maintain an outflow of approximately 10,000 CFS (low-water/winter-pool conditions) and 11,000 CFS (high-water/summer-pool conditions) through an 11-gate spillway (Figure 15); however, flows can be as high as 60,000 CFS during the year as indicated by 2024 flow data. Fluctuations in dry and wet seasons drive the behavior of dam control. Historical peak flow for Albeni Falls Dam is recorded at 200,000 CFS (U.S. Army Corps of Engineers, n.d.). See Appendix B for target Pend Oreille Lake levels and additional considerations for dam control (U.S. Army Corps of Engineer District, 2013).

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**Figure 15. Pend Oreille River flowing through Albeni Falls Dam**



**5.4 Gage Data**

Gage data collected for the project area highlight seasonal variations in water elevations for Lake Pend Oreille, the Pend Oreille River, and the Priest River (USGS, n.d.). Gage data was recorded from five locations within the influencing watersheds of Priest Lake and Lake Pend Oreille. Table 1 and Figure 16 provide a summary and location of each gage, respectively.

**Table 1. Gage Descriptions and Summary**

Gage No.	Name (ID No.)	Location Description	Elev. Datum (ft) (NAVD88)	2024 Min. Depth (ft)	2024 Max. Depth (ft)	2024 Min. Q (CFS)	2024 Max. Q (CFS)
1	Priest River (12395000)	near City of Priest River	2,099.20	0.42	5.24	174	4,660
2	Priest River Outflow (12393501)	near Outflow Dam (downstream)	2,416.86	13.49	19.56	90	4,130
3	Priest Lake (12393000)	near Outflow Dam (upstream on Priest Lake)	2438.43	0.08	3.81	N/A	N/A
4	Hope (12392500)	near Hope, Idaho	2,008.32	55.14	65.98	N/A	N/A
5	Pend Oreille River (1239550)	below Albeni Falls Dam	2,003.77	N/A	N/A	2,300	52,700

**Figure 16. Gage Proximities to the Two Rivers Park**



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These Priest Lake and Lake Pend Oreille influencing watersheds exhibit distinct seasonal patterns influenced by snowmelt, precipitation, and dam operations. Lake Pend Oreille typically experiences its highest water levels in late spring and early summer due to snowmelt runoff, while controlled releases from the Albani Falls Dam significantly affect water elevations in the downstream Pend Oreille River. Due to the size of the Pend Oreille watershed, Lake levels in some locations may vary between 0.5- and 1.0-feet. Similarly, the Priest River's seasonal water levels are shaped by upstream snowmelt and local precipitation, with fluctuations reflecting both natural hydrological cycles and human interventions.

Accumulating gage data from the five locations allowed Alta Science & Engineering, Inc. (Alta) to see the interconnectedness of the watersheds at various locations. Completing a side-by-side comparison of gage heights during seasonal shifts revealed consistency between water surface elevations. Commonalities included peak flow trends during late spring/early summer as well as middle to late fall and low flows during the winter season. See Appendix D for available gage height and discharge graphs.

## Section 6 Wetland Delineation

Wetland delineation plays a critical role in environmental management and regulatory compliance, as it identifies and classifies wetlands to ensure their protection and sustainable use. Tetra Tech, Inc. completed a study for Two Rivers (former Joslyn Park) that details the findings of wetland boundaries within the project area. The study includes a comprehensive

evaluation of site conditions, vegetation (Figure 17), soils, hydrology, and wetland boundaries. Additionally, the report examines the regulatory implications of the findings, providing essential information for decision making and compliance with federal, state, and local environmental regulations. See Appendix E for the delineated wetland zones (Tetra Tech, Inc., 2024).

**Figure 17. Photo Sheet Joslyn Property: June 12, 2023**



Photo 1: View east into Wetland "B" from Wetland Boundary Flag B-5. Small isolated swale with cottonwood and few spiraea. Hydrophytic vegetation and evidence of short-term early season ponding. This wetland depression is small and does not appear to have any surface connections to other areas.



Photo 2: View east into meadow area at Data Plot 12. Ponderosa pine over meadow foxtail and tansy; soils 3/4 (non-hydric), no evidence of ponding.

Two classifications of wetlands are present on the southern parcel where shoreline improvements are to occur. The smallest delineated wetland, referred to as Wetland B, is approximately 0.02-acres and is considered isolated from surface water connections. Shoreline improvements will not disturb this wetland.

The larger wetland, Wetland A, is approximately 3.87-acres and runs along the Pend Orielle River where shoreline Zones 3 and 4 are located. Wetland A is classified as PSS1C (palustrine, scrub-shrub, deciduous, seasonally flooded) and mainly consists of alder, dogwood, hawthorn over canary grass, and meadow foxtail. The delineation report states that the soils are saturated and shallowly inundated when the Pend Orielle River is at summer-pool. It also states that the wetland is bound by a fairly steep slope up to non-hydrophytic and dry slopes (Tetra Tech, Inc., 2024). This is consistent with what was observed during the site visit. The wetland vegetation along the shoreline appears to add stability to the top of the shoreline; however, it contributes to a vicious cycle of unstable soils eroding underneath, resulting in sloughing when water levels drop. Adequately stabilizing the soils underneath while preserving the wetland up top will be a critical aspect of the design.



## Section 7 River Hydraulics and Current Effective Models

### 7.1 Available FEMA Information and No-rise Certification

Stabilizing the site shoreline will require grading existing slopes, removing unsuitable materials, and inserting new materials with stable, non-erodible qualities. Regulatory agencies will be engaged throughout the design process to ensure necessary permits, certifications, and regulations are acquired and met prior to construction.

Available Federal Emergency Management Agency (FEMA) maps show regulatory floodway boundaries around the shoreline of the Two Rivers site. See Appendix F for the complete FEMA firmette. Construction within the floodway requires a no-rise analysis and certification to confirm that conveyance during a 100-year flood is not disrupted and will not cause the designated floodway to rise, which could negatively affect properties along the shoreline during such a flood event. No-rise certifications are typically regulated at the local level but adhere to FEMA standards.

Based on the property boundaries of the site, Bonner County (County) was contacted in June 2024 to discuss the requirements of acquiring a no-rise certificate. The County confirmed that a no-rise certification would be required for the project and provided a FEMA document titled *"Procedures for 'No-Rise' Certifications for Proposed Developments in the Regulatory Floodway"* specifying necessary procedures.

Per the above-referenced Procedure, a copy of the 2014 Bonner County, Idaho, FIS was acquired and a written request was submitted to FEMA to acquire the current effective model. FEMA, however, was only able to provide a summary printout of the HEC-2 model prepared for the Priest River in the 1980s. No data or information was provided for the Pend Oreille River. The FEMA-provided summary print out appears to be outdated based on the information provided in the 2014 Bonner County, Idaho, FIS.

The 2014 Bonner County, Idaho, FIS states that during a 100-year flood event, the Pend Oreille River will have average flows of 159,000 CFS and Priest River is projected to have average flows of 11,100 CFS (Agency, 2014). Additionally, the Bonner County, Idaho, FIS also states: "The sources of flooding for the City of Priest River are Priest River and Pend Oreille River. Pend Oreille River is a reservoir-like body of water due to Albeni Falls Dam. The flooding from Priest River is confined to the shore areas, but the backwater from Pend Oreille River into Priest River floods a substantially larger area" (Agency, 2014).

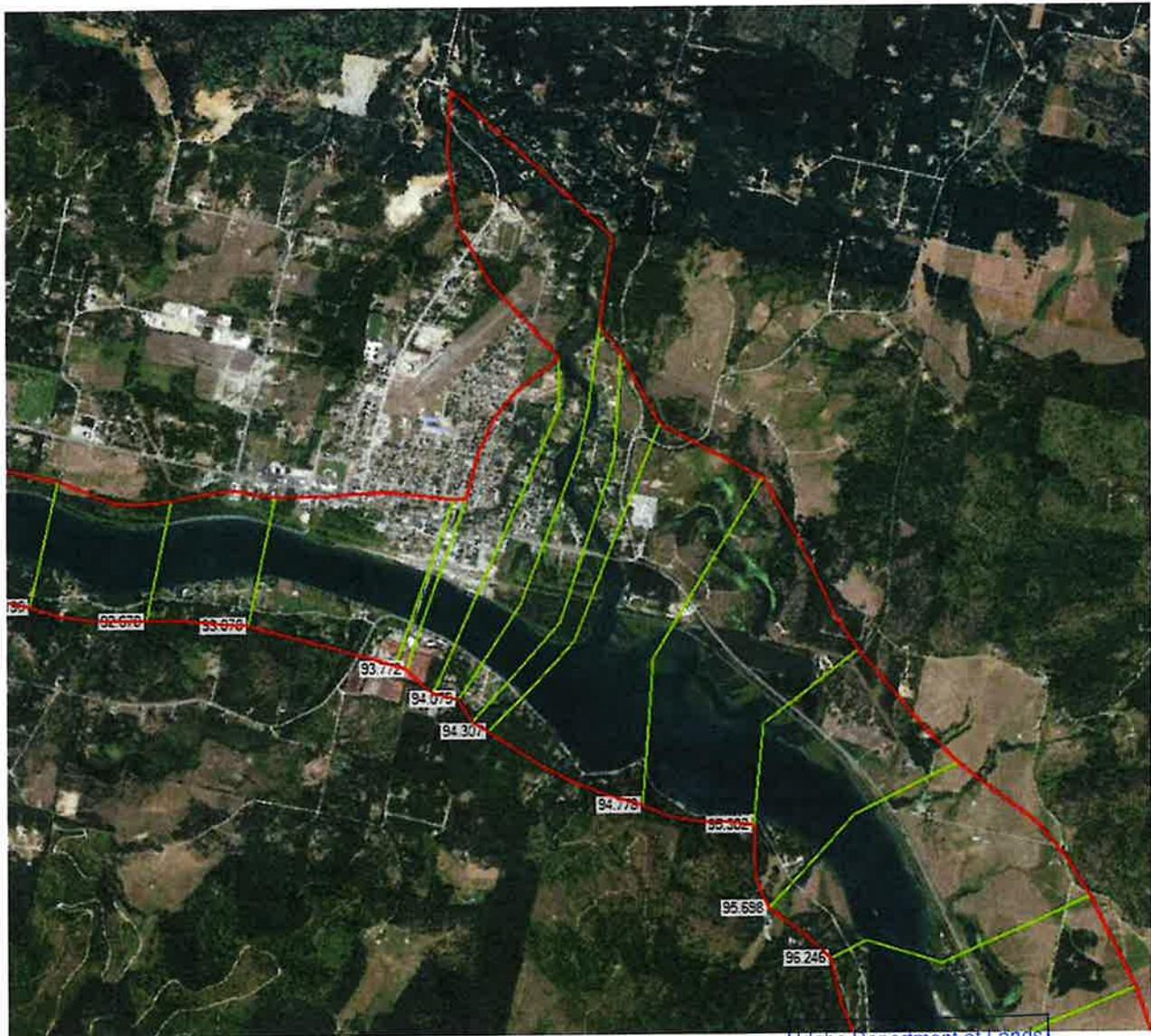
It was concluded from the Bonner County, Idaho, FIS that the regulatory floodway boundary for Priest River does not match the regulatory floodway elevation. This is because the regulatory elevation is based on backflow from the Pend Oreille River; however, the boundary only considers the Priest River 100-year flood elevation and does not take the backflow into account. The County was contacted to explain this discrepancy and it was agreed upon that the regulatory floodway boundary does not reflect the width of the Priest River during a 100-year flood. It was proposed that an alternative no-rise analysis be used to more accurately reflect the Priest River Channel width during a 100-year flood and the County said that this would be acceptable and provided an example of an alternative analysis that was conducted on the Pack River using 2019 LIDAR information. Alta has acquired the same LiDAR data and is using a similar approach for the no-rise analysis.

In addition, the County stated that the Priest River is the only portion of the project that requires a no-rise analysis since there is no regulatory floodway boundary delineation for the Pend Oreille River. However, for the design of the Pend Oreille River section of shoreline, it will still need to meet County flood regulations and be submitted for review.

## 7.2 United States Army Corps of Engineers Model

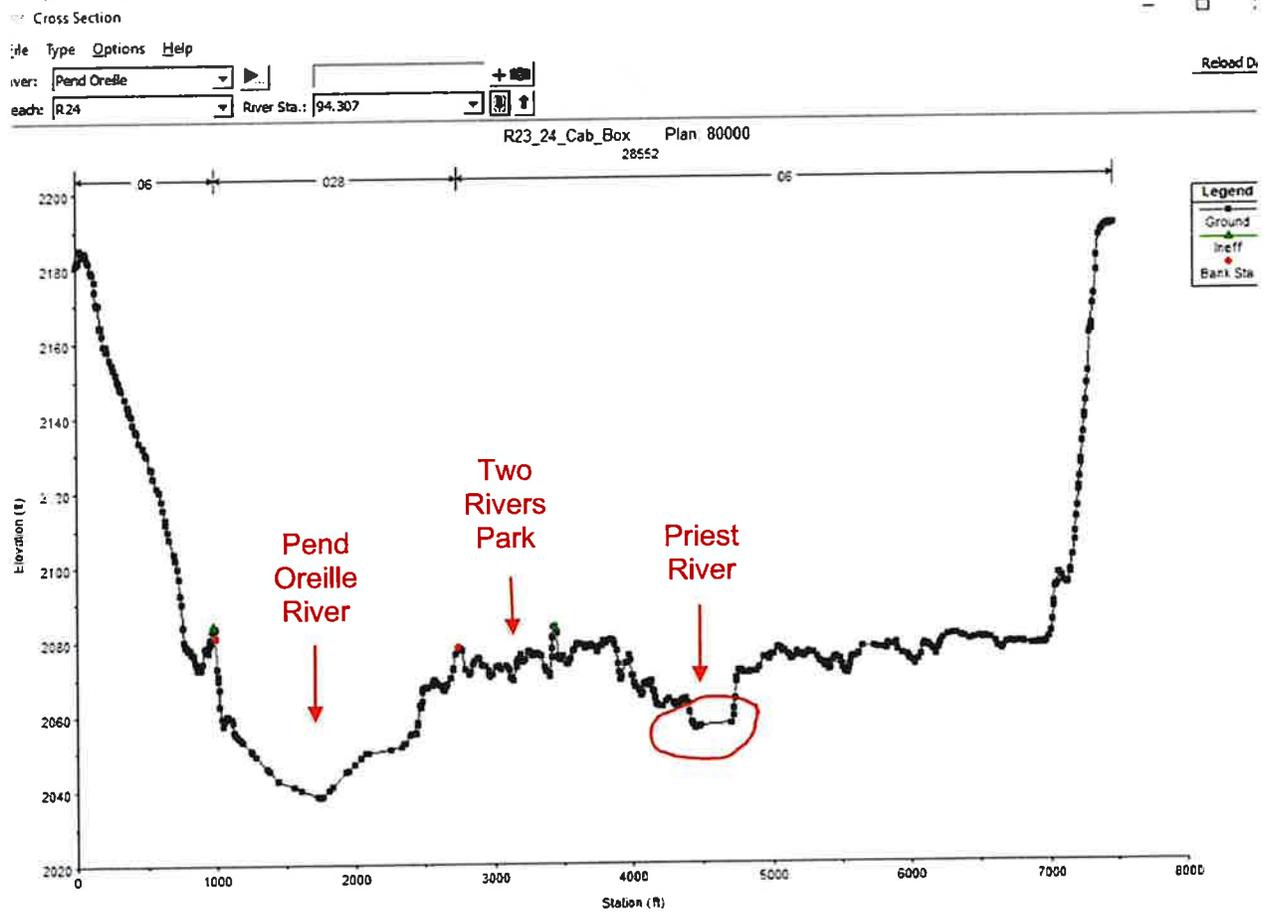
Alta acquired the USACE Hydrologic Engineering Center's River Analysis System (HEC-RAS) 1D model (Figure 18), which highlights dam influence on the upstream water systems. Green lines shown in Figure 18 represent the cross-section locations, while boundary conditions for the model are marked in red. The USACE HEC-RAS 1D model provides average velocity and shear stress estimates for the channel and overbank areas, treating the Priest River as a low point in their cross-sections (Figure 19). Figure 19 is an example of a cross-section profile at station 94.307. Looking at Figure 18, this station cuts through Pend Oreille River, Two Rivers Park, and Priest River. The model calculated averages between defined channel boundaries marked by red dots in the cross-section (Figure 19) and across inundated overbanks. However, it does not offer specific velocity or shear stress data for bank locations or detailed interactions at the confluence of the Priest and Pend Oreille rivers. To achieve this level of detail, a HEC-RAS 2D model would need to be constructed.

**Figure 18. USACE HEC-RAS 1D Model Cross Sections**



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**Figure 19. STA 94.307 Cross-Section from USACE HEC-RAS 1D Model**



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## Section 8 Shoreline Zone Delineation

There are several different Zones along the Two Rivers shoreline that experience differing levels of natural impacts. In addition, the City desires to utilize Zones of the shoreline differently. Under these considerations, a delineation of the Zones was required to ensure adequate stabilization and use for the City of Priest River.

The proposed development plan of Two Rivers Park, public feedback, available and collected site data, and design literature were thoroughly reviewed to delineate the Zones. A total of six Zones with unique erosive behaviors and uses have been established to guide the project towards best management practices (BMPs) in stabilizing the shoreline (Figure 20). The characteristics that helped drive the Zone delineations are as follows:

- Recreation activity adjacent to shoreline.
- Erosive behaviors.
- Confluence of rivers.
- Difference in river velocities.
- Existing slopes.
- Wetland habitat.
- Outfall structures.

Figure 20. Zone Delineation Displayed on Master Plan



A workshop meeting with the City, IDEQ, Bernardo Wills, and Welch Comer was held on October 28, 2024. Stabilization alternatives for each Zone were introduced, discussed, and narrowed down based on feedback from those who attended the workshop meeting. The following section will outline characteristics pertaining to each Zone and the proposed stabilization measures selected during the workshop meeting. See appendix G for complete workshop presentation and affiliated meeting notes.

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## 8.1 Zone 1: Marina

Zone 1 is on the northern bank of the Pend Oreille River and is bound between a concrete wing-wall and a stormwater structure on the southeast side of the site. This Zone is approximately 350 feet in length. The City wishes to construct a Marina in this location.

Above the ordinary high water (defined as elevation 2067.5' NAVD88; OHW) mark is a 1:1 (horizontal [H] to vertical [V] ratio) to a near-vertical, unstable bank that has been impacted over the years by fluctuating water levels and river velocities. Below the OHW mark is a stable 4:1 bank where wooden piles, tires, and other debris are embedded in the shoreline and visible at OLW. It is suspected that these devices have played a role in reducing sediment deposition into Pend Oreille River; however, they are physical hazards and are not reliable for long-term shoreline protection and need to be removed.

Pend Oreille River velocities in Zone 1 are relatively mild (3 to 5 feet per second [feet/s]) and shearing forces appear to be less destructive. As discussed in Section 5, the main contributor to erosion in this area appears to be seasonal water level fluctuations from the dam and possible wave action, although the existing piles may help mitigate this.

Due to the relatively mild impacts in this area, “softer” natural stabilization alternatives, such as brush matting, were proposed at the workshop meeting for this Zone. However, the City did not think natural stabilization measures were necessary in an area designated for a Marina because of boat traffic, foot traffic, and potential maintenance requirements. Angular riprap was decided as the most suitable stabilization measure in this location. In addition, Zone 1 terminates near an existing stormwater outlet that requires a new pipe outlet and its own stabilization measures; therefore, it will likely be stabilized with large riprap and will tie in cleanly to Zone 1.

## 8.2 Zone 2: Beach

Zone 2 begins immediately after the outfall structure at the terminus of Zone 1, continuing east along the Pend Oreille River northern bank, and ends at the beginning of the delineated wetland zone. The length of the shoreline for Zone 2 is approximately 650 feet. The City desires to place a public beach in this location due to the accessible location and observably mild river velocities. Recent discussions indicate that the marina will extend into Zone 2, so the location the beach has been moved closer to the wetland area.

Zone 2 experiences the same impacts from the Pend Oreille River as Zone 1 where slopes are 1:1 above the OHW mark and 4:1 below it. The same debris are also present (e.g., wooden posts, tires, etc.). River velocities are 3 to 5 feet per second.

The City had proposed a beach in this Zone in the 2023 master plan (Welch Comer, 2023). To facilitate the construction of a beach, slopes will need to be reduced to a maximum of 5:1, and stabilization materials must be strongly considered as they can be washed away by the river. Ideally, the beach would be 50 feet wide and above the OHW, as the water is highest during the recreational season. Clean “beach” sand is a highly erosive material, and the City expressed concern with the potential “wash out” of the beach if positioned below the OHW mark. Discussion of beach material wavered between sand, gravel, and stone to consider stronger resistance to particle redistribution.

Below OHW, it is proposed that a larger, less erosive material be used, such as round stone or river rock. Two separate the sand and river rock materials at the summer pool elevation, large, decorative boulders will be placed in a staggered formation to dissipate wave energy from boat wakes.

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### 8.3 Zone 3: Wetland Inner Bend

Zone 3 is the first half of the degraded wetland zone, characterized by its shape in relation to Pend Oreille River. This is considered the inner bend Zone because the shoreline bends away from the directional flow of water. The shoreline stretches 775-feet and has a 4:1 stable slope above OHW mark and a 1:2 unstable slope between OHW mark and ordinary low water (defined as elevation 2055' NAVD88; OLV) mark. Moderate river velocities and poorly-rooted vegetation have driven the majority of erosive conditions. Within the design considerations, the objectives are to avoid continued wetland degradation and maintain a permeable barrier for wetland watering. The City is very interested in potential rehabilitation of the wetland in an effort to address public concern of further degradation. The addition of native plant species has been discussed and the City will take the lead in discussions with IDFG for long-term wetland maintenance.

To facilitate future efforts in wetland restoration, stabilization measures would include riprap installed under low-disturbance conditions, a vegetated cap roughly 3-feet in length behind the top of the riprap revetment for rooted stabilization, and vegetated riprap placed just above OHW. Alta will coordinate with our ecosystems division to select appropriate vegetation. Constraints in incorporating vegetation are controlled by massive fluctuations in water level and plant survival under such conditions.

### 8.4 Zone 4: Wetland Outer Bend

Zone 4 is a continuation of the degraded wetland, spanning approximately 825-feet, and positioned in a bend leaning towards Pend Oreille River. This location is particularly susceptible to hydrodynamic stresses created by the river's curvature, which amplifies water velocity and turbulence. These conditions pose a significant risk of bank erosion and sediment displacement, further degrading the wetland's ecological function. The wetland's compromised state reduces its natural resilience to such forces, diminishing its capacity to stabilize sediments, filter pollutants, and provide habitat for aquatic and terrestrial species. Zone 4 begins with similar sloping characteristics as Zone 3 (i.e., a 4:1 stable slope above the OHW mark and a 1:2 unstable slope between the OHW mark) and transitions into steeper, less stable conditions as it approaches the confluence of Pend Oreille and Priest rivers.

Under the same dialogue as Zone 3, Alta will design around potential rehabilitation of the wetland avoiding disturbance of wetland soil and existing vegetation. Stabilization will include riprap with a modified toe to withstand increased erosive conditions. A vegetated cap at the same span as Zone 3 and vegetated riprap above OHW to promote rooted stabilization. Alta's goal regarding wetland stabilization is to maintain existing vegetation and soil quality/quantity. We aim to jumpstart restoration efforts by incorporating vegetation wherever survival of plant species is anticipated.

### 8.5 Zone 5: Southeast Corner

Zone 5 experiences significant scouring due to its position at the confluence of the two rivers, where merging flows generate intense turbulence and localized erosion. The converging water currents amplify velocity gradients and increase the shear stress on the riverbed and banks, making this area particularly vulnerable to sediment displacement and channel instability. The City suspects boat wakes also negatively impacts this Zone. For safety reasons, the City will restrict public access to water since conditions are not ideal for recreational activity. The City has discussed that a viewing patio may be more ideal. This corner of the Site stretches 450-feet

and has a steep 1:1 bank positioned above OHW and transitions into a 2:1 slope between OHW and OLW.

Proposed stabilization measures would involve the placement of angular riprap with a toe design matching Zone 4. Due to the offset of shoreline recessing into a forested wetland, a vegetated cap will not be constructed to avoid disturbance of existing mature vegetation. The incorporation of vegetated riprap just above OHW will be included within the design to allow for the addition of rooted stabilization. Design constraints in Zone 5 include proximity to conveyance of water during flooding events where construction is prohibited.

### 8.6 Zone 6: Northeast Face

Zone 6 is a 325-foot segment situated between the river confluence and a railroad crossing, where hydraulic and structural factors converge to shape its stability challenges. This area is influenced by Priest River velocities that experience mild contraction scour resulting from the railroad construction, which narrowed the river channel and intensified localized flow velocities. Additionally, the slope between the OLW and OHW marks is unstable, prone to erosion, and displaces sediment during fluctuating flow conditions. Behind the shoreline exists a highly valued forested area exhibiting mature tree growth and biodiversity. The public expresses concern regarding future construction within this region.

To address these issues, stabilization measures could include the application of riprap to protect the toe of the slope from scouring forces and live staking with native plant species above the OHW mark to enhance soil cohesion and promote long-term slope stability. Alta's goal is to protect the forested area from future degradation and to prevent disturbing the existing vegetation.

### 8.7 Zone Characteristics Summary

A summary of each Zone's characteristics is provided in Table 2 below:

**Table 2. Zone Summary for Design**

Zone No.	Name	Length (ft)	Erosive Behaviors	OHW Slope (H:V)	OLW Slope (H:V)	Range of Velocities (ft/s)	Additional Defining Characteristics
1	Marina	350	Low	1:1	4:1	3 - 5	-Bound between a concrete wall and an outfall structure. -Pilings and debris on site.
2	Beach	650	Low	1:1	4:1	3 - 5	-Pilings and debris on site. -Public access highly encouraged
3	Wetland Inner Bend	775	High	4:1	1:2	3 - 5	-Protected wetland area. -Freshwater emergent wetland (PEM1F) <sup>a</sup> .

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**Table 2. Zone Summary for Design**

Zone No.	Name	Length (ft)	Erosive Behaviors	OHW Slope (H:V)	OLW Slope (H:V)	Range of Velocities (ft/s)	Additional Defining Characteristics
4	Wetland Outer Bend	825	High	4:1	1:2	3 - 5	-Protected wetland area. -Freshwater forested/shrub wetland (PFO1C) <sup>a</sup> .
5	Southeast Corner	450	High	1:1	2:1	2 - 6	-High scour area. -Included within PFO1C <sup>a</sup> area (Zone 4).
6	Northeast Face	325	Moderate	1:3	1:1	2 - 6	-Contraction scour from railroad. -Mature forested area.

<sup>a</sup> Tetra Tech, Inc.

ft = feet

ft/s = feet per second

H:V = horizontal to vertical (slope ratio)

## Section 9 Design Approach and Components

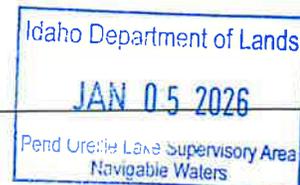
### 9.1 Proposed Changes to the Shoreline

The site shoreline slopes require regrading and/or stabilization based on Zone location and the chosen stabilization method. Riprap armor of various sizes and heights will skirt the entire shoreline and live stakes and new vegetative caps will be incorporated where applicable.

All slopes along the shoreline will be re-graded and/or excavated to achieve adequate slope ratios. Riprap armor slopes require at least a 2:1 slope. Slopes less than 2:1 will most likely be left at their existing grade after loose materials are graded flat or removed. Minimal disturbance and the use of available on-site materials is a priority. It is anticipated that fill is required around the non-vegetated shoreline bank near the wetland and near the confluence where slopes are steepest, and removal of wetland is undesirable.

The shoreline will require clearing and grubbing, especially where cut is required, to access the shoreline and place materials. Special care will be taken with stabilization measures around the wetland. With the exception of the future marina (Zone 1) and the swimming beach (Zone 2), all disturbed areas above the summer-pool water elevations will be repaired and replanted or new vegetative areas will be installed.

In Zones 3, 4, 5, and 6, live stakes will be embedded within the upper layer of riprap, at an appropriate depth to meet hydrologic conditions for plant growth. Additionally in Zones 3, 4, and 6, live stakes will be installed roughly three feet behind the riprap on a relatively flat surface. Zone 5 has mature vegetation present just behind the eroded shoreline; a vegetative cap will not be necessary here.



Access to the water will be safer and more controlled than what currently exists. This is intentional to preserve natural features on the shoreline as well as to limit access to unsafe areas. Access to the water will mainly be provided to the Pend Oreille River from Zone 2, with steps embedded into the riprap in various locations.

## 9.2 Materials

In mildly impacted Zones, at least 6-inch diameter riprap is recommended to deter access and for aesthetic purposes. To meet minimum riprap gradation requirements, preliminary calculations are used as a baseline for meeting site conditions. Actual design riprap size will be fitted to standard gradations in the specifications and depending on availability.

The thickness of riprap is determined by a minimum of 1 multiplied by the largest stone size per Zone. To account for submerged conditions, Alta has increased the thickness by 50-percent, as recommended by the USACE in *Engineer Manual 1110-2-1601* (USACE, 1994). Filter material, such as geotextile, and a 6-inch aggregate Base will be placed behind the riprap to ensure separation from the native soil and stable bedding for riprap. To prevent scour, a riprap toe will be placed below the armored slope. Aggregate base and riprap volumes for the project are 1,350 CY and 4950 CY, respectively.

Zone 2 will require additional materials to construct the beach swimming area below the riprap wall. Beach sand is proposed to have an average width of 50-feet from the top of the shore and a depth of 1-foot; this is approximately 750 cubic yards (CY) of material. The swimming area below will utilize round rock material large enough to withstand Pend Oreille River velocities (1- to 2-inch). The width from the shore will average approximately 30-feet and possess a 6-inch depth for a total quantity of approximately 535 CY.

## 9.3 Vegetation Plan

A vegetated cap is proposed for Zones 3, 4, and 6. The vegetated cap will be approximately 3-feet wide on top of the riprap stabilization as discussed above. Differing plants and their densities will be placed in each Zone. As stated previously, the wetland spanning across Zones 3 and 4 is classified as PSS1C (palustrine, scrub-shrub, deciduous, and seasonally flooded) containing alder, dogwood, and hawthorn over canary grass and meadow foxtail. New plantings are to be live stakes and will be of the same species or similar native species. Plantings will be spaced according to their specific needs. Options will be presented to the City for selection. Vegetative riprap will be placed in Zones 3, 4, 5, and 6 approximately 7 feet below the OHW mark. Plant species for riprap will be evaluated on a level of tolerance for extreme conditions of watering and dewatering.

There were no wetland areas delineated in Zone 6. Native upland forest trees and riparian shrubs were observed and will be utilized on the vegetated cap in this area. Live stakes will be spaced according to their specific needs. Options will be presented to the City for selection.

## 9.4 Drainage and Erosion Controls

Well-draining materials will be incorporated into all stabilization measures. Behind the riprap armor, geotextile will be provided.

In Zone 2, drainage will need to be considered for the beach to avoid mobilizing sand that collects on access points. Drainage may be accommodated by a gravel sub-base beneath the sand and frequent drainage points along the toe that separates the beach from the water; this will be evaluated further into the design process.

## 9.5 Monitoring and Maintenance

All riprapped Zones will require little to no maintenance. Replacement of riprap may be required if removed or vandalized.

Vegetated caps on riprap will need to be monitored with seasonal frequency for the first couple years after installation to assess the health of the vegetation. Some replacement may be required as it is being established. However, vegetated caps will be designed with native and/or the most suitable vegetation for its location; maintenance should not be required under regular circumstances. If vegetation dies off, the installation of a more suitable plant may be required.

Zone 2 will require the most maintenance. Replacing sand, weeding, and replacing riprap will likely be required when considering its use as a high-traffic recreational area for the public.

## 9.6 Long-Term Sustainability

With the exception of the beach, all stabilization measures are intended to be long-term sustainable solutions that will require little to no maintenance and will maintain the integrity of the shoreline. Riprap revetments typically last 70 to 100 years before replacement is needed and vegetative caps will last as long as the environment allows, if properly established.

## 9.7 Contingency Plans

Various design manuals have been used to evaluate proper stabilization measures and design considerations for the Two Rivers Park Shoreline. For example, the USACE *Hydraulic Design of Flood Control Channels* (USACE, 1994) manual was used for riprap sizing; factors of safety are built into the design methods in this manual to address all stabilization methods to ensure longevity. Additionally, although vegetated caps provide more stability, the riprap beneath the vegetated cap is sized to stabilize the shoreline without it, this builds stabilization redundancy into the design.

Alta's designs also consider that available funding and permitting may not allow for complete installation of all stabilization measures. Entire Zones or components of each Zone can be prioritized and implemented at different times to account for this. For instance, the riprap toe in the Zone 2: Beach can be installed with the intention of building a beach, but will function as shoreline stabilization until the beach is fully permitted and constructed at a later date.

## Section 10 Estimated Project Schedule

See Table 3 for the estimated schedule of completion for design, permitting, and construction of the Shoreline Stabilization for the Two Rivers Project. This table was prepared with the project goals communicated by the City and IDEQ and may not be an accurate reflection of actual task completion dates. The construction schedule is contingent on permitting approvals and seasonal water levels of the Pend Orielle and Priest rivers.

**Table 3. Estimated Schedule for the Two Rivers Shoreline Stabilization Project**

Task Description	Deliverable(s)	Estimated Completion Date
Data Collection for Design and Permitting	Complete a Topography Analysis for the Project Site.	Completed

## Two Rivers Park - Shoreline Stabilization Basis of Design Report

	Preliminary Design Memorandum	Completed
Design Development Workshop Meeting	Workshop Meeting with the City and IDEQ	Completed
	New Concept Design Rendering	February 2025
60% Design	60% Design Plans and Specifications Outline	February 2025
Draft-Final Design	Draft-Final Design Plans, Specifications, and Report	June 2025
Permitting	404 Permitting Package and No-rise Analysis	July 2025
Final Design	Final Design Plans, Specifications, Engineer's Estimate, and Report	July 2025
Permit Approval	Agency Approvals	August/September 2025
Project Bid	Bid Package	September 2025
Construction	Not applicable	Fall/Winter 2025



## Section 11 References

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**Appendix A**  
**Historical Imagery (1998-2024)**

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**Appendix B**  
**Albeni Falls Dam Operation**

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**Table 1. Albeni Falls Dam Operation**

Month	Minimum Lake Pend Oreille Level (elev. above NGVD29 <sup>1</sup> ) in feet	Maximum Lake Level (elev. above NGVD29 <sup>1</sup> ) in feet	Notes
January	2,051	2,060	-Minimum levels set to avoid dewatering of kokanee redds. -2,060 feet set for flood risk management. -2,056 feet set for storing and releasing water for power. -Any water above 2,056 feet must be evacuated by April 1.
February	2,051	2,060	
March	2,051	2,060	
April	2,051	2,062	-Spring flood season. -Dam will frequently go on "free flow". -Objective: minimize flood elevations.
May	2,051	2,062	
June	2,051	2,062	
July	2,062	2,062.5	-Sustained lake levels for recreation. -Begins mid-June, early July. -Ends mid-September. -Earliest lake drawdown may begin after Labor Day.
August	2,062	2,062.5	
September	2,060	2,062.5	
October	2,060	2,062.5	-Objective: stabilize the lake within a 0.5-foot range for kokanee spawning. -Preparation for winter floods. -Generate power for whole Federal Columbia River Power System.
November	2,060	2,062.5	
December	2,060	2,060.5	

1. NGVD29- National Geodetic Vertical Datum of 1929



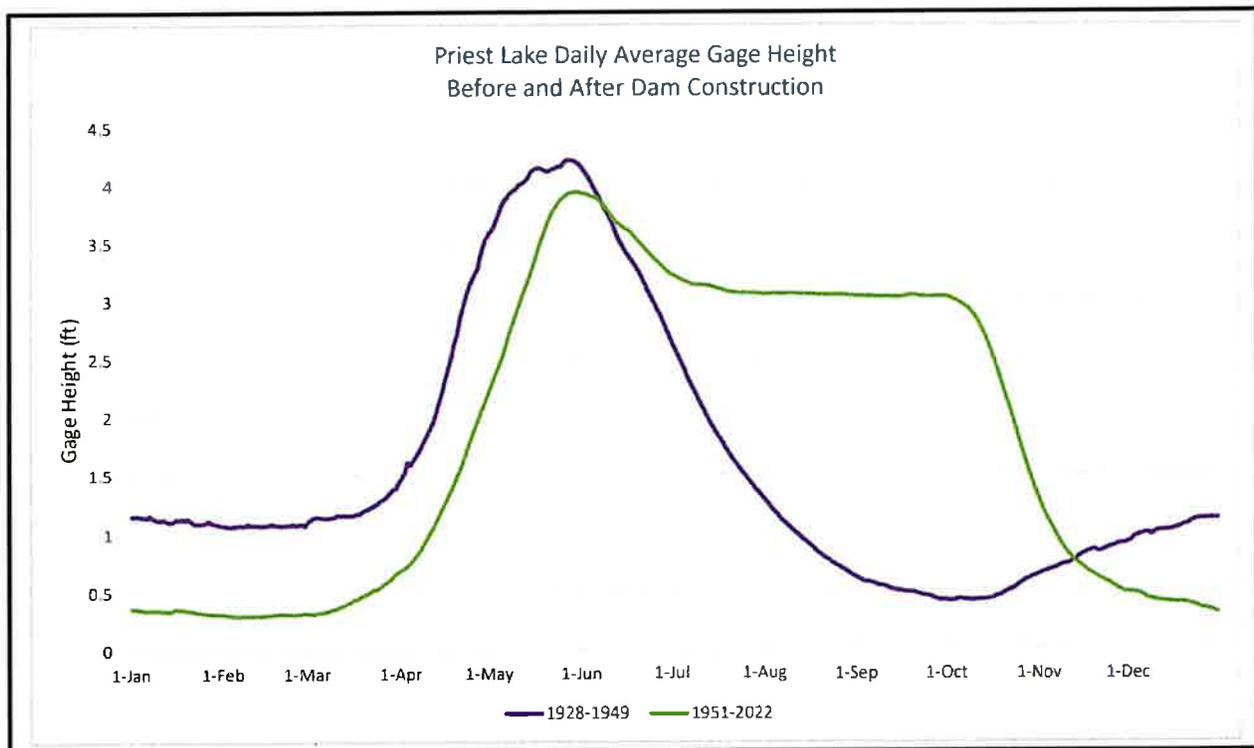
**Appendix C**  
**Outlet Dam Operation**

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**Table 1. Outlet Dam Operation**

Season	Minimum Priest Lake Depth in feet	Maximum Priest Lake Depth in feet	Notes
Winter	0.5	3	-
Spring	0.5	3	-
Summer	3	3.5	No release of water before labor day, latest release will be October 31 annually.
Fall	0.5	3	Release of Priest Lake will begin October 1, 2024, lake to be lowered to 3 feet.

**Figure 1. Priest Lake Dail Average Gage Height Before and After Dam Construction**



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**Appendix D**  
**Gage Height and Discharge Trends**

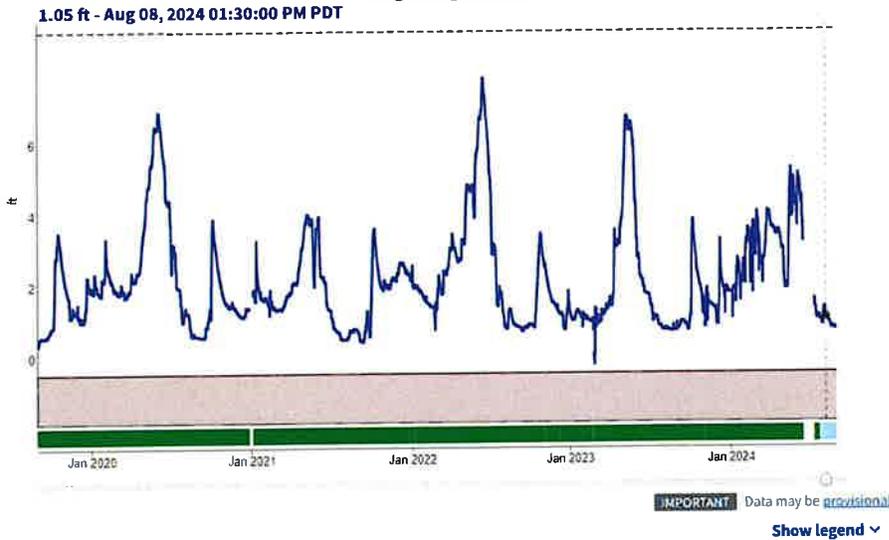
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**Figure 1. Gage #1 Height Trend from 2019-2024**

**Priest River near Priest River, ID - 12395000**

September 1, 2019 - September 1, 2024

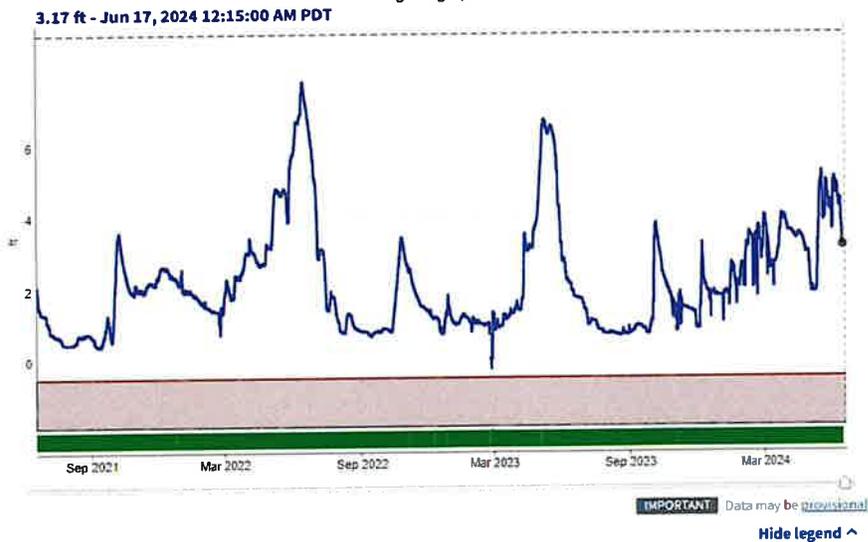
Gage height, feet



**Priest River near Priest River, ID - 12395000**

June 20, 2021 - June 20, 2024

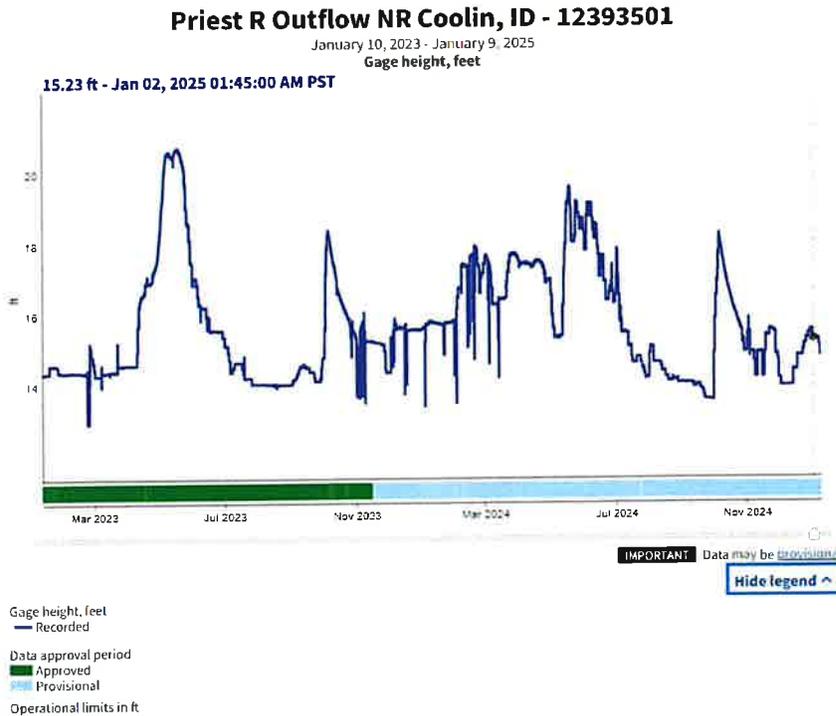
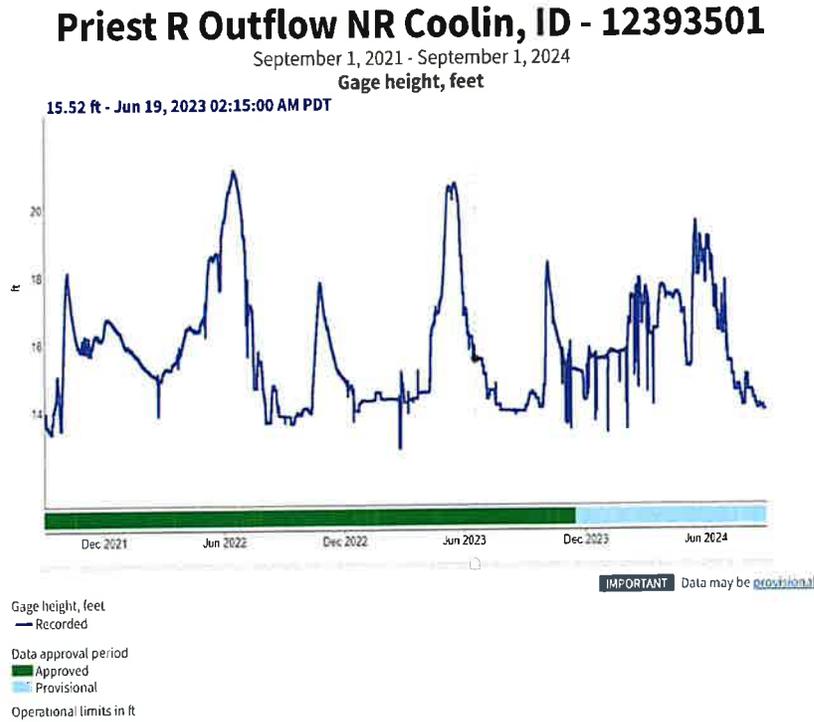
Gage height, feet



Gage height, feet  
 — Recorded  
 Data approval period  
 ■ Approved  
 - - Record high May 18 1997: 9.13 ft  
 Operational limits in ft

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**Figure 2. Gage #2 Height Trend from 2021-2025**



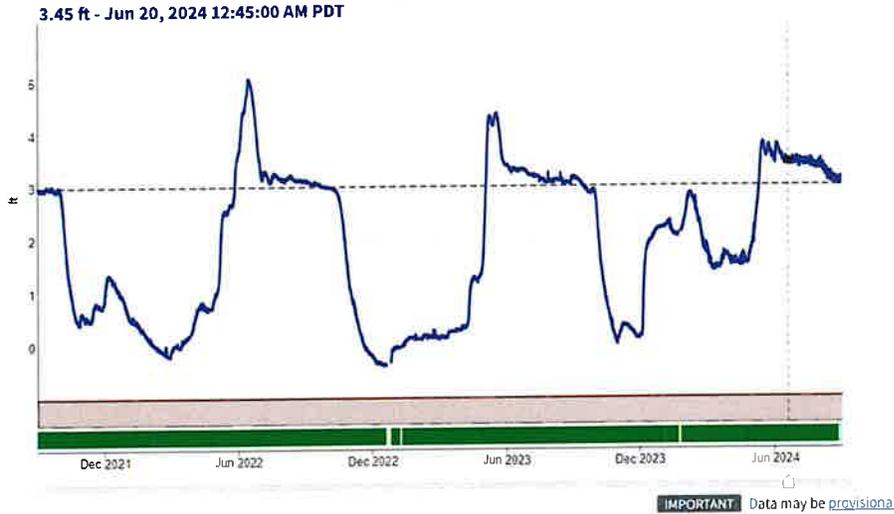
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**Figure 3. Gage #3 Height Trend from 2021-2025**

**Priest Lake at Outlet NR Coolin ID - 12393000**

September 1, 2021 - September 1, 2024

Gage height, feet

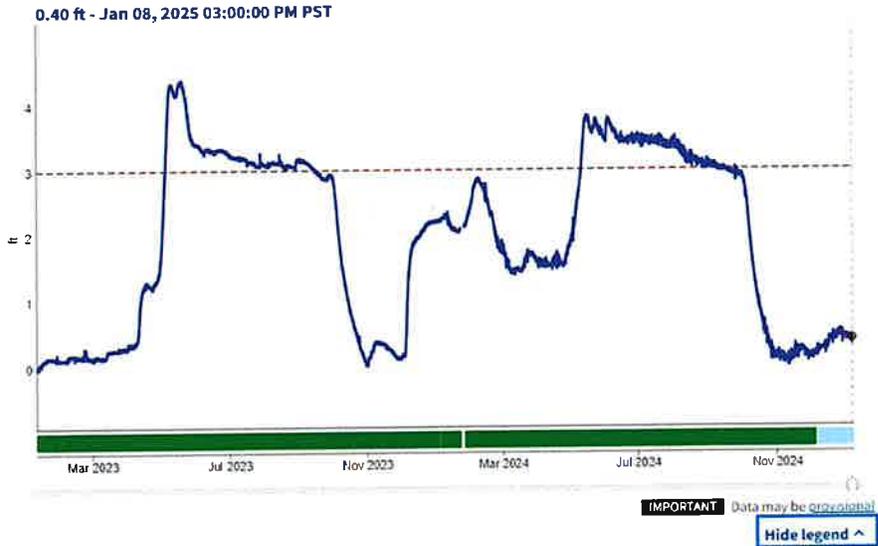


Gage height, feet  
 — Recorded  
 Data approval period  
 ■ Approved  
 ■ Provisional  
 - - Summer Pool Level: 3 ft

**Priest Lake at Outlet NR Coolin ID - 12393000**

January 10, 2023 - January 9, 2025

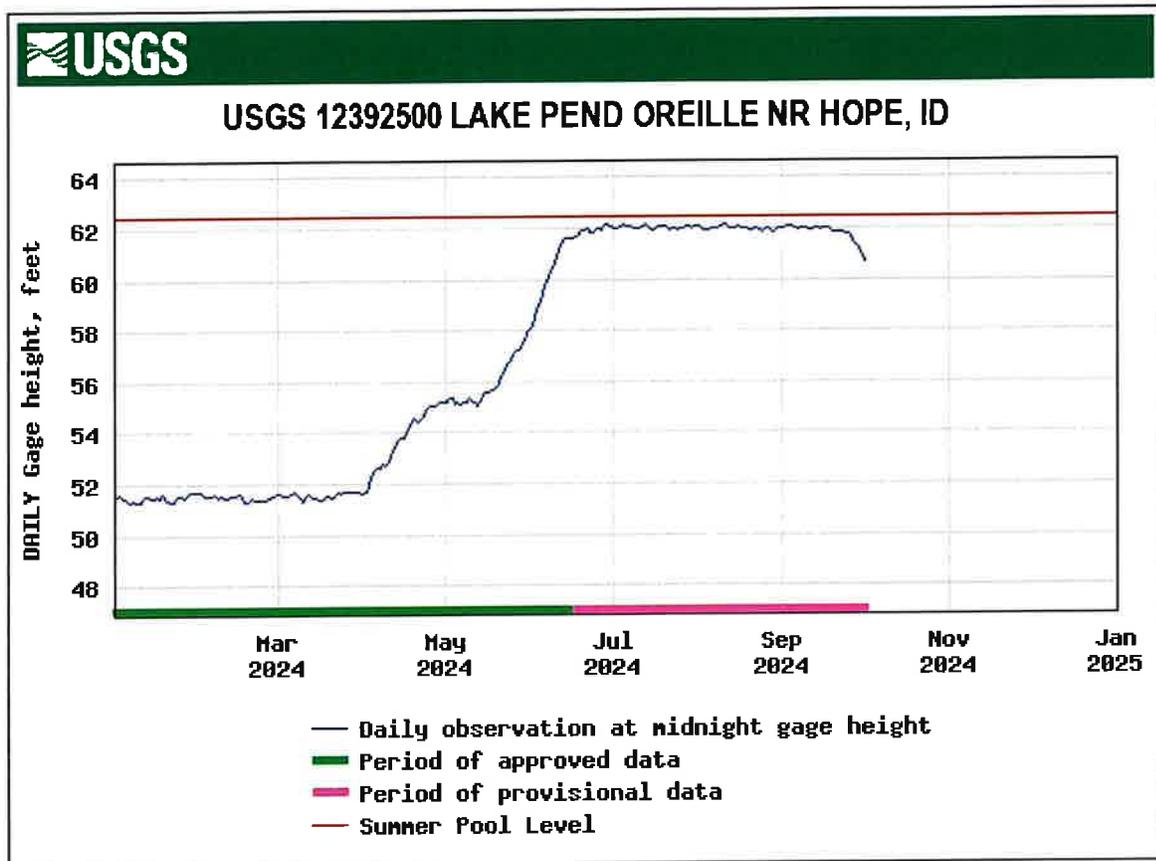
Gage height, feet



Gage height, feet  
 — Recorded  
 Data approval period  
 ■ Approved  
 ■ Provisional  
 - - Summer Pool Level: 3 ft

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Figure 4. Gage #4 Height Trend from 2023-2024



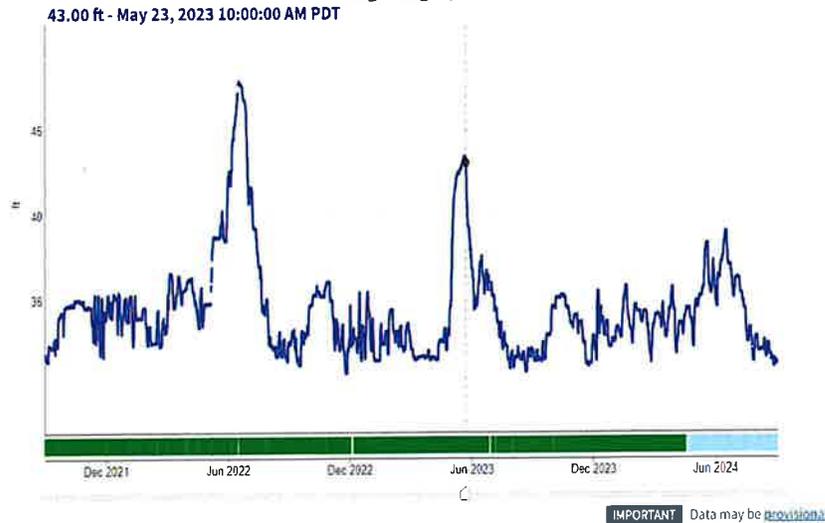
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**Figure 5. Gage #5 Height Trend from 2021-2025**

**Pend Oreille River at Newport WA - 12395500**

September 1, 2021 - September 1, 2024

Gage height, feet

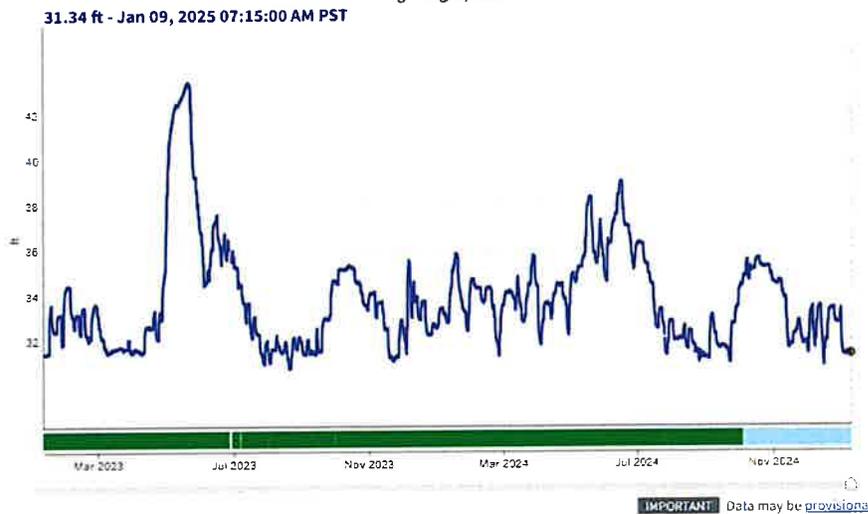


Gage height, feet  
 — Recorded  
 Data approval period  
 ■ Approved  
 ■ Provisional  
 Operational limits in ft

**Pend Oreille River at Newport WA - 12395500**

January 10, 2023 - January 9, 2025

Gage height, feet



Gage height, feet  
 — Recorded  
 Data approval period  
 ■ Approved  
 ■ Provisional  
 Operational limits in ft

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**Appendix E**  
**Wetland Delineation Figures**

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**TETRA TECH, INC.**

April 12, 2024

*Via Electronic Correspondence Only*

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Phone: (208) 433-4476

**SUBJECT: REVIEW OF TWO RIVERS (FORMER JOSLYN) WETLAND DELINEATION LETTER REPORT  
PRIEST RIVER, BONNER COUNTY, IDAHO 83856**

Dear Mr. Schock:

Tetra Tech, Inc. (Tetra Tech) is pleased to submit the attached *Wetland Delineation Letter Report* for the "Joslyn Park" property, now the Two Rivers property, located at the eastern terminus of Railroad Avenue, in a southeast portion of the City of Priest River, in Bonner County, Idaho 83856. This delineation was performed by Tetra Tech subcontractor Mr. Tom Duebendorfer, Biological Consultant of Sandpoint, Idaho. The work was funded through the State of Idaho Brownfields Program. The work was completed to determine the boundaries of wetlands on the two parcels of the subject property ahead of potential redevelopment.

This delineation is respectfully submitted by Tetra Tech to the District for the benefit of the City of Priest River and the Priest River Urban Renewal Agency (PRURA). In addition to Tetra Tech, please include the following persons in the response to this review request:

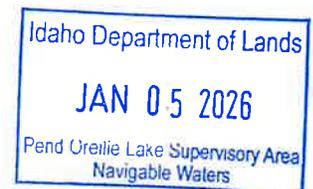
Mayor Jeff Connolly, City of Priest River [jconnolly@priestriver-id.gov](mailto:jconnolly@priestriver-id.gov)  
Chairman Jim Martin, PRURA [jlmartin83856@gmail.com](mailto:jlmartin83856@gmail.com)  
Steve Gill, Brownfields Analyst, IDEQ [steve.gill@deq.idaho.gov](mailto:steve.gill@deq.idaho.gov)  
Eric Traynor, Brownfields Program Manager, IDEQ [eric.traynor@deq.idaho.gov](mailto:eric.traynor@deq.idaho.gov)

On behalf of all, your attention is greatly appreciated! Should there be any interim questions, please feel free to email or call (509) 263-5737 anytime.

Best,

Jon Welge  
Senior Scientist and Project Manager  
Tetra Tech / Spokane

**Attachments:** Wetland Delineation Report



November 2, 2023 (updated from October 5, 2023)



Jon Welge, Senior Environmental Scientist; Tetra Tech  
1212 N. Washington Street, Suite 120, Spokane, WA 99201  
(509) 344-0262; (509) 232-4311; (509) 263-5737  
[jon.welge@tetratech.com](mailto:jon.welge@tetratech.com)

**Re: Wetland Delineation Letter Report for the “Joslyn Park” Properties, Priest River, ID  
RP56N05W250501A; T 56N, R 5W, portion of Section 25 (south parcel), and  
RPR00000250700A; T 56N R 5W portion of Section 25 (north parcel)**

Dear Jon:

Per your request for environmental services, I am submitting this Wetland Delineation Letter Report for the properties referenced above (Figure 1). On July 27, 2022, I delineated wetlands on the north parcel, and on June 12, 2023, I delineated wetlands on the south parcel. I used the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region 2010 (Version 2.0), to determine whether the three required wetland parameters (hydrophytic vegetation, hydric soils, and wetland hydrology) were present to identify an area as a jurisdictional wetland. Eight Data Plots were completed for the north parcel and fifteen Data Plots were completed (for the south parcel). I flagged the wetland boundary points using labelled blue ribbon flagging (on vegetation) and located the points using a submeter GPS unit. The south parcel boundary points were then professionally land surveyed by Welch Comer Associates. The differences between the GPSd points and the formal survey were considered to be insignificant ( $\pm$  3-5 feet).

### Site Conditions

The 10-acre north parcel is undeveloped and its northern boundary abuts Hwy 200 in Priest River, and its south boundary is the railroad. The 38-acre south parcel is undeveloped and its northern boundary abuts the railroad and the eastern boundary abuts the confluence of Priest River and Pend Oreille River (Figure 1). The National Wetland Inventory (NWI) mapped wetlands as occurring on both properties. The 7.5' USGS quad map is Priest River.

### Vegetation

The vegetation consists of three associations:

Upland forest: non-hydrophytic evergreen trees: grandfir (*Abies grandis* [FACU]), hemlock (*Tsuga heterophylla* [FACU]), cedar (*Thuja plicata* [FAC]), Ponderosa pine (*Pinus ponderosa* [FACU]), lodgepole pine (*Pinus contorta* [FAC]), and western white pine (*Pinus monticola* [FACU]) over serviceberry (*Amelanchier alnifolia* [FACU]), snowberry (*Symphoricarpos albus* [FACU]), trailing blackberry (*Rubus ursinus* [FACU]), Oregon grape (*Mahonia repens* [UPL]), with low growing upland weedy species: (ox-eye daisy (*Leucanthemum vulgare* [FACU]), orchardgrass (*Dactylis glomerata* [FACU]), quackgrass (*Elymus repens* [FAC]), tansy (*Tanacetum vulgare* [FACU]), and clover (*Trifolium pratense* [FACU]). This association dominates the southern property and is not hydrophytic.

Riparian shrub: cottonwood (*Populus balsamifera* [FAC]), dogwood (*Cornus alba* [FACW]), alder (*Alnus incana* [FACW]), hawthorn (*Crataegus douglasii* [FAC]), spiraea (*Spiraea douglasii* [FACW]) over canarygrass (*Phalaris arundinacea* [FACW]) and occasional horsetail (*Equisetum arvense* [FAC]) and angelica (*Angelica arguta* [FACW]). This association is located near the Pend Oreille River shoreline and is hydrophytic.

Meadow: dominated by canarygrass with considerable tansy, clover, quackgrass, bluegrass (*Poa pratensis* [FAC]), with occasional cottonwood and lodgepole pine. The association also contains weedy upland species and is in some places hydrophytic and in others, non-hydrophytic. On the north parcel, the western wetland contains considerable cattail (*Typha latifolia* [OBL]).

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\*Wetland Indicator Status; UPL: upland; FACU: facultative upland; FAC: facultative; FACW: facultative wetland; OBL: obligate

## Soils

The Natural Resources Conservation Service (NRCS) identified the property as being underlain by Mission silt loam (not hydric, but may contain hydric inclusions) over the majority of the properties, and Wrencoe silty clay loam (hydric) nearer the Pend Oreille River (Figure 2). The soils investigated in the Data Plots generally ranged from upland forest soils (10YR 4/3 and 4/2) to marginally hydric (2.5Y 4/2 with redoximorphic features) to black saturated soils (in the south parcel along the shoreline). In the northern parcel, Data Plot 5N was completely inundated. According to the National Technical Criteria for Hydric Soils, soils are considered hydric if ponding occurs (NTCHS 2012).

## Hydrology (Figure 2)

### North Parcel:

The National Wetland Inventory (NWI) mapped a large PEM1F (palustrine, emergent, persistent, semi-permanently flooded) wetland occurring in the northern property. It was completely inundated during the July 2022 wetland delineation. There is a culvert under the railroad from this wetland entering the southern property.

### South Parcel:

A PEM1C (palustrine, emergent, persistent, seasonally flooded) wetland occurs as a small, isolated wetland in the western portion of the southern property. A PEM1F (palustrine, emergent, persistent, semi-permanently flooded) wetland was mapped along the Pend Oreille River shoreline. A relatively large band of PFO1C (palustrine, forested, deciduous, seasonally flooded) wetland was mapped along the Pend Oreille River shoreline, as well as Priest River and Pend Oreille River as L1UBH (Figure 2). Hydrology was not observed over the majority of the southern property, except along the shoreline of Pend Oreille River. The culvert connected to the large western wetland in the northern parcel leads to a small excavated pond area in the western portion of the property. This is culverted to the river. I would not consider this southern parcel feature to be regulated.

## Wetland Determination (Figures 3, 4, 5)

### North Parcel:

Based on the site investigations and the Data Plots, I determined that a large wetland encompasses a considerable portion of the parcel (Figures 3, 4). The western portion was inundated and contained considerable cattail. The eastern lobe of the wetland contains canarygrass, Nebraska sedge, and Canada thistle. It showed evidence of ponding. There is a small upland mound within the eastern lobe of the wetland (indicated on Figure 4). The approximate areal extent is 5.47 acres (-0.34 ac [upland inclusion]) = **5.13 acres**.

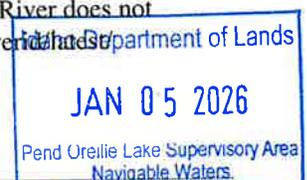
### South Parcel:

An area along the shoreline of Pend Oreille River would be considered wetland (Wetland "A" on Figures 3 and 5). It is dominated by alder, dogwood, hawthorn over canarygrass and meadow foxtail. It contained black, saturated and shallowly inundated soils during high river levels (at full pool) and is bound by a fairly steep slope up to non-hydrophytic and dry slopes. It would be classified as PSS1C (palustrine, scrub-shrub, deciduous, seasonally flooded) with some minor representation by cottonwood. **Wetland "A" is about 3.87 acres (OHWM approximated)**. A second very small isolated depression (Wetland "B") showed a dominance by spiraea bounded by cottonwood. It had surface features indicating short-term seasonal ponding and would be classified as PSS1C. **It is 0.02 acres in extent**.

The upland / wetland boundaries were determined largely by hydrophytic vs non-hydrophytic vegetation, topographic relief, and evidence of or observed hydrology.

## Regulatory Implications

At this time, I am not aware of any intent to fill any of the on-site wetlands. The City of Priest River does not impose building-to-wetland boundary setbacks (<https://codelibrary.amlegal.com/codes/priestriver/id/0-0-0-1>).



**Regulatory Implications - Corps of Engineers**

Under the Section 404 of the Clean Water Act, the US Army Corps of Engineers regulates the discharge of fill or dredged materials into “Waters of the US” (WOTUS). Although the recent (September 9, 2023) EPA definition of WOTUS has changed, an email from Russell Kaiser (Director [Acting]), Oceans, Wetlands and Communities Division, EPA [Kaiser.Russell@epa.gov], clarified that, due to a pending lawsuit, Idaho is still maintaining the “pre-2015” definition of WOTUS. All subsequent guidance submitted by the Corps and EPA (December 2, 2008) is considered valid and identifies federal regulation for WOTUS. This is interpreted as there has been no significant change (in Idaho) regarding which types of wetlands and their connections to “Navigable Waters of the US” are federally regulated. **Isolated wetlands** (those not having a “relatively permanent surface water connection” to navigable waters) **are not considered federally regulated**.

South Parcel:

For this project, only **Wetland “B” would likely be considered isolated** as there are no surface water connections from this wetland to navigable waters. **Wetland “A”** is clearly adjacent the Pend Oreille River and **would be federally regulated**.

North Parcel:

The wetland in the north parcel does have a culvert under the railroad, but the duration of “relatively permanent surface water connection” may not be sufficient to render this wetland federally regulated. Based on Corps guidance (2008), this phrase may include surface water connections with durations as short as 3 months. It is unknown if this wetland has the connection to meet this definition of “relatively permanent surface water connection”.

An approved jurisdictional determination form request is being submitted to the Corps to determine jurisdictionality. Only the Corps can make these determinations.

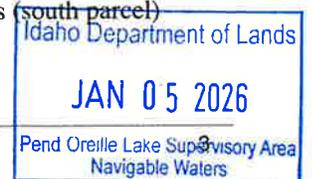
Thank you for requesting my services. Let me know if you have any questions or need additional information.

Sincerely,

Tom Duebendorfer, MA, PWS (Emeritus)

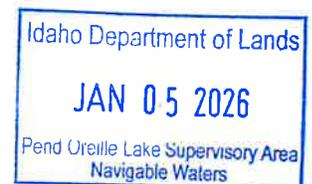


- attachments:      References
- Regulatory Requirements
- Figure 1: Vicinity Map
- Figure 2: National Wetland Inventory and NRCS Soils Map
- Figure 3: Wetland, Data Plot, and Photograph Location Map
- Figure 4: Wetland, Data Plot, and Photograph Location Map - North Parcel
- Figure 5: Wetland, Data Plot, and Photograph Location Map - South Parcel
- Photosheet (south parcel)
- Wetland Boundary Points (North Parcel [Duebendorfer GPS])
- Wetland Boundary Points (South Parcel [Duebendorfer GPS])
- Wetland Boundary Points (South Parcel [Welch Comer Survey])
- Data Plot Forms (23) 2-page forms: 8 Data Plots (north parcel); 15 Data Plots (south parcel)
- Résumé



**References Used** (not necessarily cited):

- Bonner County Viewer (on-line mapping tool) (<https://cloudgisapps.bonnercountyid.gov/public/>).
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Office of Biological Services, Fish and Wildlife Service, U.S. Dept. of the Interior, FWS/OBS-79/31.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.
- ESRI. ArcMap 10.5.1 GIS software. Arrow Series 100 GPS unit.
- Hitchcock, C.L., A. Cronquist, M. Ownbey, and J.W. Thompson. 1977 (and as updated 2018 in 2nd Edition). Vascular Plants of the Pacific Northwest. University of Washington Press. Seattle, Washington (five volumes).
- [https://codelibrary.amlegal.com/codes/priestriverid/latest/priestriver\\_id/0-0-0-1](https://codelibrary.amlegal.com/codes/priestriverid/latest/priestriver_id/0-0-0-1)
- NAIP 2013. National Agricultural Imagery Program. <https://www.fsa.usda.gov/programs-and-services/aerial-photography/imagery-programs/naip-imagery/index>.
- NRCS 2018. Field Indicators of Hydric Soils in the United States, Version 8.0.
- NRCS. US Department of Agriculture, National Resources Conservation Service. Soil Survey (website) (<https://websoilsurvey.nrcs.usda.gov/app/>).
- NTCHS 2012. National Technical Committee for Hydric Soils, Natural Resources Conservation Service. Hydric Soils List Criteria. New NASIS Database Selection Criteria. Federal Register Doc. 2012-4733 Filed 2-28-12
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region 2010 (Version 2.0)
- Vepraskas, M.J. 1992. Redoximorphic Features for Identifying Aquic Conditions. North Carolina Agricultural Research Service. Raleigh, North Carolina.
- US Army Corps of Engineers 2018 [Federal Register/Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations].
- US Army Corps of Engineers. 2018. 33 CFR Part 332 - Compensatory Mitigation for Loss of Aquatic Resources 33 U.S.C. 401 et seq.; 33 U.S.C. 1344; and Pub. L. 108-136.
- US Army Corps of Engineers. 2021. Nationwide Permit 29 Residential Developments Effective Date: March 15, 2021 / Expiration Date: March 15, 2026 Authorities: Sections 10 and 404 (<https://saw-reg.usace.army.mil/NWP2021/NWP29.pdf>).
- USDI. National Wetland Inventory mapping (website) (<https://www.fws.gov/wetlands/data/Mapper.html>).
- USGS. Priest River, ID 7.5' topographic quadrangle (<https://www.usgs.gov/programs/national-geospatial-program/topographic-maps>).



## Regulatory Permitting Process: Types of Permits - Corps of Engineers

Under the Clean Water Act, the Corps has the authority to regulate the discharge or fill or dredged material into "Waters of the US". There are three Permits the Corps uses to regulate fill into wetlands. The Regional General and Individual Permits (not described here) are probably not appropriate for your site.

(1) Nationwide General (NWP): This permit is authorized for specific activities nationwide with minimal impact and minimal evaluation time. The NWPs typically have a ½ acre limit for fill in wetlands and 300 linear foot limit for fill in stream channels. A Pre-Construction Notification application (PCN) must be submitted to the appropriate field office (Walla Walla District). Typically, less than 1/10-acre of wetland fill does not require mitigation (though a PCN is required), and up to ½ acre of wetland fill, requires mitigation. (See below for **compensation methods**.) There are Regional Conditions for Nationwide Permits (<https://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Permits/2017-Nationwide-Permits/>). There are 54 Nationwide Permits each regarding specific activities proposed in wetlands ([www.nww.usace.army.mil/Business-With-Us/Regulatory-Division/Nationwide-Permits/](http://www.nww.usace.army.mil/Business-With-Us/Regulatory-Division/Nationwide-Permits/)).

When any permit application is received, it is evaluated based upon three criteria: avoidance, minimization, and mitigation. Once the applicant meets these criteria, a permit can be issued. Although, technically, the Corps has 45 days with which to respond to permit applications (US Army Corps of Engineers 2021), it is taking Corps presently about 60 days to process permits.

### **Compensation Methods for unavoidable Wetland Impacts**

According to the 2008 Final Mitigation Rule (US Army Corps of Engineers 2018 [Federal Register/Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations]), under § 332.1 (c) the Final Mitigation Rule maintains the requirements set forth in Section 404(b)(1) Guidelines at 40 CFR part 230 which state that *"the permit applicant [is required] to take all appropriate and practicable steps to avoid and minimize adverse impacts to waters of the United States. Practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. Compensatory mitigation for unavoidable impacts may be required to ensure that an activity requiring a section 404 permit complies with the Section 404(b)(1) Guidelines"* (emphasis mine). According to § 230.93 (a)(2), restoration of impacted wetland is the first priority in the compensation sequence followed by purchasing credits (employing the use of approved Wetland Mitigation Banks within the service area) § 230.93 (b)(2) (US Army Corps of Engineers 2018).

The 1999 Montana Wetland Assessment Method is used to calculate the number of Wetland Credits to be purchased from the Valencia Wetland Mitigation Bank (Bank) in Priest River should there be any wetland impacts (fill > 1/10 acre) required as a result of the proposed development. The Assessment will result in a score between 1 and 12. This score is multiplied by the area to be filled. That result is the number of credits required to be purchased from the Bank. Currently one credit costs \$28,000.

**The City of Priest River Ordinance** does not identify any wetland setbacks to development. Any wetland fill may require a permit from the US Army Corps of Engineers.





Priest River

RPPR00000250700A  
(North Parcel)

Hwy 2

RP56N05W250501A  
(South Parcel)

Priest River

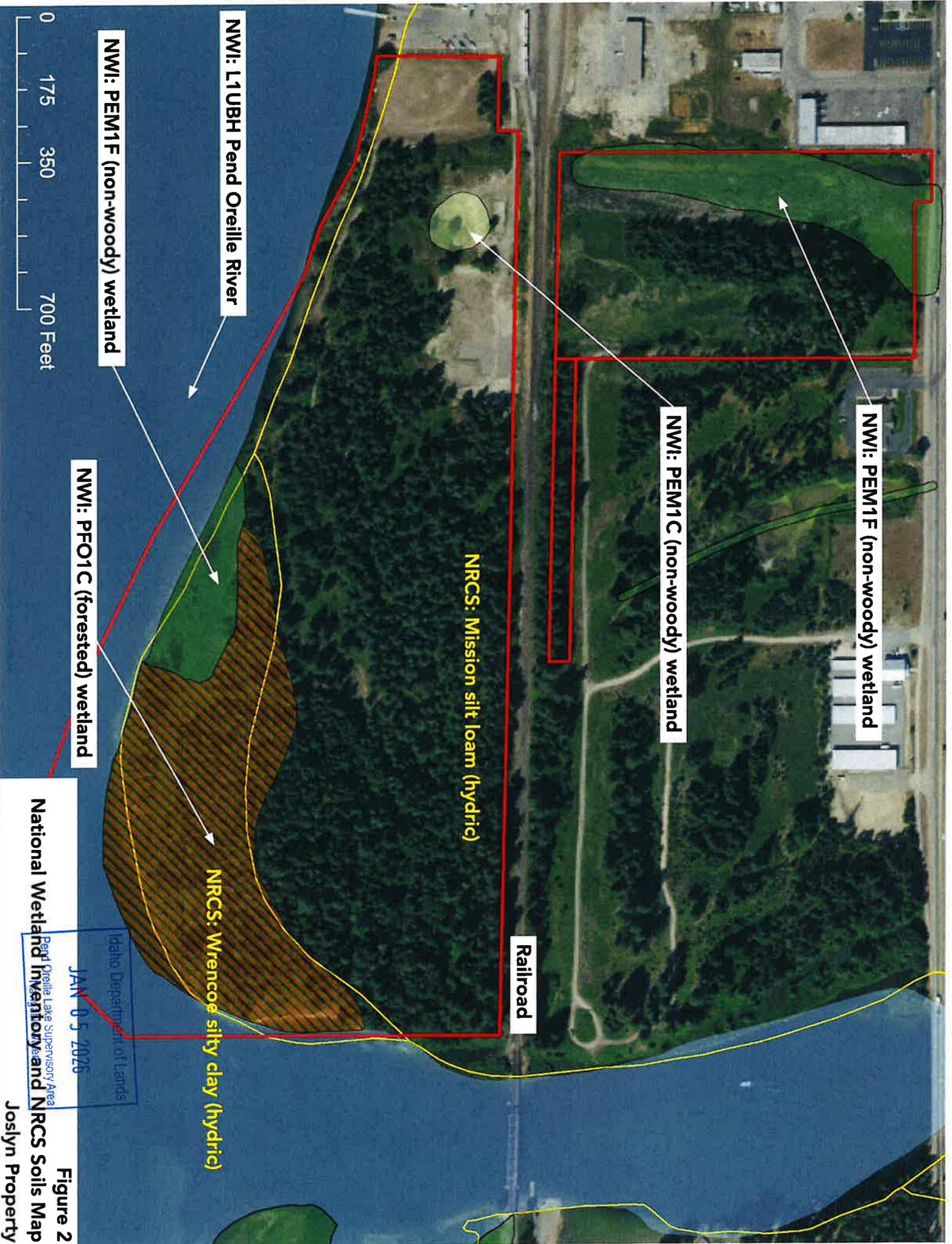
Pend Oreille River

RP56N05W250501A  
RPPR00000250700A  
Priest River - Joslyn Manufacturing  
T 56N, R 5W, portion of Section 25 (GOV LOT 4)

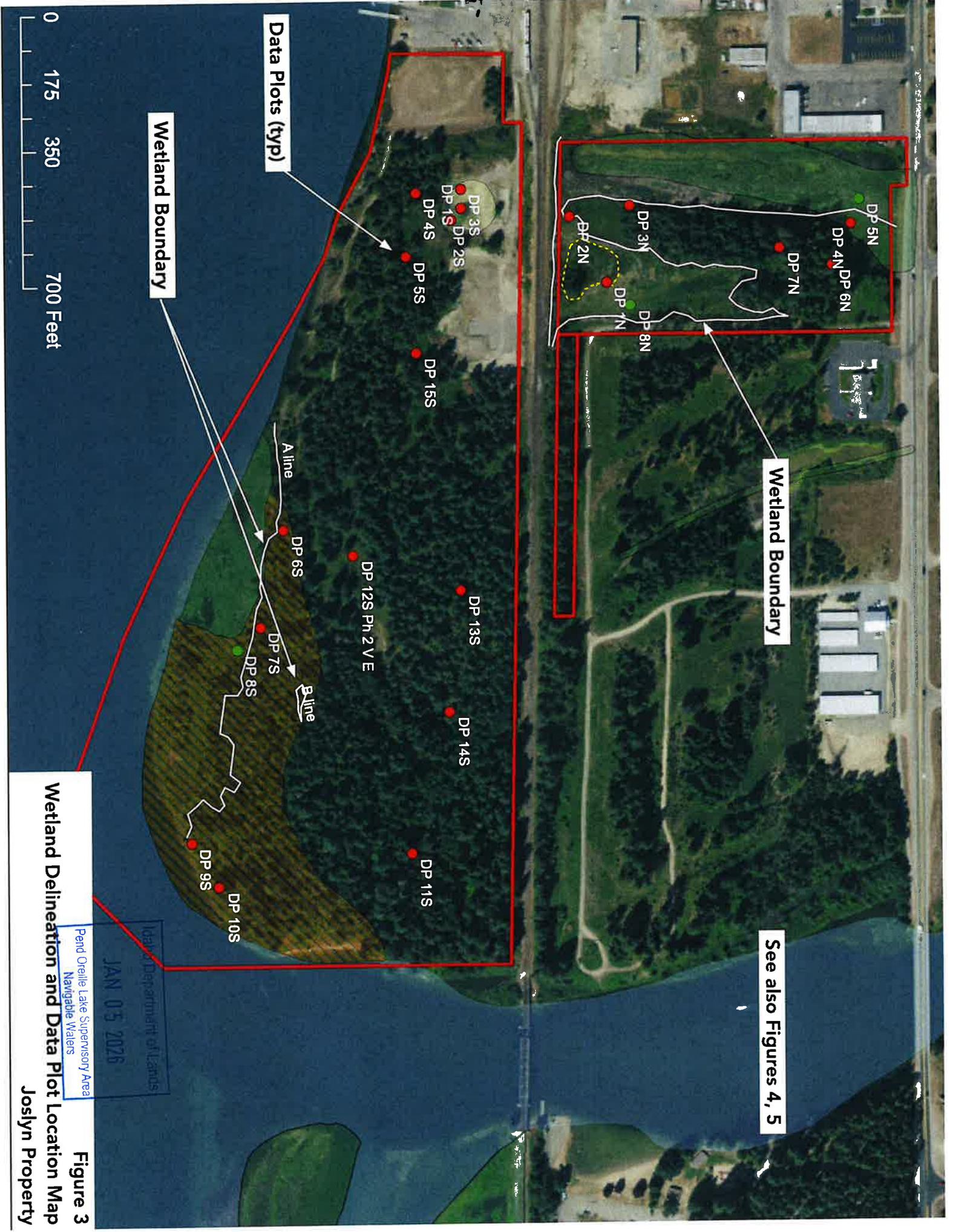
JAN 05 2026  
Pend Oreille Lake Supervisory  
Navigable Waters

0 500 1,000 2,000 Feet

Figure 1  
Vicinity Map  
Joslyn Property



**Figure 2**  
**National Wetland Inventory and NRCS Soils Map**  
 Joslyn Property



See also Figures 4, 5

Wetland Boundary

Data Plots (typ)

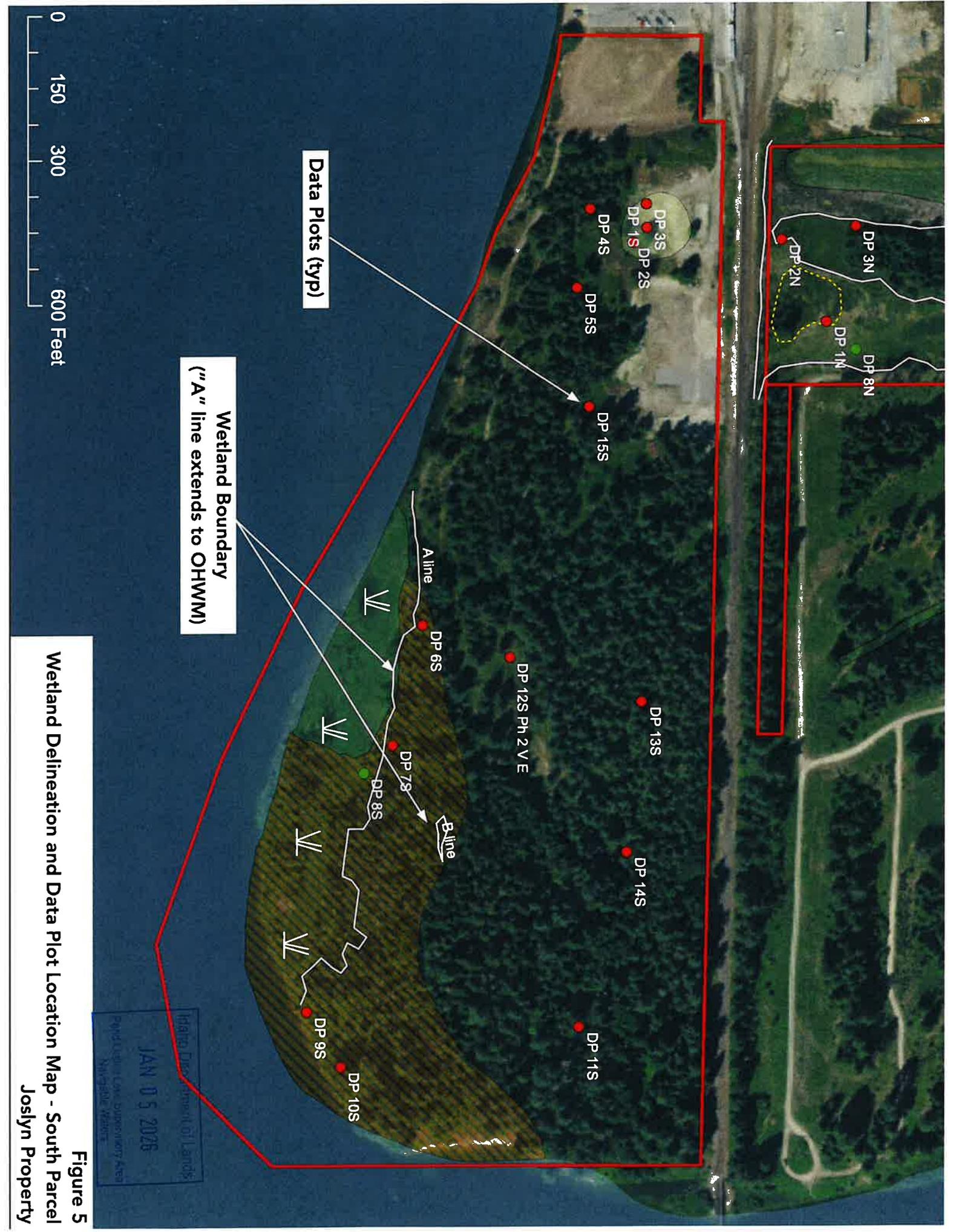
Wetland Boundary

0 175 350 700 Feet

**Figure 3**  
**Wetland Delineation and Data Plot Location Map**  
 Pond Oreille Lake Supervisory Area  
 Navigable Waters  
 Idaho Department of Lands  
 JAN 05 2026  
 Joslyn Property



Figure 4  
 Wetland Delineation and Data Plot Location Map - North Parcel  
 Joslyn Property



Data Plots (typ)

Wetland Boundary  
("A" line extends to OHWM)

Figure 5  
Wetland Delineation and Data Plot Location Map - South Parcel  
Joslyn Property

Idaho Department of Lands  
FIELD OFFICE  
JAN 05 2026  
MOSCOW, IDAHO



Photo 1: View east into Wetland "B" from Wetland Boundary Flag B-5. Small isolated swale with cottonwood and few spiraea. Hydrophytic vegetation and evidence of short-term early season ponding. This wetland depression is small and does not appear to have any surface connections to other areas.



Photo 2: View east into meadow area at Data Plot 12. Ponderosa pine over meadow foxtail and tansy; soils 3/4 (non-hydric), no evidence of ponding.

Idaho Department of Lands  
JAN 05 2026  
Pend Oreille Lake Supervisory Area  
Navigable Waters

**Photosheet  
Joslyn Property  
June 12, 2023**

Joslyn N parcel wet bdy points (Duebendorfer GPS)

type	Ident	Latitude	Longitude	y_proj	x_proj
WET BDY	A1	48.17801427	-116.90294564	5336089.9344233	507215.918171987
WET BDY	A2	48.17798950	-116.90289227	5336087.18632049	507219.888748112
WET BDY	A3	48.17798054	-116.90278022	5336086.20098716	507228.21986323
WET BDY	A4	48.17797355	-116.90265847	5336085.43561714	507237.271837519
WET BDY	A5	48.17797025	-116.90256955	5336085.07651176	507243.882239972
WET BDY	A6	48.17796334	-116.90246169	5336084.31878549	507251.901656484
WET BDY	A7	48.17797098	-116.90237160	5336085.17681793	507258.597442363
WET BDY	A8	48.17797275	-116.90226750	5336085.38366244	507266.33614591
WET BDY	A9	48.17797328	-116.90211533	5336085.45703652	507277.648082583
WET BDY	A10	48.17796234	-116.90197590	5336084.25437978	507288.01422428
WET BDY	A11	48.17795066	-116.90184470	5336082.96791498	507297.769685781
WET BDY	A12	48.17794661	-116.90172405	5336082.52981068	507306.73914945
WET BDY	A13	48.17795061	-116.90161522	5336082.9840325	507314.82887567
WET BDY	A14	48.17795082	-116.90151905	5336083.01667481	507321.977789611
WET BDY	A15	48.17793544	-116.90134242	5336081.3238101	507335.109937929
WET BDY	A16	48.17792914	-116.90113325	5336080.64346312	507350.660258026
WET BDY	A17	48.17791736	-116.90094983	5336079.35158962	507364.297531877
WET BDY	A18	48.17790920	-116.90075428	5336078.46400652	507378.835548264
WET BDY	B1	48.17793355	-116.90074553	5336081.17107157	507379.482331922
WET BDY	B2	48.17797032	-116.90092386	5336085.24139537	507366.22070541
WET BDY	B3	48.17805352	-116.90102051	5336094.47950164	507359.023792437
WET BDY	B4	48.17821840	-116.90105474	5336112.80207576	507356.455825896
WET BDY	B5	48.17839197	-116.90105129	5336132.09482752	507356.686868428
WET BDY	B6	48.17853011	-116.90098023	5336147.45566172	507361.949548278
WET BDY	B7	48.17869475	-116.90098947	5336165.7543046	507361.239596501
WET BDY	B8	48.17879402	-116.90108895	5336176.77909501	507353.830304558
WET BDY	B9	48.17889879	-116.90104355	5336188.42832726	507357.190059357
WET BDY	B10	48.17895203	-116.90098587	5336194.35191851	507361.470555365
WET BDY	B11	48.17910903	-116.90099711	5336211.80080035	507360.612027065
WET BDY	B12	48.17924648	-116.90099049	5336227.07853539	507361.084512854
WET BDY	B13	48.17939166	-116.90099114	5336243.2156485	507361.015709651
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WET BDY	B15	48.17960135	-116.90102416	5336266.51927491	507358.530630115
WET BDY	B16	48.17953592	-116.90105924	5336259.24340077	507355.932547888
WET BDY	B17	48.17949512	-116.90111226	5336254.70317884	507351.997157359
WET BDY	B18	48.17942117	-116.90106703	5336246.4880874	507355.370128872
WET BDY	B19	48.17936509	-116.90107500	5336240.25375682	507354.785589019
WET BDY	B20	48.17928911	-116.90111281	5336231.80529393	507351.985315461
WET BDY	B21	48.17923959	-116.90115327	5336226.2977572	507348.984742856
WET BDY	B22	48.17919057	-116.90122752	5336220.84145795	507343.472477064
WET BDY	B23	48.17922388	-116.90130856	5336224.53634569	507337.443482347

Idaho Department of Lands  
 JAN 05 2026  
 Pend Oreille Lake Supervisory Area  
 Navigable Waters

WET BDY	B24	48.17928005	-116.90139857	5336230.77142409	507330.744163728
WET BDY	B25	48.17937619	-116.90142956	5336241.45473562	507328.427364074
WET BDY	B26	48.17938431	-116.90151062	5336242.34886019	507322.400563994
WET BDY	B27	48.17927515	-116.90155050	5336230.21219011	507319.451523101
WET BDY	B28	48.17917021	-116.90155429	5336218.54808074	507319.184759553
WET BDY	B29	48.17908785	-116.90157877	5336209.39080855	507317.37646608
WET BDY	B30	48.17900705	-116.90155214	5336200.41320182	507319.367384693
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WET BDY	B32	48.17882909	-116.90156849	5336180.63134945	507318.177087729
WET BDY	B33	48.17873430	-116.90161945	5336170.09002912	507314.402390221
WET BDY	B34	48.17862985	-116.90176212	5336158.46699841	507303.811895861
WET BDY	B35	48.17853222	-116.90174405	5336147.61793224	507305.169180106
WET BDY	B36	48.17846902	-116.90175776	5336140.59214233	507304.158564385
WET BDY	B37	48.17839194	-116.90180471	5336132.02016725	507300.679778929
WET BDY	B38	48.17825974	-116.90186963	5336117.31956958	507295.872576495
WET BDY	B39	48.17815722	-116.90192555	5336105.91948051	507291.729429289
WET BDY	B40	48.17816454	-116.90203780	5336106.72201083	507283.384378303
WET BDY	B41	48.17812212	-116.90211715	5336101.99952656	507277.491539386
WET BDY	B42	48.17803573	-116.90207089	5336092.40221922	507280.942462993
WET BDY	B43	48.17801484	-116.90217405	5336090.07067766	507273.276772404
WET BDY	B44	48.17806239	-116.90227749	5336095.34558418	507265.580766
WET BDY	B45	48.17817570	-116.90231116	5336107.93672807	507263.061379611
WET BDY	B46	48.17827755	-116.90232132	5336119.25697197	507262.292066261
WET BDY	B47	48.17839407	-116.90227602	5336132.21162554	507265.643283087
WET BDY	B48	48.17849053	-116.90227332	5336142.93408207	507265.830316794
WET BDY	B49	48.17860979	-116.90223013	5336156.19368053	507269.024209114
WET BDY	B50	48.17874928	-116.90221441	5336171.69949234	507270.172630951
WET BDY	B51	48.17885982	-116.90218632	5336183.98798078	507272.245337014
WET BDY	B52	48.17901020	-116.90220245	5336200.70116135	507271.025225408
WET BDY	B53	48.17909327	-116.90216959	5336209.93723782	507273.45619239
WET BDY	B54	48.17922430	-116.90215096	5336224.50307845	507274.822342868
WET BDY	B55	48.17934675	-116.90213023	5336238.11573564	507276.34609164
WET BDY	B56	48.17945932	-116.90211847	5336250.629074	507277.204062411
WET BDY	B57	48.17960927	-116.90210473	5336267.29634326	507278.204483511
WET BDY	B58	48.17980860	-116.90207540	5336289.45486464	507280.356543857
WET BDY	B59	48.17992812	-116.90210935	5336302.73669875	507277.815936683
WET BDY	B60	48.18008504	-116.90213963	5336320.17545805	507275.542453004
WET BDY	B61	48.18021953	-116.90206070	5336335.13125388	507281.390847745
WET BDY	B62	48.18037968	-116.90194701	5336352.9417947	507289.819748601
WET BDY	Culv	48.17898509	-116.90304439	5336197.83078234	507208.441265447
WET BDY	DP 1	48.17832072	-116.90140687	5336124.1420943	507330.264553688
WET BDY	DP 2	48.17806720	-116.90210563	5336095.89641296	507278.355972512
WET BDY	DP 3	48.17848950	-116.90221737	5336142.82410803	507269.989205455
WET BDY	DP 4	48.18005706	-116.90199644	5336317.07880206	507286.190466599

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<b>WET BDY</b>	DP 5	48.18011729	-116.90225303	5336323.74845894	507267.108810558
<b>WET BDY</b>	DP 6	48.17991444	-116.90156141	5336301.26796134	507318.549169378
<b>WET BDY</b>	DP 7	48.17954359	-116.90175109	5336260.02966451	507304.501828553
<b>WET BDY</b>	DP 8	48.17848844	-116.90116807	5336142.80598034	507347.99188687
<b>WET BDY</b>	Metal St	48.17810349	-116.90084519	5336100.05062875	507372.049694249
<b>WET BDY</b>	Stake W	48.17976618	-116.90085322	5336284.85635228	507371.214120905
<b>WET BDY</b>	Tavu 10	48.18022519	-116.90183254	5336335.78217564	507298.350425845
<b>WET BDY</b>	U1	48.17807404	-116.90179700	5336096.6858742	507301.297723832
<b>WET BDY</b>	U2	48.17813902	-116.90187562	5336103.90157828	507295.444390724
<b>WET BDY</b>	U3	48.17823272	-116.90181328	5336114.32158944	507300.064957585
<b>WET BDY</b>	U4	48.17834237	-116.90175067	5336126.51579569	507304.703770003
<b>WET BDY</b>	U5	48.17839956	-116.90167092	5336132.87909454	507310.623826204
<b>WET BDY</b>	U6	48.17840539	-116.90148178	5336133.5454841	507324.683620541
<b>WET BDY</b>	U7	48.17836179	-116.90137525	5336128.70921312	507332.608760202
<b>WET BDY</b>	U8	48.17825127	-116.90139526	5336116.42375333	507331.137345535
<b>WET BDY</b>	U9	48.17817222	-116.90133650	5336107.64317253	507335.516346808
<b>WET BDY</b>	U10	48.17812547	-116.90124197	5336102.45500301	507342.550578735
<b>WET BDY</b>	U11	48.17804932	-116.90123099	5336093.99244146	507343.377847694
<b>WET BDY</b>	U12	48.17800886	-116.90138900	5336089.48063561	507331.636981348
<b>WET BDY</b>	U13	48.17803728	-116.90159521	5336092.61953796	507316.303945266

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Joslyn N parcel wet bdy points (Duebendorfer GPS)

type	ident	Latitude	Longitude	y_proj	x_proj
WET BDY	A1	48.17801427	-116.90294564	5336089.9344233	507215.918171987
WET BDY	A2	48.17798950	-116.90289227	5336087.18632049	507219.888748112
WET BDY	A3	48.17798054	-116.90278022	5336086.20098716	507228.21986323
WET BDY	A4	48.17797355	-116.90265847	5336085.43561714	507237.271837519
WET BDY	A5	48.17797025	-116.90256955	5336085.07651176	507243.882239972
WET BDY	A6	48.17796334	-116.90246169	5336084.31878549	507251.901656484
WET BDY	A7	48.17797098	-116.90237160	5336085.17681793	507258.597442363
WET BDY	A8	48.17797275	-116.90226750	5336085.38366244	507266.33614591
WET BDY	A9	48.17797328	-116.90211533	5336085.45703652	507277.648082583
WET BDY	A10	48.17796234	-116.90197590	5336084.25437978	507288.01422428
WET BDY	A11	48.17795066	-116.90184470	5336082.96791498	507297.769685781
WET BDY	A12	48.17794661	-116.90172405	5336082.52981068	507306.73914945
WET BDY	A13	48.17795061	-116.90161522	5336082.9840325	507314.82887567
WET BDY	A14	48.17795082	-116.90151905	5336083.01667481	507321.977789611
WET BDY	A15	48.17793544	-116.90134242	5336081.3238101	507335.109937929
WET BDY	A16	48.17792914	-116.90113325	5336080.64346312	507350.660258026
WET BDY	A17	48.17791736	-116.90094983	5336079.35158962	507364.297531877
WET BDY	A18	48.17790920	-116.90075428	5336078.46400652	507378.835548264
WET BDY	B1	48.17793355	-116.90074553	5336081.17107157	507379.482331922
WET BDY	B2	48.17797032	-116.90092386	5336085.24139537	507366.22070541
WET BDY	B3	48.17805352	-116.90102051	5336094.47950164	507359.023792437
WET BDY	B4	48.17821840	-116.90105474	5336112.80207576	507356.455825896
WET BDY	B5	48.17839197	-116.90105129	5336132.09482752	507356.686868428
WET BDY	B6	48.17853011	-116.90098023	5336147.45566172	507361.949548278
WET BDY	B7	48.17869475	-116.90098947	5336165.7543046	507361.239596501
WET BDY	B8	48.17879402	-116.90108895	5336176.77909501	507353.830304558
WET BDY	B9	48.17889879	-116.90104355	5336188.42832726	507357.190059357
WET BDY	B10	48.17895203	-116.90098587	5336194.35191851	507361.470555365
WET BDY	B11	48.17910903	-116.90099711	5336211.80080035	507360.612027065
WET BDY	B12	48.17924648	-116.90099049	5336227.07853539	507361.084512854
WET BDY	B13	48.17939166	-116.90099114	5336243.2156485	507361.015709651
WET BDY	B14	48.17952493	-116.90102718	5336258.02471555	507358.317701739
WET BDY	B15	48.17960135	-116.90102416	5336266.51927491	507358.530630115
WET BDY	B16	48.17953592	-116.90105924	5336259.24340077	507355.932547888
WET BDY	B17	48.17949512	-116.90111226	5336254.70317884	507351.997157359
WET BDY	B18	48.17942117	-116.90106703	5336246.4880874	507355.370128872
WET BDY	B19	48.17936509	-116.90107500	5336240.25375682	507354.785589019
WET BDY	B20	48.17928911	-116.90111281	5336231.80529393	507351.985315461
WET BDY	B21	48.17923959	-116.90115327	5336226.2977572	507348.984742856
WET BDY	B22	48.17919057	-116.90122752	5336220.84145795	507343.472477064
WET BDY	B23	48.17922388	-116.90130856	5336224.53634569	507337.443482347

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WET BDY	B24	48.17928005	-116.90139857	5336230.77142409	507330.744163728
WET BDY	B25	48.17937619	-116.90142956	5336241.45473562	507328.427364074
WET BDY	B26	48.17938431	-116.90151062	5336242.34886019	507322.400563994
WET BDY	B27	48.17927515	-116.90155050	5336230.21219011	507319.451523101
WET BDY	B28	48.17917021	-116.90155429	5336218.54808074	507319.184759553
WET BDY	B29	48.17908785	-116.90157877	5336209.39080855	507317.37646608
WET BDY	B30	48.17900705	-116.90155214	5336200.41320182	507319.367384693
WET BDY	B31	48.17892594	-116.90159974	5336191.39246314	507315.840566966
WET BDY	B32	48.17882909	-116.90156849	5336180.63134945	507318.177087729
WET BDY	B33	48.17873430	-116.90161945	5336170.09002912	507314.402390221
WET BDY	B34	48.17862985	-116.90176212	5336158.46699841	507303.811895861
WET BDY	B35	48.17853222	-116.90174405	5336147.61793224	507305.169180106
WET BDY	B36	48.17846902	-116.90175776	5336140.59214233	507304.158564385
WET BDY	B37	48.17839194	-116.90180471	5336132.02016725	507300.679778929
WET BDY	B38	48.17825974	-116.90186963	5336117.31956958	507295.872576495
WET BDY	B39	48.17815722	-116.90192555	5336105.91948051	507291.729429289
WET BDY	B40	48.17816454	-116.90203780	5336106.72201083	507283.384378303
WET BDY	B41	48.17812212	-116.90211715	5336101.99952656	507277.491539386
WET BDY	B42	48.17803573	-116.90207089	5336092.40221922	507280.942462993
WET BDY	B43	48.17801484	-116.90217405	5336090.07067766	507273.276772404
WET BDY	B44	48.17806239	-116.90227749	5336095.34558418	507265.580766
WET BDY	B45	48.17817570	-116.90231116	5336107.93672807	507263.061379611
WET BDY	B46	48.17827755	-116.90232132	5336119.25697197	507262.292066261
WET BDY	B47	48.17839407	-116.90227602	5336132.21162554	507265.643283087
WET BDY	B48	48.17849053	-116.90227332	5336142.93408207	507265.830316794
WET BDY	B49	48.17860979	-116.90223013	5336156.19368053	507269.024209114
WET BDY	B50	48.17874928	-116.90221441	5336171.69949234	507270.172630951
WET BDY	B51	48.17885982	-116.90218632	5336183.98798078	507272.245337014
WET BDY	B52	48.17901020	-116.90220245	5336200.70116135	507271.025225408
WET BDY	B53	48.17909327	-116.90216959	5336209.93723782	507273.45619239
WET BDY	B54	48.17922430	-116.90215096	5336224.50307845	507274.822342868
WET BDY	B55	48.17934675	-116.90213023	5336238.11573564	507276.34609164
WET BDY	B56	48.17945932	-116.90211847	5336250.629074	507277.204062411
WET BDY	B57	48.17960927	-116.90210473	5336267.29634326	507278.204483511
WET BDY	B58	48.17980860	-116.90207540	5336289.45486464	507280.356543857
WET BDY	B59	48.17992812	-116.90210935	5336302.73669875	507277.815936683
WET BDY	B60	48.18008504	-116.90213963	5336320.17545805	507275.542453004
WET BDY	B61	48.18021953	-116.90206070	5336335.13125388	507281.390847745
WET BDY	B62	48.18037968	-116.90194701	5336352.9417947	507289.819748601
WET BDY	Culv	48.17898509	-116.90304439	5336197.83078234	507208.441265447
WET BDY	DP 1	48.17832072	-116.90140687	5336124.1420943	507330.264553688
WET BDY	DP 2	48.17806720	-116.90210563	5336095.89641296	507278.355972512
WET BDY	DP 3	48.17848950	-116.90221737	5336142.82410803	507269.989205455
WET BDY	DP 4	48.18005706	-116.90199644	5336317.07880206	507286.190460599

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<b>WET BDY</b>	DP 5	48.18011729	-116.90225303	5336323.74845894	507267.108810558
<b>WET BDY</b>	DP 6	48.17991444	-116.90156141	5336301.26796134	507318.549169378
<b>WET BDY</b>	DP 7	48.17954359	-116.90175109	5336260.02966451	507304.501828553
<b>WET BDY</b>	DP 8	48.17848844	-116.90116807	5336142.80598034	507347.99188687
<b>WET BDY</b>	Metal St	48.17810349	-116.90084519	5336100.05062875	507372.049694249
<b>WET BDY</b>	Stake W	48.17976618	-116.90085322	5336284.85635228	507371.214120905
<b>WET BDY</b>	Tavu 10	48.18022519	-116.90183254	5336335.78217564	507298.350425845
<b>WET BDY</b>	U1	48.17807404	-116.90179700	5336096.6858742	507301.297723832
<b>WET BDY</b>	U2	48.17813902	-116.90187562	5336103.90157828	507295.444390724
<b>WET BDY</b>	U3	48.17823272	-116.90181328	5336114.32158944	507300.064957585
<b>WET BDY</b>	U4	48.17834237	-116.90175067	5336126.51579569	507304.703770003
<b>WET BDY</b>	U5	48.17839956	-116.90167092	5336132.87909454	507310.623826204
<b>WET BDY</b>	U6	48.17840539	-116.90148178	5336133.5454841	507324.683620541
<b>WET BDY</b>	U7	48.17836179	-116.90137525	5336128.70921312	507332.608760202
<b>WET BDY</b>	U8	48.17825127	-116.90139526	5336116.42375333	507331.137345535
<b>WET BDY</b>	U9	48.17817222	-116.90133650	5336107.64317253	507335.516346808
<b>WET BDY</b>	U10	48.17812547	-116.90124197	5336102.45500301	507342.550578735
<b>WET BDY</b>	U11	48.17804932	-116.90123099	5336093.99244146	507343.377847694
<b>WET BDY</b>	U12	48.17800886	-116.90138900	5336089.48063561	507331.636981348
<b>WET BDY</b>	U13	48.17803728	-116.90159521	5336092.61953796	507316.303945266

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### Southern Parcel Wet Pts (Welch Comer Survey)

type	Ident	Latitude	Longitude	y_proj	x_proj
WET BDY	W1	48.1777627851	-116.9028298772	5336061.99287223	507224.559033874
WET BDY	W2	48.1777564087	-116.9028205386	5336061.28501744	507225.254150605
WET BDY	W3	48.1777486749	-116.9028078364	5336060.42660478	507226.199504498
WET BDY	W4	48.177748438	-116.9027868316	5336060.40224767	507227.761011159
WET BDY	W5	48.1777514025	-116.9027772095	5336060.73265419	507228.475890654
WET BDY	W6	48.177757816	-116.902772048	5336061.44599529	507228.858689287
WET BDY	W7	48.177768613	-116.9027693282	5336062.64632972	507229.05935846
WET BDY	W8	48.177744863	-116.9027671588	5336063.29934673	507229.219803567
WET BDY	W9	48.1777796527	-116.9027714373	5336063.87318612	507228.901018616
WET BDY	W10	48.1777813799	-116.902781216	5336064.06424389	507228.173838664
WET BDY	W11	48.1777878038	-116.9027903279	5336064.77739924	507227.495567844
WET BDY	W12	48.1777855211	-116.9028045694	5336064.52234028	507226.437192201
WET BDY	W13	48.1777749968	-116.9028191058	5336063.35120593	507225.358051833
WET BDY	W14	48.1778174704	-116.9028433549	5336068.06983759	507223.549435971
WET BDY	W15	48.1778310366	-116.9028086883	5336069.58096813	507226.124602673
WET BDY	W16	48.1778290366	-116.9027472075	5336069.36444906	507230.69529054
WET BDY	W17	48.1778263461	-116.9026861959	5336069.07114092	507235.231196155
WET BDY	W18	48.1778251596	-116.9026102099	5336068.94641486	507240.88006903
WET BDY	W19	48.1759556176	-116.8999620579	5335861.40096613	507438.010813305
WET BDY	W20	48.1759463696	-116.8998172349	5335860.38707654	507448.778508017
WET BDY	W21	48.175962147	-116.8997182292	5335862.15031778	507456.136451758
WET BDY	W22	48.1759637921	-116.8995807133	5335862.3465126	507466.35934638
WET BDY	W23	48.1759716191	-116.8994851574	5335863.22576028	507473.461974394
WET BDY	W24	48.1759874835	-116.8993493705	5335865.00228221	507483.554261218
WET BDY	W25	48.1759914138	-116.8991395691	5335865.4595713	507499.15062384
WET BDY	W26	48.1759841799	-116.8990149221	5335864.6676923	507508.418115183
WET BDY	W27	48.1759566874	-116.8989069033	5335861.62247482	507516.452405439
WET BDY	W28	48.175971001	-116.8988108266	5335863.22281637	507523.592794941
WET BDY	W29	48.1759174135	-116.8987418049	5335857.27336195	507528.731812661
WET BDY	W30	48.1758721434	-116.8985948905	5335852.25601931	507539.660290242
WET BDY	W31	48.1758459428	-116.8984524666	5335849.35781705	507550.252156378
WET BDY	W32	48.1758444025	-116.8983149039	5335849.20012998	507560.479018492

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 Navigable Waters

WET BDY	W33	48.175829529	-116.8982213062	5335847.55615862	507567.43941294
WET BDY	W34	48.1758465128	-116.8981204246	5335849.45382784	507574.936616756
WET BDY	W35	48.1758049704	-116.8979935821	5335844.84892464	507584.372421213
WET BDY	W36	48.1757940328	-116.8978542573	5335843.64696993	507594.731677646
WET BDY	W37	48.1757774815	-116.897691642	5335841.82337923	507606.823224655
WET BDY	W38	48.1757672965	-116.8975826255	5335840.70211428	507614.929207984
WET BDY	W39	48.1757355642	-116.8974156149	5335837.19164573	507627.349773498
WET BDY	W40	48.1755734879	-116.8961073362	5335819.30758521	507724.633898508
WET BDY	W41	48.1756798708	-116.8961657742	5335831.12609415	507720.273530397
WET BDY	W42	48.1756427024	-116.8960567463	5335827.005807	507728.384453675
WET BDY	W43	48.1756150114	-116.8962446219	5335823.90910838	507714.42157323
WET BDY	W44	48.175631082	-116.8964049027	5335825.67927589	507702.503576722
WET BDY	W45	48.1753052073	-116.8955812354	5335789.54138686	507763.785795069
WET BDY	W46	48.1756084067	-116.8966494448	5335823.13446743	507684.327229818
WET BDY	W47	48.1761295156	-116.8971934481	5335881.00110462	507643.80750163
WET BDY	W48	48.1760847695	-116.8971479771	5335876.03213056	507647.194524562
WET BDY	W49	48.1761166691	-116.8967927869	5335879.61313117	507673.595061648
WET BDY	W50	48.1760909723	-116.8969172588	5335876.74453748	507664.345495544
WET BDY	W51	48.1761215585	-116.8969511569	5335880.1407923	507661.820910963
WET BDY	W52	48.1760891325	-116.8970394153	5335876.52787674	507655.264499072
WET BDY	W53	48.1761451385	-116.8970888843	5335882.74797757	507651.578578047
WET BDY	W54	48.1753359015	-116.8957122548	5335792.93980349	507754.040869146
WET BDY	W55	48.1753147415	-116.8958341617	5335790.57560027	507744.981207775
WET BDY	W56	48.1753723081	-116.89592507	5335796.96493112	507738.214205455
WET BDY	W57	48.1754163132	-116.8959912228	5335801.84940907	507733.289636507
WET BDY	W58	48.1754813226	-116.8959022456	5335809.0841058	507739.894618915
WET BDY	W59	48.1755323995	-116.8958463619	5335814.76689032	507744.041443258
WET BDY	W60	48.1755809384	-116.8959143879	5335820.15510323	507738.976944919
WET BDY	W61	48.17554502	-116.8960148437	5335816.15269551	507731.514257762
WET BDY	W62	48.1756347845	-116.8965579915	5335826.07548273	507691.122104265
WET BDY	W63	48.1755525648	-116.896688944	5335816.9237367	507681.399121277
WET BDY	W64	48.1755645322	-116.8968285664	5335818.23996615	507671.017520051
WET BDY	W65	48.1755683866	-116.8969560385	5335818.65567126	507661.540410064
WET BDY	W66	48.1756675034	-116.8970789157	5335829.660192	507652.390721879
WET BDY	W67	48.1757020823	-116.8971560645	5335833.4959356	507646.650193231

Idaho Department of Lands  
 JAN 05 2026  
 Pend Oreille Lake Supervisory Area  
 Navigable Waters

<b>WET BDY</b>	W68	48.1757014829	-116.8972770141	5335833.41729245	507637.65866641
<b>WET BDY</b>	W69	48.1755781656	-116.8970779788	5335819.73045731	507652.473665209

Idaho Department of Lands  
**JAN 05 2026**  
Pend Oreille Lake Supervisory Area  
Navigable Waters

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Priest River Property (RPR00000250700A) City/County: Priest River Sampling Date: 27-Jul-22  
 Applicant/Owner: City of Priest River (Welch Corner) State: ID Sampling Point: DP 1N  
 Investigator(s): Tom Duebendorfer, PWS Section, Township, Range: S 25 T 56N R 5W  
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): convex Slope: 0.0 % / 0.0 °  
 Subregion (LRR): LRR E Lat.: 48°10'42.0"N Long.: 116°54'05.1"W Datum: WGS 84  
 Soil Map Unit Name: Mission silt loam NWI classification: none

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

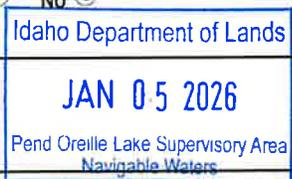
**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: None of three required parameters observed - plot not in wetland.	

**VEGETATION - Use scientific names of plants.**

Stratum	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>50</u> x 5 = <u>250</u> Column Totals: <u>150</u> (A) <u>510</u> (B) Prevalence Index = B/A = <u>3.400</u>
<b>= Total Cover</b>				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>= Total Cover</b>				
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Phalaris arundinacea</u>	60	<input checked="" type="checkbox"/> 40.0%	FACW	
2. <u>Linaria vulgaris</u>	50	<input checked="" type="checkbox"/> 33.3%	UPL	
3. <u>Agrostis stolonifera</u>	20	<input type="checkbox"/> 13.3%	FAC	
4. <u>Tanacetum vulgare</u>	15	<input type="checkbox"/> 10.0%	FACU	
5. <u>Trifolium pratense</u>	5	<input type="checkbox"/> 3.3%	FACU	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>= Total Cover</b>				
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>= Total Cover</b>				
% Bare Ground in Herb Stratum: <u>0</u>				

Remarks:  
 Vegetation is not hydrophytic - neither test met



<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: **DP 1 N**

**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>		
0-14	10YR	4/2	100%				Silt Loam	

<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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Muck Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p>	<p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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<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:  
No hydric indicators

**Hydrology**

<b>Wetland Hydrology Indicators:</b>		
<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input 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 on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input 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) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<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     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, monitor well, aerial photos, previous inspections), if available:

Remarks:  
hydrology not expected - topography does not indicate ponding likely to occur



**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Priest River Property (RPR00000250700A) City/County: Priest River Sampling Date: 27-Jul-22  
 Applicant/Owner: City of Priest River (Welch Comer) State: ID Sampling Point: DP 2 N  
 Investigator(s): Tom Duebendorfer, PWS Section, Township, Range: S 25 T 56N R 5W  
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): convex Slope: 0.0% / 0.0°  
 Subregion (LRR): LRR E Lat.: 48°10'41.0"N Long.: 116°54'07.6"W Datum: WGS 84  
 Soil Map Unit Name: Mission silt loam NWI classification: none

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

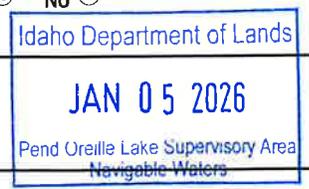
**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks:</b> Although vegetation is hydrophytic; soils do not show hydric indicators; and hydrology not observed nor likely. Plot located on higher mounded area and not in wetland.	

**VEGETATION - Use scientific names of plants.**

Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)
1. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	<b>= Total Cover</b>		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b>
1. <u>Spiraea douglasii</u>	100	<input checked="" type="checkbox"/> 100.0%	FACW	Total % Cover of: Multiply by:
2. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>120</u> x 2 = <u>240</u>
4. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
5. _____	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
	100	<b>= Total Cover</b>		UPL species <u>0</u> x 5 = <u>0</u>
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				Column Totals: <u>120</u> (A) <u>240</u> (B)
1. <u>Phalaris arundinacea</u>	20	<input checked="" type="checkbox"/> 100.0%	FACW	Prevalence Index = B/A = <u>2.000</u>
2. _____		<input type="checkbox"/> 0.0%	_____	
3. _____		<input type="checkbox"/> 0.0%	_____	
4. _____		<input type="checkbox"/> 0.0%	_____	
5. _____		<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
	20	<b>= Total Cover</b>		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	<b>= Total Cover</b>		
<b>% Bare Ground in Herb Stratum:</b> <u>0</u>				

**Remarks:**  
 Vegetation is hydrophytic - both tests met



**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>		
0-14	10YR	4/2	100%				Silt Loam	

<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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<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) (except in MLRA 1)	
<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 Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

2 cm Muck (A10)  
 Red Parent Material (TF2)  
 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:  
 No hydric indicators

**Hydrology**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input 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 on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input 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 checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<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  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, monitor well, aerial photos, previous inspections), if available:

Remarks:  
 hydrology not expected - topography does not indicate ponding likely to occur



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

**Project/Site:** Priest River Property (RPR00000250700A)      **City/County:** Priest River      **Sampling Date:** 27-Jul-22  
**Applicant/Owner:** City of Priest River (Welch Comer)      **State:** ID      **Sampling Point:** DP 3 N  
**Investigator(s):** Tom Duebendorfer, PWS      **Section, Township, Range:** S 25 T 56N R 5W  
**Landform (hillslope, terrace, etc.):** Lowland      **Local relief (concave, convex, none):** convex      **Slope:** 0.0% / 0.0°  
**Subregion (LRR):** LRR E      **Lat.:** 48°10'42.6"N      **Long.:** 116°54'08.0"W      **Datum:** WGS 84  
**Soil Map Unit Name:** Mission silt loam      **NWI classification:** none

**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.

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area</b> <b>within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks:</b> None of three required parameters observed. Plot not in a wetland.	

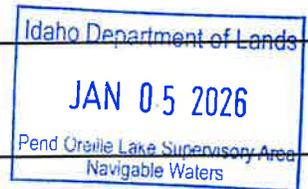
## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30')				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. <i>Abies grandis</i>	40	<input checked="" type="checkbox"/> 80.0%	FACU	
2. <i>Pseudotsuga menziesii</i>	10	<input checked="" type="checkbox"/> 20.0%	FACU	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>= Total Cover</b>			50	
<b>Sapling/Shrub Stratum</b> (Plot size: 20')				
1. <i>Symphoricarpos albus</i>	20	<input checked="" type="checkbox"/> 66.7%	FACU	
2. <i>Berberis repens</i>	10	<input checked="" type="checkbox"/> 33.3%	UPL	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>= Total Cover</b>			30	
<b>Herb Stratum</b> (Plot size: 0.1 ac)				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>3</u> x 3 = <u>9</u> FACU species <u>103</u> x 4 = <u>412</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>116</u> (A) <u>471</u> (B)  Prevalence Index = B/A = <u>4.060</u>
1. <i>Pteridium aquilinum</i>	30	<input checked="" type="checkbox"/> 83.3%	FACU	
2. <i>Hypericum perforatum</i>	3	<input type="checkbox"/> 8.3%	FACU	
3. <i>Cirsium arvense</i>	3	<input type="checkbox"/> 8.3%	FAC	
4. _____	_____	<input type="checkbox"/> 0.0%	_____	
5. _____	_____	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>= Total Cover</b>			36	
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>= Total Cover</b>			0	
<b>% Bare Ground in Herb Stratum:</b> 0				

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrologic 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.

**Hydrophytic Vegetation Present?**    Yes  No



**Remarks:**  
 Vegetation is not hydrophytic - neither test met

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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>		
0-14	10YR	4/2	100%				Silt Loam	

<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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input 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)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks) <p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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**Restrictive Layer (if present):**

Type: \_\_\_\_\_ Hydric Soil Present? Yes  No

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

Remarks:  
No hydric indicators

Hydrology

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <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) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on 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) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (minimum of two required)</p> <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <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) (LRR A) <input type="checkbox"/> Frost Heave Hummocks (D7)
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**Field Observations:**

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

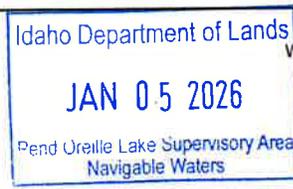
Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_

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

**Wetland Hydrology Present?** Yes  No

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

Remarks:  
hydrology not expected - topography does not indicate ponding likely to occur



**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Priest River Property (RPR00000250700A) City/County: Priest River Sampling Date: 27-Jul-22  
 Applicant/Owner: City of Priest River (Welch Corner) State: ID Sampling Point: DP 4 N  
 Investigator(s): Tom Duebendorfer, PWS Section, Township, Range: S 25 T 56N R 5W  
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): convex Slope: 0.0% / 0.0°  
 Subregion (LRR): LRR E Lat.: 48°10'48.2"N Long.: 116°54'07.2"W Datum: WGS 84  
 Soil Map Unit Name: Mission silt loam NWI classification: PEM1C

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

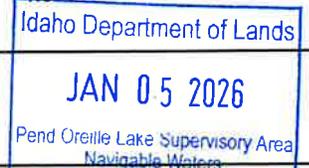
**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks:</b> Although vegetation is hydrophytic; soils do not show hydric indicators within 12" of surface; and hydrology not observed nor likely. Plot not located in wetland.	

**VEGETATION - Use scientific names of plants.**

	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. _____		<input type="checkbox"/> 0.0%		
2. _____		<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
	0	<b>= Total Cover</b>		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>100</u> x 2 = <u>200</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>140</u> (A) <u>340</u> (B) Prevalence Index = B/A = <u>2.429</u>
1. _____		<input type="checkbox"/> 0.0%		
2. _____		<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
	0	<b>= Total Cover</b>		
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Phalaris arundinacea</u>	100	<input checked="" type="checkbox"/> 71.4%	FACW	
2. <u>Tanacetum vulgare</u>	20	<input type="checkbox"/> 14.3%	FACU	
3. <u>Cirsium arvense</u>	20	<input type="checkbox"/> 14.3%	FAC	
4. _____		<input type="checkbox"/> 0.0%		
5. _____		<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
	140	<b>= Total Cover</b>		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
	0	<b>= Total Cover</b>		
% Bare Ground in Herb Stratum: <u>0</u>				

**Remarks:**  
 Vegetation is hydrophytic - both tests met



<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



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

**Project/Site:** Priest River Property (RPR00000250700A)      **City/County:** Priest River      **Sampling Date:** 27-Jul-22  
**Applicant/Owner:** City of Priest River (Welch Comer)      **State:** ID      **Sampling Point:** DP 5N  
**Investigator(s):** Tom Duebendorfer, PWS      **Section, Township, Range:** S 25 T 56N R 5W  
**Landform (hillslope, terrace, etc.):** Lowland      **Local relief (concave, convex, none):** convex      **Slope:** 0.0% / 0.0°  
**Subregion (LRR):** LRR E      **Lat.:** 48°10'48.4"N      **Long.:** 116°54'08.1"W      **Datum:** WGS 84  
**Soil Map Unit Name:** Mission silt loam      **NWI classification:** PEM1C

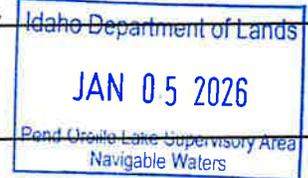
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes  No  (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?**      **Are "Normal Circumstances" present?** Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**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

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
<b>Remarks:</b> All three parameters met - area is in deep swale. Plot located in wetland.	

## VEGETATION - Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: 30')				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: 20')				
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
<b>Herb Stratum</b> (Plot size: 0.1 ac)				
1. <i>Typha latifolia</i>	100	<input checked="" type="checkbox"/> 100.0%	OBL	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	_____	<input type="checkbox"/> 0.0%	_____	
4. _____	_____	<input type="checkbox"/> 0.0%	_____	
5. _____	_____	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
100 = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
<b>% Bare Ground in Herb Stratum:</b> 0				
<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>100</u> x 1 = <u>100</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>100</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>1.000</u>				
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> 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>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>				



**Remarks:**  
 Vegetation is hydrophytic - both tests met

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**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>		
0-14	10YR	2/1	100%				Silt Loam	

<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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<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) (except in MLRA 1)	
<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 checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

2 cm Muck (A10)  
 Red Parent Material (TF2)  
 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:  
 Hydric indicators - low chroma in seasonally saturated conditions

**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) (except MLRA 1, 2, 4A, and 4B)
<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 checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on 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) (LRR A)
<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 (minimum of two required)

<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input checked="" 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 checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Frost Heave Hummocks (D7)

**Field Observations:**

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>

**Wetland Hydrology Present?**    Yes     No

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

Remarks:  
 hydrology expected - topography indicates ponding is likely to occur

Idaho Department of Lands

JAN 05 2026

Pend Oreille Lake Supervisory Area  
Navigable Waters

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Priest River Property (RPR00000250700A) City/County: Priest River State: ID Sampling Date: 27-Jul-22  
 Applicant/Owner: City of Priest River (Welch Comer) Section, Township, Range: S 25 T 56N R 5W Sampling Point: DP 6 N  
 Investigator(s): Tom Duebendorfer, PWS Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): convex Slope: 0.0 % / 0.0 °  
 Subregion (LRR): LRR E Lat.: 48°10'47.7"N Long.: 116°54'05.6"W Datum: WGS 84  
 Soil Map Unit Name: Mission silt loam NWI classification: none

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

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: None of three required parameters observed. Plot not in a wetland. In higher topography within forest.	

**VEGETATION - Use scientific names of plants.**

Stratum	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
1. <u>Abies grandis</u>	20	<input type="checkbox"/> 16.7%	FACU	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
2. <u>Pseudotsuga menziesii</u>	80	<input checked="" type="checkbox"/> 66.7%	FACU	
3. <u>Thuja plicata</u>	20	<input type="checkbox"/> 16.7%	FAC	
4. _____	0	<input type="checkbox"/> 0.0%		
	120	= Total Cover		Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>125</u> x 4 = <u>500</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>145</u> (A) <u>560</u> (B) Prevalence Index = B/A = <u>3.862</u>
1. _____		<input type="checkbox"/> 0.0%		
2. _____		<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Aralia nudicaulis</u>	25	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____		<input type="checkbox"/> 0.0%		
3. _____		<input type="checkbox"/> 0.0%		
4. _____		<input type="checkbox"/> 0.0%		
5. _____		<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
	25	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		
% Bare Ground in Herb Stratum: <u>0</u>				



Remarks:  
Vegetation is not hydrophytic - neither test met

<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: DP 6 N

**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>		
0-14	10YR	4/2	100%				Silt Loam	

<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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<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) (except in MLRA 1)	
<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 Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

2 cm Muck (A10)  
 Red Parent Material (TF2)  
 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: \_\_\_\_\_ Hydric Soil Present? Yes  No

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

Remarks:  
 No hydric indicators

**Hydrology**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input 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 on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input 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) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<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  No     Depth (inches): \_\_\_\_\_

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

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

**Wetland Hydrology Present?** Yes  No

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

Remarks:  
 hydrology not expected - topography does not indicate ponding likely to occur

Idaho Department of Lands  
**JAN 05 2026**  
 Pend Oreille Lake Supervisory Area  
 Western Mountains, Valley and Coast, Version 2.0

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

**Project/Site:** Priest River Property (RPR00000250700A)      **City/County:** Priest River      **Sampling Date:** 27-Jul-22  
**Applicant/Owner:** City of Priest River (Welch Comer)      **State:** ID      **Sampling Point:** DP 7 N  
**Investigator(s):** Tom Duebendorfer, PWS      **Section, Township, Range:** S 25      T 56N      R 5W  
**Landform (hillslope, terrace, etc.):** Lowland      **Local relief (concave, convex, none):** convex      **Slope:** 0.0% / 0.0°  
**Subregion (LRR):** LRR E      **Lat.:** 48°10'46.4"N      **Long.:** 116°54'06.3"W      **Datum:** WGS 84  
**Soil Map Unit Name:** Mission silt loam      **NWI classification:** none

**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.

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks:</b> None of three required parameters observed. Plot not in a wetland. In higher topography within forest.	

## VEGETATION - Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: 30')					Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. <u>Pseudotsuga menziesii</u>	30	<input checked="" type="checkbox"/>	27.3%	FACU	
2. <u>Pinus ponderosa</u>	30	<input checked="" type="checkbox"/>	27.3%	FACU	
3. <u>Pinus monticola</u>	30	<input checked="" type="checkbox"/>	27.3%	FACU	
4. <u>Abies grandis</u>	20	<input type="checkbox"/>	18.2%	FACU	
	<b>110</b>	<b>= Total Cover</b>			
<b>Sapling/Shrub Stratum</b> (Plot size: 20')					<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>110</u> x 4 = <u>440</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>110</u> (A) <u>440</u> (B)  Prevalence Index = B/A = <u>4.000</u>
1. _____	_____	<input type="checkbox"/>	0.0%	_____	
2. _____	_____	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
	<b>0</b>	<b>= Total Cover</b>			
<b>Herb Stratum</b> (Plot size: 0.1 ac)					<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	<input type="checkbox"/>	0.0%	_____	
2. _____	_____	<input type="checkbox"/>	0.0%	_____	
3. _____	_____	<input type="checkbox"/>	0.0%	_____	
4. _____	_____	<input type="checkbox"/>	0.0%	_____	
5. _____	_____	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
	<b>0</b>	<b>= Total Cover</b>			
<b>Woody Vine Stratum</b> (Plot size: _____)					
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
	<b>0</b>	<b>= Total Cover</b>			
<b>% Bare Ground in Herb Stratum:</b> <u>0</u>					

**Remarks:**  
 Vegetation is not hydrophytic - neither test met

Idaho Department of Lands  
**JAN 05 2026**  
 Pend Oreille Lake Supervisory Area  
 Navigable Waters

<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: DP 7 N

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>		
0-14	10YR	4/2	100%				Silt Loam	

<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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<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) (except in MLRA 1)	
<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 Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

2 cm Muck (A10)  
 Red Parent Material (TF2)  
 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: \_\_\_\_\_ Hydric Soil Present? Yes  No

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

Remarks:  
 No hydric indicators

**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) (except MLRA 1, 2, 4A, and 4B)	<b>Secondary Indicators (minimum of two required)</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 on 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) (LRR A)	
<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)		

**Field Observations:**

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

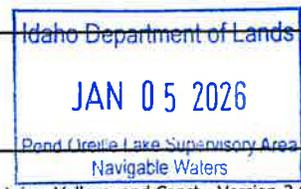
Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_

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

**Wetland Hydrology Present?** Yes  No

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

Remarks:  
 hydrology not expected - topography does not indicate ponding likely to occur



**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Priest River Property (RPR00000250700A) City/County: Priest River Sampling Date: 27-Jul-22  
 Applicant/Owner: City of Priest River (Welch Comer) State: ID Sampling Point: DP 8 N  
 Investigator(s): Tom Duebendorfer, PWS Section, Township, Range: S 25 T 56N R 5W  
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): convex Slope: 0.0% / 0.0°  
 Subregion (LRR): LRR E Lat.: 48°10'42.6"N Long.: 116°54'04.2"W Datum: WGS 84  
 Soil Map Unit Name: Mission silt loam NWI classification: none

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

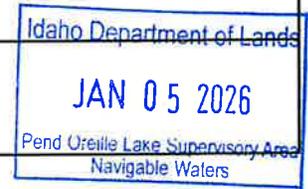
**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: All three parameters met - area is in wet meadow. Plot located in wetland.	

**VEGETATION - Use scientific names of plants.**

Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: 30')				Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)
1. _____		<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata: <u>1</u> (B)
2. _____		<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
	0	<b>= Total Cover</b>		
<b>Sapling/Shrub Stratum</b> (Plot size: 20')				<b>Prevalence Index worksheet:</b>
1. _____		<input type="checkbox"/> 0.0%		Total % Cover of: Multiply by:
2. _____		<input type="checkbox"/> 0.0%		OBL species <u>20</u> x 1 = <u>20</u>
3. _____	0	<input type="checkbox"/> 0.0%		FACW species <u>100</u> x 2 = <u>200</u>
4. _____	0	<input type="checkbox"/> 0.0%		FAC species <u>10</u> x 3 = <u>30</u>
5. _____	0	<input type="checkbox"/> 0.0%		FACU species <u>0</u> x 4 = <u>0</u>
	0	<b>= Total Cover</b>		UPL species <u>0</u> x 5 = <u>0</u>
<b>Herb Stratum</b> (Plot size: 0.1 ac)				Column Totals: <u>130</u> (A) <u>250</u> (B)
1. Phalaris arundinacea	100	<input checked="" type="checkbox"/> 76.9%	FACW	Prevalence Index = B/A = <u>1.923</u>
2. Carex nebrascensis	20	<input type="checkbox"/> 15.4%	OBL	
3. Cirsium arvense	10	<input type="checkbox"/> 7.7%	FAC	
4. _____		<input type="checkbox"/> 0.0%		
5. _____		<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
	130	<b>= Total Cover</b>		
<b>Woody Vine Stratum</b> (Plot size: _____)				<b>Hydrophytic Vegetation Indicators:</b>
1. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation
2. _____	0	<input type="checkbox"/> 0.0%		<input checked="" type="checkbox"/> 2 - Dominance Test is > 50%
	0	<b>= Total Cover</b>		<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
<b>% Bare Ground in Herb Stratum: 0</b>				<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup>
				<input type="checkbox"/> 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>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>

Remarks:  
Vegetation is hydrophytic - both tests met



<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**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>		
0-14	10YR	2/1	100%				Silt Loam	

<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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox depressions (F8)	<p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>

**Restrictive Layer (if present):**

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

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

**Hydric Soil Present?**    Yes     No

Remarks:  
Hydric indicators - low chroma in seasonally saturated conditions

**Hydrology**

<p><b>Wetland Hydrology Indicators:</b></p> <p><b>Primary Indicators (minimum of one required; check all that apply)</b></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input checked="" 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)	<p><input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  <input type="checkbox"/> Salt Crust (B11)  <input type="checkbox"/> Aquatic Invertebrates (B13)  <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres on 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) (LRR A)  <input type="checkbox"/> Other (Explain in Remarks)</p>	<p><b>Secondary Indicators (minimum of two required)</b></p> <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input checked="" 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 checked="" type="checkbox"/> FAC-neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost Heave Hummocks (D7)
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**Field Observations:**

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

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

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks:  
hydrology expected - topography indicates ponding is likely to occur



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

**Project/Site:** Joslyn Property **City/County:** Priest Rver (City) **Sampling Date:** 12-Jun-23  
**Applicant/Owner:** Tetra Tech **State:** ID **Sampling Point:** DP 1S  
**Investigator(s):** Tom Duebendorfer, PWS **Section, Township, Range:** S 25 T 56N R 5W  
**Landform (hillslope, terrace, etc.):** Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0°  
**Subregion (LRR):** LRR E **Lat.:** 48.177297 **Long.:** -116.902210 **Datum:** WGS 84  
**Soil Map Unit Name:** Mission silt loam **NWI classification:** PEM1C

**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.)

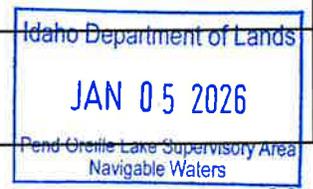
## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks:</b> Although vegetation is hydrophytic, soils are marginal with respect to anaerobic conditions, and hydrology is likely not present. Plot not in wetland.	

## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30')						
1. <u>Populus balsamifera</u>	20	<input checked="" type="checkbox"/>	100.0%	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
2. _____	0	<input type="checkbox"/>	0.0%	_____		
3. _____	0	<input type="checkbox"/>	0.0%	_____		
4. _____	0	<input type="checkbox"/>	0.0%	_____		
	20	= Total Cover			<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>140</u> (A) <u>370</u> (B) Prevalence Index = B/A = <u>2.643</u>	
<b>Sapling/Shrub Stratum</b> (Plot size: 20')						
1. _____	0	<input type="checkbox"/>	0.0%	_____		
2. _____	0	<input type="checkbox"/>	0.0%	_____		
3. _____	0	<input type="checkbox"/>	0.0%	_____		
4. _____	0	<input type="checkbox"/>	0.0%	_____		
5. _____	0	<input type="checkbox"/>	0.0%	_____		
	0	= Total Cover				
<b>Herb Stratum</b> (Plot size: 0.1 ac)						
1. <u>Phalaris arundinacea</u>	60	<input checked="" type="checkbox"/>	50.0%	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Elymus repens</u>	30	<input checked="" type="checkbox"/>	25.0%	FAC		
3. <u>Equisetum arvense</u>	10	<input type="checkbox"/>	8.3%	FAC		
4. <u>Poa pratensis</u>	10	<input type="checkbox"/>	8.3%	FAC		
5. <u>Carex microptera</u>	5	<input type="checkbox"/>	4.2%	FACU		
6. <u>Trifolium pratense</u>	5	<input type="checkbox"/>	4.2%	FACU		
7. _____	0	<input type="checkbox"/>	0.0%	_____		
8. _____	0	<input type="checkbox"/>	0.0%	_____		
9. _____	0	<input type="checkbox"/>	0.0%	_____		
10. _____	0	<input type="checkbox"/>	0.0%	_____		
11. _____	0	<input type="checkbox"/>	0.0%	_____		
	120	= Total Cover				
<b>Woody Vine Stratum</b> (Plot size: _____)						
1. _____	0	<input type="checkbox"/>	0.0%	_____		
2. _____	0	<input type="checkbox"/>	0.0%	_____		
	0	= Total Cover				
<b>% Bare Ground in Herb Stratum:</b> <u>0</u>						
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>						

**Remarks:**  
 Vegetation is hydrophytic - both tests met



<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: **DP 1 S**

**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>			
0-2	10YR	2/2	100%				Silt Loam		
2-12	2,5Y	4/2	100%				Silt Loam		
12-20	2.5YR	4/2	70%	10YR	3/6	30%	C	M	Silt Loam

<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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<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) (except in MLRA 1)	
<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 Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	

2 cm Muck (A10)  
 Red Parent Material (TF2)  
 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:  
 Soil is marginal - redox below 12"

**Hydrology**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input 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 on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input 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 checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<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     No     Depth (inches): \_\_\_\_\_

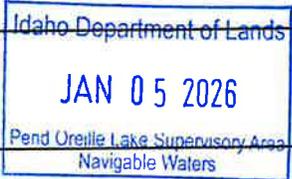
Water Table Present?    Yes     No     Depth (inches): \_\_\_\_\_

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks:  
 Hydrology possible but if present, very short-duration



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

**Project/Site:** Joslyn Property **City/County:** Priest Rver (City) **Sampling Date:** 12-Jun-23  
**Applicant/Owner:** Tetra Tech **State:** ID **Sampling Point:** DP 2 S  
**Investigator(s):** Tom Duebendorfer, PWS **Section, Township, Range:** S 25 T 56N R 5W  
**Landform (hillslope, terrace, etc.):** Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0°  
**Subregion (LRR):** LRR E **Lat.:** 48.177221 **Long.:** -116.902085 **Datum:** WGS 84  
**Soil Map Unit Name:** Mission silt loam **NWI classification:** PEM1C

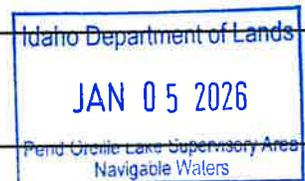
**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes  No  (If no, explain in Remarks.)  
**Are Vegetation**  , **Soil**  , **or Hydrology**  **significantly disturbed?** **Are "Normal Circumstances" present?** Yes  No   
**Are Vegetation**  , **Soil**  , **or Hydrology**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

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydic Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks:</b> None of three required parameters observed. Plot not in wetland.	

## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____		<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>90</u> x 4 = <u>360</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>110</u> (A) <u>420</u> (B) Prevalence Index = B/A = <u>3.818</u>
1. <u>Symphoricarpos albus</u>	5	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
	5	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Tanacetum vulgare</u>	80	<input checked="" type="checkbox"/> 76.2%	FACU	
2. <u>Elymus repens</u>	20	<input type="checkbox"/> 19.0%	FAC	
3. <u>Leucanthemum vulgare</u>	5	<input type="checkbox"/> 4.8%	FACU	
4. _____		<input type="checkbox"/> 0.0%		
5. _____		<input type="checkbox"/> 0.0%		
6. _____		<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
	105	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		
<b>% Bare Ground in Herb Stratum:</b> <u>0</u>				
<b>Remarks:</b> Vegetation is not hydrophytic - neither test met				



<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**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>		
0-2	10YR	2/2	100%				Silt Loam	
2-18	2,5Y	4/2	100%				Silt Loam	

<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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<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) (except in MLRA 1)	
<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 Muck Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox depressions (F8)	
	<input type="checkbox"/> 2 cm Muck (A10)	
	<input type="checkbox"/> Red Parent Material (TF2)	
	<input type="checkbox"/> 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:  
Soil is not hydric

**Hydrology**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input 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 on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input 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) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<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="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	

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

Remarks:  
Hydrologic indicators not observed.



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

**Project/Site:** Joslyn Property **City/County:** Priest Rver (City) **Sampling Date:** 12-Jun-23  
**Applicant/Owner:** Tetra Tech **State:** ID **Sampling Point:** DP 3 S  
**Investigator(s):** Tom Duebendorfer, PWS **Section, Township, Range:** S 25 T 56N R 5W  
**Landform (hillslope, terrace, etc.):** Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0°  
**Subregion (LRR):** LRR E **Lat.:** 48.177295 **Long.:** -116.903411 **Datum:** WGS 84  
**Soil Map Unit Name:** Mission silt loam **NWI classification:** PEM1C

**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.

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks:</b> None of three required parameters observed. Plot not in wetland.	

## VEGETATION - Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>3</u> x 2 = <u>6</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>105</u> x 4 = <u>420</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>138</u> (A) <u>516</u> (B)  Prevalence Index = B/A = <u>3.739</u>
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				
1. <u>Trifolium pratense</u>	50	<input checked="" type="checkbox"/> 36.2%	FACU	
2. <u>Tanacetum vulgare</u>	40	<input checked="" type="checkbox"/> 29.0%	FACU	
3. <u>Elymus repens</u>	30	<input checked="" type="checkbox"/> 21.7%	FAC	
4. <u>Leucanthemum vulgare</u>	15	<input type="checkbox"/> 10.9%	FACU	
5. <u>Phalaris arundinacea</u>	3	<input type="checkbox"/> 2.2%	FACW	
6. _____	_____	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
138 = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
<b>% Bare Ground in Herb Stratum:</b> <u>0</u>				

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrologic 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.

**Hydrophytic Vegetation Present?** Yes  No

**Remarks:**  
Vegetation is not hydrophytic - neither test met

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Pend Oreille Lake Supervisory Area  
 Western Mountains, Valleys, and Coast - Version 2.0

<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**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>		
0-2	10YR	2/2		100%			Silt Loam	
2-17	2,5Y	4/2		100%			Silt Loam	

<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"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)	
	<input type="checkbox"/> Redox depressions (F8)	

**Restrictive Layer (if present):**

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

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

**Hydric Soil Present?** Yes  No

Remarks:  
Soil is not hydric

**Hydrology**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input 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 on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input 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) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<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  No  Depth (inches): \_\_\_\_\_

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

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

**Wetland Hydrology Present?** Yes  No

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

Remarks:  
Hydrologic indicators not observed, not expected



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

**Project/Site:** Joslyn Property **City/County:** Priest Rver (City) **Sampling Date:** 12-Jun-23  
**Applicant/Owner:** Tetra Tech **State:** ID **Sampling Point:** DP 4 S  
**Investigator(s):** Tom Duebendorfer, PWS **Section, Township, Range:** S 25 T 56N R 5W  
**Landform (hillslope, terrace, etc.):** Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0°  
**Subregion (LRR):** LRR E **Lat.:** 48.176977 **Long.:** -116.902374 **Datum:** WGS 84  
**Soil Map Unit Name:** Mission silt loam **NWI classification:** none

**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.

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks:</b> None of three required parameters observed. Plot not in wetland.	

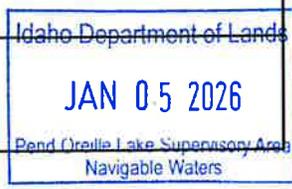
## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status																									
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>20.0%</u> (A/B)																								
1. <u>Pinus contorta</u>	20	<input checked="" type="checkbox"/> 50.0%	FAC																									
2. <u>Pinus ponderosa</u>	20	<input checked="" type="checkbox"/> 50.0%	FACU																									
3. _____	0	<input type="checkbox"/> 0.0%	_____																									
4. _____	0	<input type="checkbox"/> 0.0%	_____																									
		<b>40 = Total Cover</b>																										
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 2 = <u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>20</u></td> <td style="text-align: center;">x 3 = <u>60</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>85</u></td> <td style="text-align: center;">x 4 = <u>340</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td><b>Column Totals:</b></td> <td style="text-align: center;"><b><u>105</u></b> (A)</td> <td style="text-align: center;"><b><u>400</u></b> (B)</td> </tr> <tr> <td colspan="3" style="text-align: center;">Prevalence Index = B/A = <u>3.810</u></td> </tr> </table>	Total % Cover of:	Multiply by:		OBL species	<u>0</u>	x 1 = <u>0</u>	FACW species	<u>0</u>	x 2 = <u>0</u>	FAC species	<u>20</u>	x 3 = <u>60</u>	FACU species	<u>85</u>	x 4 = <u>340</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	<b>Column Totals:</b>	<b><u>105</u></b> (A)	<b><u>400</u></b> (B)	Prevalence Index = B/A = <u>3.810</u>		
Total % Cover of:	Multiply by:																											
OBL species	<u>0</u>	x 1 = <u>0</u>																										
FACW species	<u>0</u>	x 2 = <u>0</u>																										
FAC species	<u>20</u>	x 3 = <u>60</u>																										
FACU species	<u>85</u>	x 4 = <u>340</u>																										
UPL species	<u>0</u>	x 5 = <u>0</u>																										
<b>Column Totals:</b>	<b><u>105</u></b> (A)	<b><u>400</u></b> (B)																										
Prevalence Index = B/A = <u>3.810</u>																												
1. <u>Symphoricarpos albus</u>	20	<input checked="" type="checkbox"/> 80.0%	FACU																									
2. <u>Amelanchier alnifolia</u>	5	<input checked="" type="checkbox"/> 20.0%	FACU																									
3. _____	0	<input type="checkbox"/> 0.0%	_____																									
4. _____	0	<input type="checkbox"/> 0.0%	_____																									
5. _____	0	<input type="checkbox"/> 0.0%	_____																									
		<b>25 = Total Cover</b>																										
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )																												
1. <u>Tanacetum vulgare</u>	40	<input checked="" type="checkbox"/> 100.0%	FACU																									
2. _____		<input type="checkbox"/> 0.0%	_____																									
3. _____		<input type="checkbox"/> 0.0%	_____																									
4. _____		<input type="checkbox"/> 0.0%	_____																									
5. _____		<input type="checkbox"/> 0.0%	_____																									
6. _____		<input type="checkbox"/> 0.0%	_____																									
7. _____	0	<input type="checkbox"/> 0.0%	_____																									
8. _____	0	<input type="checkbox"/> 0.0%	_____																									
9. _____	0	<input type="checkbox"/> 0.0%	_____																									
10. _____	0	<input type="checkbox"/> 0.0%	_____																									
11. _____	0	<input type="checkbox"/> 0.0%	_____																									
		<b>40 = Total Cover</b>																										
<b>Woody Vine Stratum</b> (Plot size: _____)																												
1. _____	0	<input type="checkbox"/> 0.0%	_____																									
2. _____	0	<input type="checkbox"/> 0.0%	_____																									
		<b>0 = Total Cover</b>																										
<b>% Bare Ground in Herb Stratum:</b> <u>0</u>																												
<b>Remarks:</b> Vegetation is not hydrophytic - neither test met																												

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrologic 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.

**Hydrophytic Vegetation Present?** Yes  No



\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: **DP 4 S**

**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>		
0-8	10YR	2/2	100%				grey fill?	

<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"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<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 Muck 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>:**

<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:  
Soil is not hydric

**Hydrology**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input 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 on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input 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) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<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     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, monitor well, aerial photos, previous inspections), if available:

Remarks:  
Hydrologic indicators not observed, nor expected - plot in slight depression



**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Joslyn Property City/County: Priest Rver (City) Sampling Date: 12-Jun-23  
 Applicant/Owner: Tetra Tech State: ID Sampling Point: DP 5 S  
 Investigator(s): Tom Duebendorfer, PWS Section, Township, Range: S 25 T 56N R 5W  
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): flat Slope: 0.0 % / 0.0 °  
 Subregion (LRR): LRR E Lat.: 48.176900 Long.: -116.901702 Datum: WGS 84  
 Soil Map Unit Name: Mission silt loam NWI classification: none

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

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: None of three required parameters observed. Plot not in wetland.	

**VEGETATION - Use scientific names of plants.**

	Absolute % Cover	Rel.Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				<b>Dominance Test worksheet:</b>
1. <u>Pinus contorta</u>	20	<input checked="" type="checkbox"/> 40.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)
2. <u>Pinus ponderosa</u>	30	<input checked="" type="checkbox"/> 60.0%	FACU	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>40.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%		
	50	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b>
1. <u>Symphoricarpos albus</u>	10	<input checked="" type="checkbox"/> 100.0%	FACU	Total % Cover of: Multiply by:
2. _____	0	<input type="checkbox"/> 0.0%		OBL species <u>0</u> x 1 = <u>0</u>
3. _____	0	<input type="checkbox"/> 0.0%		FACW species <u>0</u> x 2 = <u>0</u>
4. _____	0	<input type="checkbox"/> 0.0%		FAC species <u>35</u> x 3 = <u>105</u>
5. _____	0	<input type="checkbox"/> 0.0%		FACU species <u>80</u> x 4 = <u>320</u>
	10	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				Column Totals: <u>115</u> (A) <u>425</u> (B)
1. <u>Tanacetum vulgare</u>	40	<input checked="" type="checkbox"/> 72.7%	FACU	Prevalence Index = B/A = <u>3.696</u>
2. <u>Elymus repens</u>	15	<input checked="" type="checkbox"/> 27.3%	FAC	
3. _____		<input type="checkbox"/> 0.0%		
4. _____		<input type="checkbox"/> 0.0%		
5. _____		<input type="checkbox"/> 0.0%		
6. _____		<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
	55	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				<b>Hydrophytic Vegetation Indicators:</b>
1. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation
2. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> 2 - Dominance Test is > 50%
	0	= Total Cover		<input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
				<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup>
				<input type="checkbox"/> 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>% Bare Ground in Herb Stratum:</b> <u>0</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>

Remarks:  
Vegetation is not hydrophytic - neither test met



<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: **DP 5 S**

**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>		
0-10	10YR	2/2	100%				Silt Loam	
10-18	10YR	4/2	100%				Silt Loam	

<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.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except in MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox depressions (F8)

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

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- 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:**

Soil is not hydric.

**Hydrology**

**Wetland Hydrology Indicators:**

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

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

**Secondary Indicators (minimum of two 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, monitor well, aerial photos, previous inspections), if available:

**Remarks:**

Hydrologic indicators not observed, nor expected.



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

**Project/Site:** Joslyn Property **City/County:** Priest Rver (City) **Sampling Date:** 12-Jun-23  
**Applicant/Owner:** Tetra Tech **State:** ID **Sampling Point:** DP 6S  
**Investigator(s):** Tom Duebendorfer, PWS **Section, Township, Range:** S 25 T 56N R 5W  
**Landform (hillslope, terrace, etc.):** Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0°  
**Subregion (LRR):** LRR E **Lat.:** 48.1760915 **Long.:** -116.898839 **Datum:** WGS 84  
**Soil Map Unit Name:** Wrencoe silty clay 0-2% slopes **NWI classification:** PFO1C

**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.)

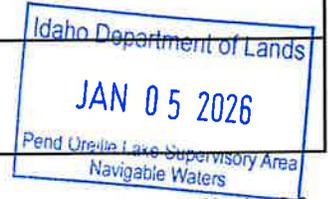
## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks:</b> None of three required parameters observed. Plot not in wetland.	

## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>40.0%</u> (A/B)
1. <u>Abies grandis</u>	40	<input checked="" type="checkbox"/> 50.0%	FACU	
2. <u>Populus balsamifera</u>	40	<input checked="" type="checkbox"/> 50.0%	FAC	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>80 = Total Cover</b>				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				
1. <u>Symphoricarpos albus</u>	60	<input checked="" type="checkbox"/> 85.7%	FACU	
2. <u>Cornus alba</u>	10	<input type="checkbox"/> 14.3%	FACW	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>70 = Total Cover</b>				
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				
1. <u>Tanacetum vulgare</u>	25	<input checked="" type="checkbox"/> 71.4%	FACU	
2. <u>Alopecurus pratensis</u>	10	<input checked="" type="checkbox"/> 28.6%	FAC	
3. _____	_____	<input type="checkbox"/> 0.0%	_____	
4. _____	_____	<input type="checkbox"/> 0.0%	_____	
5. _____	_____	<input type="checkbox"/> 0.0%	_____	
6. _____	_____	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>35 = Total Cover</b>				
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>0 = Total Cover</b>				
<b>% Bare Ground in Herb Stratum:</b> <u>0</u>				
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> 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>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>				

**Remarks:**  
 Vegetation is not hydrophytic - neither test met



\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: **DP 6 S**

**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>		
0-10	10YR	2/2		100%			Silt Loam	
10-18	10YR	4/2		100%			Silt Loam	

<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"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<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 Muck 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>:**

<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:  
Soil is not hydric. Plot located on bench above wetland.

**Hydrology**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input 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 on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input 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) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<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     No     Depth (inches): \_\_\_\_\_

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

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks:  
Hydrologic indicators not observed, nor expected.



**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Joslyn Property City/County: Priest River (City) Sampling Date: 12-Jun-23  
 Applicant/Owner: Tetra Tech State: ID Sampling Point: DP 7 S  
 Investigator(s): Tom Duebendorfer, PWS Section, Township, Range: S 25 T 56N R 5W  
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): flat Slope: 0.0% / 0.0°  
 Subregion (LRR): LRR E Lat.: 48.175845 Long.: -116.897820 Datum: WGS 84  
 Soil Map Unit Name: Wrecoe silty clay 0-2% slopes NWI classification: PFO1C

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

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: None of three required parameters observed. Plot not in wetland.	

**VEGETATION - Use scientific names of plants.**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>40.0%</u> (A/B)
1. <u>Abies grandis</u>	30	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>30 = Total Cover</b>				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>160</u> (A) <u>470</u> (B) Prevalence Index = B/A = <u>2.938</u>
1. <u>Alnus incana</u>	40	<input checked="" type="checkbox"/> 57.1%	FACW	
2. <u>Symphoricarpos albus</u>	20	<input checked="" type="checkbox"/> 28.6%	FACU	
3. <u>Crataegus douglasii</u>	10	<input type="checkbox"/> 14.3%	FAC	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>70 = Total Cover</b>				
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Angelica arguta</u>	40	<input checked="" type="checkbox"/> 66.7%	FACW	
2. <u>Tanacetum vulgare</u>	20	<input checked="" type="checkbox"/> 33.3%	FACU	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>60 = Total Cover</b>				
<b>Woody Vine Stratum</b> (Plot size: _____)				<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>0 = Total Cover</b>				
% Bare Ground in Herb Stratum: <u>0</u>				



Remarks:  
Vegetation is not hydrophytic - neither test met

**Soil**

Sampling Point: **DP 7 S**

**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>		
0-10	10YR	2/2	100%				Silt Loam	
10-18	10YR	4/2	100%				Silt Loam	

<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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input 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)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks) <p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks:  
 Soil is not hydric. Plot located on bench above wetland.

**Hydrology**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <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 on 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) (LRR A) <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)		<p>Secondary Indicators (minimum of two required)</p> <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <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) (LRR A) <input type="checkbox"/> Frost Heave Hummocks (D7)
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**Field Observations:**

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>	

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

Remarks:  
 Hydrologic indicators not observed, nor expected.



**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Joslyn Property City/County: Priest Rver (City) Sampling Date: 12-Jun-23  
 Applicant/Owner: Tetra Tech State: ID Sampling Point: DP 8S  
 Investigator(s): Tom Duebendorfer, PWS Section, Township, Range: S 25 T 56N R 5W  
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): flat Slope: 0.0% / 0.0°  
 Subregion (LRR): LRR E Lat.: 48.175682 Long.: -116.897581 Datum: WGS 84  
 Soil Map Unit Name: Wrencoe silty clay 0-2% slopes NWI classification: PFO1C

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

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: All three parameters met - plot in wetland.	

**VEGETATION - Use scientific names of plants.**

Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
<b>0 = Total Cover</b>				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>15</u> x 1 = <u>15</u> FACW species <u>140</u> x 2 = <u>280</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>155</u> (A) <u>295</u> (B)  Prevalence Index = B/A = <u>1.903</u>
1. <u>Alnus incana</u>	<u>40</u>	<input checked="" type="checkbox"/> 50.0%	<u>FACW</u>	
2. <u>Spiraea douglasii</u>	<u>40</u>	<input checked="" type="checkbox"/> 50.0%	<u>FACW</u>	
3. _____	_____	<input type="checkbox"/> 0.0%	_____	
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
<b>80 = Total Cover</b>				
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Phalaris arundinacea</u>	<u>60</u>	<input checked="" type="checkbox"/> 80.0%	<u>FACW</u>	
2. <u>Carex lenticularis</u>	<u>15</u>	<input checked="" type="checkbox"/> 20.0%	<u>OBL</u>	
3. _____	_____	<input type="checkbox"/> 0.0%	_____	
4. _____	_____	<input type="checkbox"/> 0.0%	_____	
5. _____	_____	<input type="checkbox"/> 0.0%	_____	
6. _____	_____	<input type="checkbox"/> 0.0%	_____	
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
11. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
<b>75 = Total Cover</b>				
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
<b>0 = Total Cover</b>				
% Bare Ground in Herb Stratum: <u>0</u>				

Remarks:  
 Vegetation is hydrophytic - both tests met



<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: **DP 8 S**

**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>		
0-10	10YR	2/1	100%				Silt Loam	

<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"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<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 checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Muck 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>:**

<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:  
Soil is hydric - low chroma and inundation.

**Hydrology**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input 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 on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input 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 checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<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 checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <input type="text" value="0"/>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Water Table Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <input type="text" value="0"/>	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <input type="text" value="0"/>	

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

Remarks:  
Hydrology observed

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Joslyn Property City/County: Priest Rver (City) Sampling Date: 12-Jun-23  
 Applicant/Owner: Tetra Tech State: ID Sampling Point: DP 9S  
 Investigator(s): Tom Duebendorfer, PWS Section, Township, Range: S 25 T 56N R 5W  
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): flat Slope: 0.0 % / 0.0 °  
 Subregion (LRR): LRR E Lat.: 48.175351 Long.: -116.895548 Datum: WGS 84  
 Soil Map Unit Name: Wrecoe silty clay 0-2% slopes NWI classification: PFO1C

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

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: None of three required parameters observed - plot not in wetland.	

**VEGETATION - Use scientific names of plants.**

Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)
1. _____	_____	<input type="checkbox"/> 0.0%	_____	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
<b>= Total Cover</b>				<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>30</u> x 5 = <u>150</u> Column Totals: <u>165</u> (A) <u>615</u> (B) Prevalence Index = B/A = <u>3.727</u>
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				
1. <u>Crataegus douglasii</u>	<u>30</u>	<input checked="" type="checkbox"/> 42.9%	<u>FAC</u>	
2. <u>Symphoricarpos albus</u>	<u>20</u>	<input checked="" type="checkbox"/> 28.6%	<u>FACU</u>	
3. <u>Cornus alba</u>	<u>10</u>	<input type="checkbox"/> 14.3%	<u>FACW</u>	
4. <u>Alnus incana</u>	<u>10</u>	<input type="checkbox"/> 14.3%	<u>FACW</u>	
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
<b>= Total Cover</b>				
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				
1. <u>Tanacetum vulgare</u>	<u>60</u>	<input checked="" type="checkbox"/> 63.2%	<u>FACU</u>	
2. <u>Lupinus sulphureus</u>	<u>30</u>	<input checked="" type="checkbox"/> 31.6%	<u>UPL</u>	
3. <u>Alopecurus pratensis</u>	<u>5</u>	<input type="checkbox"/> 5.3%	<u>FAC</u>	
4. _____	_____	<input type="checkbox"/> 0.0%	_____	
5. _____	_____	<input type="checkbox"/> 0.0%	_____	
6. _____	_____	<input type="checkbox"/> 0.0%	_____	
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
11. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
<b>= Total Cover</b>				
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____	
<b>= Total Cover</b>				
<b>% Bare Ground in Herb Stratum: <u>0</u></b>				
Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>				

Remarks:  
 Vegetation is not hydrophytic - neither test met



\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: **DP 9 S**

**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>		
0-10	10YR	4/2	100%				Silt Loam	

<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"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<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 Muck 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>:**

<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:  
Soil is not hydric

**Hydrology**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input 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 on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input 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) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<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     No     Depth (inches): \_\_\_\_\_

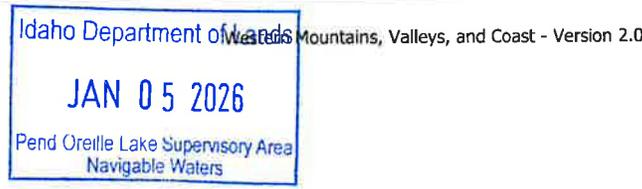
Water Table Present?    Yes     No     Depth (inches): \_\_\_\_\_

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks:  
Hydrologic indicators not observed - plot located near water, but not saturated (at high river flows).



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

Project/Site: Joslyn Property City/County: Priest Rver (City) Sampling Date: 12-Jun-23  
 Applicant/Owner: Tetra Tech State: ID Sampling Point: DP 10S  
 Investigator(s): Tom Duebendorfer, PWS Section, Township, Range: S 25 T 56N R 5W  
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): flat Slope: 0.0% / 0.0°  
 Subregion (LRR): LRR E Lat.: 48.175544 Long.: -116.895081 Datum: WGS 84  
 Soil Map Unit Name: Wrecoe silty clay 0-2% slopes NWI classification: PFO1C

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

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: None of three required parameters observed - plot not in wetland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)
1. <u>Pinus ponderosa</u>	40	<input checked="" type="checkbox"/> 100.0%	FACU	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>20.0%</u> (A/B)
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
	40	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b>
1. <u>Symphoricarpos albus</u>	30	<input checked="" type="checkbox"/> 37.5%	FACU	Total % Cover of: Multiply by:
2. <u>Crataegus douglasii</u>	20	<input checked="" type="checkbox"/> 25.0%	FAC	OBL species <u>0</u> x 1 = <u>0</u>
3. <u>Amelanchier alnifolia</u>	20	<input checked="" type="checkbox"/> 25.0%	FACU	FACW species <u>0</u> x 2 = <u>0</u>
4. <u>Berberis repens</u>	10	<input type="checkbox"/> 12.5%	UPL	FAC species <u>26</u> x 3 = <u>78</u>
5. _____	0	<input type="checkbox"/> 0.0%		FACU species <u>110</u> x 4 = <u>440</u>
	80	= Total Cover		UPL species <u>10</u> x 5 = <u>50</u>
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				Column Totals: <u>146</u> (A) <u>568</u> (B)
1. <u>Pteridium aquilinum</u>	20	<input checked="" type="checkbox"/> 76.9%	FACU	Prevalence Index = B/A = <u>3.890</u>
2. <u>Cirsium arvense</u>	3	<input type="checkbox"/> 11.5%	FAC	
3. <u>Equisetum arvense</u>	3	<input type="checkbox"/> 11.5%	FAC	
4. _____		<input type="checkbox"/> 0.0%		
5. _____		<input type="checkbox"/> 0.0%		
6. _____		<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
	26	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		
% Bare Ground in Herb Stratum: <u>0</u>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks: Vegetation is not hydrophytic - neither test met				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>



<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: DP 10 S

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>		
0-10	10YR	4/2	100%				Silt Loam	

<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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input 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)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks) <p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:  
 Soil is not hydric

**Hydrology**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <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) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on 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) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <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) (LRR A) <input type="checkbox"/> Frost Heave Hummocks (D7)
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**Field Observations:**

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>

**Wetland Hydrology Present?** Yes  No

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

Remarks:  
 Hydrologic indicators not observed, nor expected.

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

**Project/Site:** Joslyn Property **City/County:** Priest Rver (City) **Sampling Date:** 12-Jun-23  
**Applicant/Owner:** Tetra Tech **State:** ID **Sampling Point:** DP 11 S  
**Investigator(s):** Tom Duebendorfer, PWS **Section, Township, Range:** S 25 T 56N R 5W  
**Landform (hillslope, terrace, etc.):** Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0°  
**Subregion (LRR):** LRR E **Lat.:** 48.176906 **Long.:** -116.895412 **Datum:** WGS 84  
**Soil Map Unit Name:** Mission silt loam **NWI classification:** none

**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.)

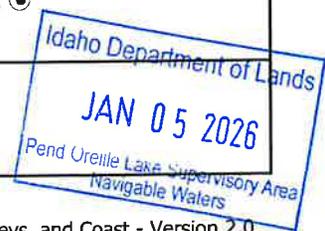
## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks:</b> None of three required parameters observed - plot not in wetland (though appears to be topographically a dry swale)	

## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. <u>Abies grandis</u>	80	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____		<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
	80	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>105</u> x 4 = <u>420</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>115</u> (A) <u>460</u> (B) Prevalence Index = B/A = <u>4.000</u>
1. _____		<input type="checkbox"/> 0.0%		
2. _____		<input type="checkbox"/> 0.0%		
3. _____		<input type="checkbox"/> 0.0%		
4. _____		<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Aralia nudicaulis</u>	20	<input checked="" type="checkbox"/> 57.1%	FACU	
2. <u>Osmorhiza berteroi</u>	5	<input type="checkbox"/> 14.3%	FACU	
3. <u>Maianthemum stellatum</u>	5	<input type="checkbox"/> 14.3%	FAC	
4. <u>Adenocaulon bicolor</u>	5	<input type="checkbox"/> 14.3%	UPL	
5. _____		<input type="checkbox"/> 0.0%		
6. _____		<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
	35	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		
<b>% Bare Ground in Herb Stratum:</b> <u>0</u>				

**Remarks:**  
Vegetation is not hydrophytic - neither test met



<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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>		
0-10	10YR	4/2	100%				Silt Loam	

<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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input 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)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<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:  
 Soil is not hydric

**Hydrology**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <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) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on 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) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (minimum of two required)</p> <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <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) (LRR A) <input type="checkbox"/> Frost Heave Hummocks (D7)
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**Field Observations:**

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <input type="text"/>

**Wetland Hydrology Present?**    Yes     No

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

Remarks:  
 Hydrologic indicators not observed, nor expected.



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

**Project/Site:** Joslyn Property **City/County:** Priest Rver (City) **Sampling Date:** 12-Jun-23  
**Applicant/Owner:** Tetra Tech **State:** ID **Sampling Point:** DP 12S  
**Investigator(s):** Tom Duebendorfer, PWS **Section, Township, Range:** S 25 T 56N R 5W  
**Landform (hillslope, terrace, etc.):** Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0°  
**Subregion (LRR):** LRR E **Lat.:** 48.176510 **Long.:** -116.898562 **Datum:** WGS 84  
**Soil Map Unit Name:** Mission silt loam **NWI classification:** none

**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.

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks:</b> None of three required parameters observed - plot not in wetland.	

## VEGETATION - Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: 30')				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
1. <u>Pinus ponderosa</u>	15	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>15 = Total Cover</b>				
<b>Sapling/Shrub Stratum</b> (Plot size: 20')				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>0 = Total Cover</b>				
<b>Herb Stratum</b> (Plot size: 0.1 ac)				<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>98</u> x 4 = <u>392</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>128</u> (A) <u>482</u> (B) Prevalence Index = B/A = <u>3.766</u>
1. <u>Tanacetum vulgare</u>	80	<input checked="" type="checkbox"/> 70.8%	FACU	
2. <u>Alopecurus pratensis</u>	30	<input checked="" type="checkbox"/> 26.5%	FAC	
3. <u>Verbascum thapsus</u>	3	<input type="checkbox"/> 2.7%	FACU	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>113 = Total Cover</b>				
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
<b>0 = Total Cover</b>				
<b>% Bare Ground in Herb Stratum:</b> <u>0</u>				

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrologic 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.

**Hydrophytic Vegetation Present?** Yes  No

Idaho Department of Lands  
**JAN 05 2026**  
 Pend Oreille Lake Supervisory Area  
 Navigable Waters

**Remarks:**  
 Vegetation is not hydrophytic - neither test met

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Joslyn Property City/County: Priest Rver (City) Sampling Date: 12-Jun-23  
 Applicant/Owner: Tetra Tech State: ID Sampling Point: DP 13 S  
 Investigator(s): Tom Duebendorfer, PWS Section, Township, Range: S 25 T 56N R 5W  
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): flat Slope: 0.0% / 0.0°  
 Subregion (LRR): LRR E Lat.: 48.177263 Long.: -116.898180 Datum: WGS 84  
 Soil Map Unit Name: Mission silt loam NWI classification: none

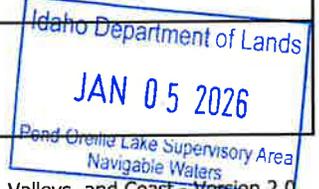
Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed,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

**Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: None of three required parameters observed - plot not in wetland.	

**VEGETATION - Use scientific names of plants.**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. <u>Abies grandis</u>	20	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____		<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
	20	<b>= Total Cover</b>		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>3</u> x 3 = <u>9</u> FACU species <u>120</u> x 4 = <u>480</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>123</u> (A) <u>489</u> (B) Prevalence Index = B/A = <u>3.976</u>
1. <u>Rubus ursinus</u>	20	<input checked="" type="checkbox"/> 44.4%	FACU	
2. <u>Amelanchier alnifolia</u>	15	<input checked="" type="checkbox"/> 33.3%	FACU	
3. <u>Symphoricarpos albus</u>	10	<input checked="" type="checkbox"/> 22.2%	FACU	
4. _____		<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
	45	<b>= Total Cover</b>		
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Tanacetum vulgare</u>	30	<input checked="" type="checkbox"/> 51.7%	FACU	
2. <u>Carex microptera</u>	10	<input type="checkbox"/> 17.2%	FACU	
3. <u>Pteridium aquilinum</u>	10	<input type="checkbox"/> 17.2%	FACU	
4. <u>Fragaria vesca</u>	5	<input type="checkbox"/> 8.6%	FACU	
5. <u>Ranunculus acris</u>	3	<input type="checkbox"/> 5.2%	FAC	
6. _____		<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
	58	<b>= Total Cover</b>		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
	0	<b>= Total Cover</b>		
<b>% Bare Ground in Herb Stratum:</b> <u>0</u>				
Remarks: Vegetation is not hydrophytic - neither test met				



<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: **DP 13 S**

**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>		
0-18	10YR	3/4	100%				Silt Loam	

<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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input 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)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> 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: \_\_\_\_\_ Hydric Soil Present? Yes  No

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

Remarks:  
Soil is not hydric

**Hydrology**

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<p><b>Primary Indicators (minimum of one required; check all that apply)</b></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <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 on 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) (LRR A) <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)		<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <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) (LRR A) <input type="checkbox"/> 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, monitor well, aerial photos, previous inspections), if available:

Remarks:  
Hydrologic indicators not observed, nor expected.



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

**Project/Site:** Joslyn Property **City/County:** Priest Rver (City) **Sampling Date:** 12-Jun-23  
**Applicant/Owner:** Tetra Tech **State:** ID **Sampling Point:** DP 14 S  
**Investigator(s):** Tom Duebendorfer, PWS **Section, Township, Range:** S 25 T 56N R 5W  
**Landform (hillslope, terrace, etc.):** Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0°  
**Subregion (LRR):** LRR E **Lat.:** 48.177178 **Long.:** -116.896900 **Datum:** WGS 84  
**Soil Map Unit Name:** Mission silt loam **NWI classification:** none

**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.

<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
<b>Remarks:</b> None of three required parameters observed - plot not in wetland.	

## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. <u>Abies grandis</u>	60	<input checked="" type="checkbox"/> 75.0%	FACU	
2. <u>Pinus ponderosa</u>	20	<input checked="" type="checkbox"/> 25.0%	FACU	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
	80	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>3</u> x 3 = <u>9</u> FACU species <u>155</u> x 4 = <u>620</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>163</u> (A) <u>654</u> (B)  Prevalence Index = B/A = <u>4.012</u>
1. <u>Symphoricarpos albus</u>	20	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	_____	<input type="checkbox"/> 0.0%	_____	
3. _____	_____	<input type="checkbox"/> 0.0%	_____	
4. _____	_____	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
	20	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Tanacetum vulgare</u>	40	<input checked="" type="checkbox"/> 63.5%	FACU	
2. <u>Dactylis glomerata</u>	10	<input type="checkbox"/> 15.9%	FACU	
3. <u>Hieracium pratense</u>	5	<input type="checkbox"/> 7.9%	UPL	
4. <u>Leucanthemum vulgare</u>	5	<input type="checkbox"/> 7.9%	FACU	
5. <u>Equisetum arvense</u>	3	<input type="checkbox"/> 4.8%	FAC	
6. _____	_____	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
	63	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	= Total Cover		
<b>% Bare Ground in Herb Stratum:</b> <u>0</u>				
<b>Remarks:</b> Vegetation is not hydrophytic - neither test met				
<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>				



<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: **DP 14S**

**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>		
0-18	10YR	3/4	100%				Silt Loam	

<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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except in MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input 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)	<p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>

**Restrictive Layer (if present):**

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

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

**Hydric Soil Present?**    Yes     No

Remarks:  
Soil is not hydric

**Hydrology**

**Wetland Hydrology Indicators:**

<p><b>Primary Indicators (minimum of one required; check all that apply)</b></p> <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) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on 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) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<p><b>Secondary Indicators (minimum of two required)</b></p> <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <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) (LRR A) <input type="checkbox"/> Frost Heave Hummocks (D7)
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**Field Observations:**

Surface Water Present?    Yes     No     Depth (inches):

Water Table Present?    Yes     No     Depth (inches):

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks:  
Hydrologic indicators not observed, nor expected.



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

Project/Site: Joslyn Property City/County: Priest Rver (City) Sampling Date: 12-Jun-23  
 Applicant/Owner: Tetra Tech State: ID Sampling Point: DP 15S  
 Investigator(s): Tom Duebendorfer, PWS Section, Township, Range: S 25 T 56N R 5W  
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): flat Slope: 0.0% / 0.0°  
 Subregion (LRR): LRR E Lat.: 48.176967 Long.: -116.900689 Datum: WGS 84  
 Soil Map Unit Name: Mission silt loam NWI classification: none

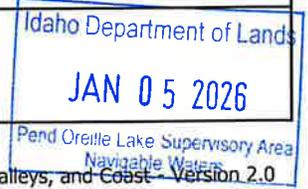
Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed,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

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: None of three required parameters observed - plot not in wetland.	

## VEGETATION - Use scientific names of plants.

Stratum	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
1. _____		<input type="checkbox"/> 0.0%		
2. _____		<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20'</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>65</u> x 3 = <u>195</u> FACU species <u>90</u> x 4 = <u>360</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>155</u> (A) <u>555</u> (B)  Prevalence Index = B/A = <u>3.581</u>
1. <u>Amelanchier alnifolia</u>	15	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____		<input type="checkbox"/> 0.0%		
3. _____		<input type="checkbox"/> 0.0%		
4. _____		<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
	15	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>0.1 ac</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrologic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Tanacetum vulgare</u>	75	<input checked="" type="checkbox"/> 53.6%	FACU	
2. <u>Elymus repens</u>	60	<input checked="" type="checkbox"/> 42.9%	FAC	
3. <u>Ranunculus acris</u>	3	<input type="checkbox"/> 2.1%	FAC	
4. <u>Poa pratensis</u>	2	<input type="checkbox"/> 1.4%	FAC	
5. _____		<input type="checkbox"/> 0.0%		
6. _____		<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
	140	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		
% Bare Ground in Herb Stratum: <u>0</u>				
Remarks: Vegetation is not hydrophytic - neither test met				



<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

**Soil**

Sampling Point: **DP 15 S**

**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>		
0-18	10YR	3/4	100%				Silt Loam	

<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.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except in MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox depressions (F8)

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

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- 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:**

Soil is not hydric

**Hydrology**

**Wetland Hydrology Indicators:**

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

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

**Secondary Indicators (minimum of two required)**

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

**Field Observations:**

Surface Water Present?    Yes     No     Depth (inches):

Water Table Present?    Yes     No     Depth (inches):

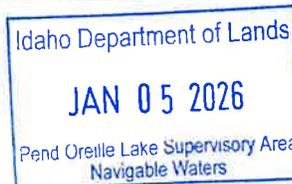
Saturation Present? (includes capillary fringe)    Yes     No     Depth (inches):

**Wetland Hydrology Present?**    Yes     No

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

**Remarks:**

Hydrologic indicators not observed, nor expected.



Tom Duebendorfer - Professional Wetland Scientist (#000157). Biologist, Botanist

**OBJECTIVE**

Provide botanical and ecological services to a wide range of organizations and individuals for projects involving land development, wetland delineation, vegetation mapping, rare plant surveys, resource inventories, Environmental Assessments, Biological Evaluations and Assessments, and research-level studies on specific habitats or species.

**EDUCATION**

WSPSS, SWS Hydric Soils Workshop, Soils and Hydrology, June 2009  
Wetland Training Institute, Soils and Hydrology, August 1990  
Humboldt State University, Arcata, California  
M.A. Biology May 1987  
California State Teaching Credential May 1987  
B.A. Biology June 1977  
University of California, Irvine (2 years - biology major)

**EMPLOYMENT**

• **Self-employed wetland and botanical consultant (1981 to present)**

Provided botanical and wildlife surveys, floristic research, habitat characterization, ecological sampling, synecological analysis, aerial photo mapping, wetland delineation, impact analysis, restoration and mitigation, resource planning, permitting, rare and endangered plant surveys, plant taxonomy, soil analysis, computer-aided multivariate analyses and statistics, computer-aided graphics and drafting. Involved with design (as part author/editor) of Washington Dept of Ecology Hydrogeomorphic approach to wetland function assessment program (Assessment Team). Trained in E WA DOE Assessment Methodology (assisted in development of the methodology). Wetland Mitigation Bank preparation. Teaches wetland delineation and plant identification courses to Tribes, agencies, and groups.

Project locations include rare plant surveys/studies and wetland work in southern, central, northern and coastal California; coastal, southwestern, and northeastern Oregon; north, east-central, and southwest Idaho; eastern and western Washington; and northwest Montana.

• **Senior Wetland Ecologist, Client/Project Manager, Corporate Botanist (1989-1994)**

David Evans and Associates, Inc. Bellevue, Washington

Provided wetland delineation, impact assessment, conceptual and final mitigation design, monitoring, cumulative impact assessment, wetland permitting, habitat characterization, rare plant and T&E animal surveys, Biological Evaluations and Assessments, as well as instruction and guidance in systematics and classification to staff in 7 west coast offices. Maintained excellent rapport with clients and other project team members (both in office and as field crew leader). Managed projects from proposals, contracting, budgeting, scheduling and invoicing, to collections.

Project locations include: Pacific Northwest, from central and coastal Oregon to eastern, western, and coastal Washington, and northwest Montana.

**CERTIFICATIONS**

Professional Wetland Scientist, Society of Wetland Scientists (#000157)  
Certified Wetland Delineator, Corps of Engineers (Seattle District)  
Qualified Wetland Specialist, Spokane County, Washington  
Qualified Wetland Specialist, City of Spokane, Washington  
Completed Training in NEPA/EPA Process  
Completed Soils and Hydrology workshops (WTI); Hydric Soils (WSSPSS - Updates 2009)



**SPECIFIC EXPERIENCE**

Habitats include: dune coastline, coastal and inland forested, scrub, and marsh wetlands, oak woodlands, steppe scrubland, grasslands, sagebrush, agricultural areas (wetlands), coniferous and deciduous montane, alpine, bog (fen), and serpentine vegetation.

Permitting knowledge and direct use of wetland methodologies (USFWS, US Army Corps of Engineers, WA Dept of Ecology, and local county and city jurisdictions); knowledge of Corps Permit process. Restoration activities. Biological Assessments (BA), USFS Evaluations (BE), Environmental Assessments (EA); SEPA/NEPA; T&E species monitoring, Raptor Monitoring, Wetland Mitigation Bank Design.

Rare plant studies include approximately 45 sensitive plant and vegetation surveys on private, state, and federal lands for small to medium scale hydroelectric plants, stream corridors, sewage treatment facilities, water treatment facilities, prison site, seeding experiments, road and highway construction, transmission corridors (utilities), fiber optic cable routes, and mining companies. Biological Evaluations for USFS-listed sensitive species in four states.

Clients (independently and during tenure as employee) include:

*Small- and Large-scale Developers:*

Burlington-Northern, Puget Western, Glacier Park Company, Trillium Corporation, Quadrant, Blackhawk/Port Blakely Communities, Coldwater Creek, Valencia Wetlands Trust, Waterfront Property Mgmt., Kirk-Hughes Development, Fortress LLC, & others

*Public Entities:*

Washington Department of Ecology, Benewah County (through EDA), Federal Highways Administration, Bureau of Reclamation, King Co., US Army Corps of Engineers, Spokane County Engineering and Public Works, Oregon Nature Conservancy, Humboldt County Planning, Humboldt State University Research Program; Benewah County; Idaho Soil and Conservation District, City of Winchester, Idaho Transportation Department, Washington Department of Transportation, Kalispell Indian Tribe, City of Colville, Rathdrum

*Communications (fiber optic projects):*

AT&T, MCI/WorldCom, Cascade Utilities

*Exploratory and Active Mining Companies:*

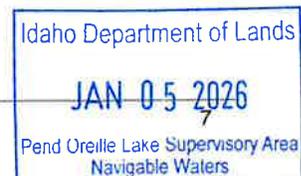
Emerald Creek Garnet Company, American Gold Resources, Cal Nickel Corp., Baretta, Noranda

*Assisting other Consulting Firms and Numerous Private Landowners.*

The Soils Group, Intermountain Resources, Inc., Hart-Crowser, Inc., Welch-Comer Eng., Land Profile, Inc., Selkirk Environmental, David Evans and Associates, J.A. Sewell and Assoc., EarthTech, ALSC Architects; Ecological Resources, Forsgren Assoc., JUB Eng., Adolphson Assoc. Copper Basin Constr., Toothman-Orton Eng., Rocky Point Investments, HAWKEFA, Tate Engineering.

**PUBLICATIONS**

- Duebendorfer, T.E. 1990. "An Integrated Approach to Enhancing Rare Plant Populations through Habitat Restoration: II. Habitat Characterization through Classification of Dune Vegetation." Pp. 478-487 in: Bonnicksen, T.M. and H.G. Hughes, eds. Proceedings of the first annual meeting of the Society for Ecological Restoration and Management. Also presented at Society of Wetland Scientists, May 1993.
- Pickart, A.J., L.M. Miller, and T.E. Duebendorfer. 1998. "Yellow bush lupine invasion in northern California coastal dunes. I. Ecological impacts and manual restoration techniques". Restoration Ecology Vol 6 No 1, pp59-68.
- Seattle Audubon Series, "Wetland Plants of the Western Washington and NW Oregon" (Cooke 1997, editor): My role was as a contributor and technical editor.
- Hruby, T., S. Stanley, T. Granger, T. Duebendorfer, R. Friesz, B. Lang, B. Leonard, K. March, and A. Wald. 2000. Methods for Assessing Wetlands Functions. Volume II, Part 1: Assessment Methods - Depressional Wetlands in the Columbia Basin of Eastern Washington, WA State Department of Ecology Publication #00-06-47.
- Fieldbook of Plant Uses (North Idaho) - self published field booklet (2019)



**Appendix F**  
**Two Rivers Park FEMA Firmette**

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Navigable Waters

# Idaho Flood Hazard Map

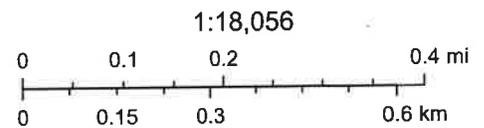


3/23/2024, 2:42:19 PM

### Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard

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 Pend Oreille Lake Supervisory Area  
 Navigable Waters



Esri, HERE, iPC, Esri, HERE, Garmin, iPC, Maxar

**Appendix G**  
**Workshop Meeting Documents**





## Two Rivers Park – Shoreline Stabilization Design Development Workshop

Meeting Notes  
October 28, 2024

### Attendees:

Jeff Connolly, City of Priest River  
Jim Martin, City of Priest River  
Steve Gill, IDEQ  
Matt Gillis, PE, Welch Comer  
Dell Hatch, Bernardo Wills

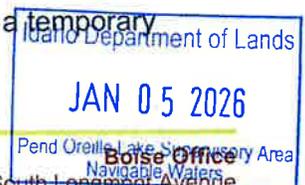
Jack Griffing, PE, Welch Comer  
Derek Forseth, PE, Alta  
  
Kate Dezii, Alta  
Chase MacPherson, Alta

**Meeting Time:** 10:00 AM to 12:00 PM

**Location:** Welch Comer CDA Office Conference Room (330 E Lakeside Ave, Ste 101, CDA, ID 83814)

### **Agenda Items:**

1. Workshop Purpose, Goals, and Outcomes: 10:00 AM to 10:15 AM
  - a. Group agreed on the purpose and goals shown on slides. No significant deviation from needs presented in the master plan.
  - b. Project phasing was mentioned to prioritize most critical project elements, including focusing on the shoreline in this effort.
2. Master Plan and Public Comments: 10:15 AM to 10:35 AM
  - a. Mayor Connolly mentioned diversity in public opinions and stressed the importance of communication/transparency to the public on design decisions as new information becomes available.
  - b. The wetland has been further delineated since the Master Plan.
3. Shoreline Zones, Major Features, and Stabilization Options: 10:35 AM to 11:30 AM
  - a. Zone 1: Marina (West of Stormwater Structure)
    - i. Discussed need to remove debris removal on the bank.
    - ii. This area is not intended for public access and can be stabilized with most effective stabilization methods that are compatible with longer-term marina use.
  - b. Zone 2: Beach Area (East of Stormwater Structure)
    - i. City is concerned with sand eroding away if below high water mark. Pebble or stone may be more effective.
    - ii. The City showed interest in the log breakwater structure as a temporary measure, but not a permanent one.
    - iii. Accessibility for the community is the driver.



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220 East Fifth Street  
Suite 325  
Moscow, Idaho 83843  
(208) 882-7858

**Spokane Office**  
707 West Main Avenue  
Suite B1  
Spokane, Washington 99201  
(509) 252-5021

**Kellogg Office**  
1220 Big Creek Road  
Suite A  
Kellogg, Idaho 83837  
(208) 786-1206

**Boise Office**  
988 South Longmont Avenue  
Suite 200  
Boise, Idaho 83706  
(208) 336-7080

c. Zone 3: Wetland Inner Bend

- i. There was discussion of replacing the vegetation in the wetland with native wetland vegetation to create a higher value wetland.
- ii. City will take the lead on discussions with IDFG to determine the extent IDFG could participate in long term wetland maintenance.
- iii. Argument may be made that current wetland is low quality and can be restored to high quality wetland. Potential to leverage as on-site mitigation for permitting.
- iv. The City introduced the possibility of extending the waterfront to reclaim some of the land mass that has been lost over time due to erosion.

d. Zone 4: Wetland Outer Bend

- i. City is okay with just large Riprap here if necessary, but a more nuanced approach of providing a gradient of vegetation where zones transition into each other should be explored.
- ii. The City is concerned with maintenance of bio-stabilization measures in certain areas. Design needs to minimize O&M requirement.
- iii. Constructability with respect to low water is a concern in this area.

e. Zone 5: Southeast Corner (Point of Confluence)

- i. Jim Martin indicated that boat wakes may be causing major erosion in this area.
- ii. Recreation is not ideal here due to safety. The City would prefer that no water access be placed here. A viewing patio may be more ideal.
- iii. The City expressed interest in the natural stone steps and said that these may work well on Priest River (Zone 6) or west of wetlands.

f. Zone 6: Priest River Shoreline

- i. The Railroad ROW is 60 ft from Center of tracks (30-ft each side from centerline).
- ii. The City would like to keep this zone more natural.

4. Final Considerations and Design Limitations: 11:30 AM to 11:40 AM

- a. This discussion was ongoing throughout the meeting. Design shoreline to be stable for 100-year event to extent possible.

5. Vision and Decision: 11:40 AM to 12:00 PM (See notes on following Pages)

**Questions:**

- In Zones 1 and 2, what would the City like to do with existing pilings? – Debris removal will be required. No conclusion was reached on pilings, but they will require removal in public access areas for safety.
- For Zone 2, how far above and below the high-water mark (2067.5') would the City like the beach to extend? – No conclusion reached but the beach is important for access. Below the high water mark, stone may be more ideal to reduce erosion of material.

Exploration of different sand and stone, material placements, and terraced beaches with access points to be explored.

- For the Zone 3 and 4 Wetlands, does the Shoreline Stabilization scope include the bank behind the wetlands? - Unclear. Alta will look into softer vegetation techniques in this area if stabilization measures are needed.
- Is there flexibility to move access points shown in Zone 5. - Yes, provide access in safe and practical locations.

**Vision and Decision:**

**Zone 1: Marina**

- **Stabilization:**
  - A. **Riprap Armor** – Riprap preferred in this stretch because of maintenance and it is the most compatible for a marina in the future. Riprap would also match stabilization at existing concrete pier.
  - B. Bio-stabilization (Bush Mattress) – no preferred in this zone.
- **Additional Notes:**

**Zone 2: Beach**

- **Beach Material:**
  - A. **Pebble Rock** – Preferred below water and closer to wetland.
  - B. **Sand** – Above ordinary high water or in areas protected from erosion.
- **Toe Stabilization:**
  - A. **Riprap Armor** – Preferred if access (steps) can be incorporated into it. Incorporate in a way that people are not scrambling or walking on jagged material.
  - B. Log Breakwater
- **Additional Notes:**
  - Include a beach area above high water. Maximize accessibility. Sand under water with gradual slope to provide access for kids.

**Zone 3: Wetland (Inner Bend)**

- **Stabilization:**
  - A. **Fiber Rolls**
  - B. **Root Wads**
  - C. Riprap Armor + Root Wads
  - D. Riprap Armor
  - E. Sheet Piles
- **Additional Notes:**

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- Preference shown to natural stabilization measures if stable. Make sure natural treatments appear natural to extent possible – avoid logs spaced at exact distances apart. Vegetated riprap with top cap could be considered.

**Zone 4: Wetland (Outer Bend)**

- **Stabilization:**
  - A. Riprap Armor + Root Wads
  - B. Riprap Armor**
  - C. Sheet Piles
- **Additional Notes:**
  - Riprap preferred but use transition to larger rock only where necessary. Explore transition of in/out of vegetative riprap around bend. Vegetation on top of rip rap and intermixed to break it up visually is okay.

**Zone 5: SE Corner**

- **Access:**
  - A. Terraced Crib Steps
  - B. Concrete Steps
- **Additional Notes:**
  - Water access will not be provided here. Use large riprap for stabilization. Incorporate vegetation.

**Zone 6: NE Face**

- **Stabilization:**
  - A. Riprap Armor + Green Bulkhead**
  - B. Vegetated Riprap
  - C. Riprap Armor
- **Additional Notes:**
  - Imitate nature to mitigate maintenance. Zone 6 to be a more natural area.

**Action Items:**

- The City would like to take the new concept to the public. Steve Gill suggested that a new concept similar to the master plan but focused on the shoreline stabilization be made.
  - Alta to provide notes and more focused information for concept.
  - Alta will work with Dell Hatch to provide concept drawings.
- The City will Discuss wetland maintenance with IDFG.
- The City and DEQ would like permitting application submitted in June or July of 2025.





# Two Rivers Park - Shoreline Stabilization Design Development Workshop

October 28, 2024



**Alta**  
Science & Engineering, Inc.



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PRIEST RIVER, IDAHO

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Pend Oreille Lake Supervisory Area  
Navigable Waters

# Agenda:



- 10:00am – 10:15am Workshop Purpose, Goals, and Outcomes
- 10:15am – 10:35am Building on the Master Plan Public Comments
- 10:35am – 11:30am Shoreline Zones, Major Features, Stabilization Options
- 11:30am – 11:40am Final Considerations and Design Constraints
- 11:40am – 12:00pm Your Vision and Decisions

## Master Plan Vision Statement:

*"Our mission is to develop a sustainable multi-use park that serves Priest River as a community gathering space and provides varied year-round recreational opportunities for Bonner County residents as well as visitors. The park shall include uses and venues that generate revenue to ensure long term viability of the park by offsetting and/or contributing to operation and maintenance costs." - The Joslyn Property Steering Committee*

## Master plan Goals and Values\*:

- To the greatest extent practical, maintain and enhance park space and public waterfront as community gathering spaces.
- Preserve and utilize existing waterfront for public use.
- Create a financially sustainable park plan.

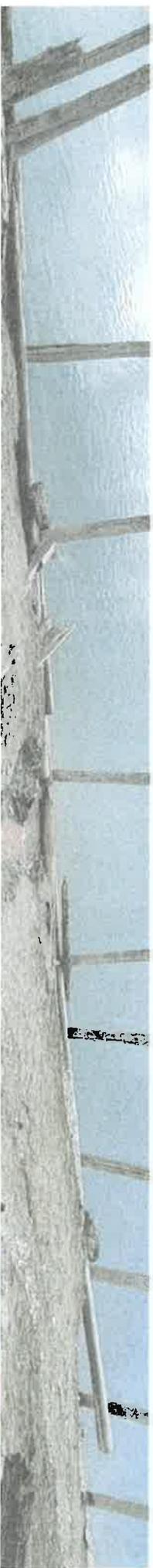
*\*Excludes goals and values less related Shoreline Stabilization*

# Shoreline Stabilization

**Purpose & Goals:** To stabilize the shoreline around the entire Two-Rivers park perimeter to preserve the land for the multi-use park.

## **Project Objectives:**

- Assess the feasibility of Master Plan concepts and execute to the greatest extent practical.
- Incorporate public feedback from the Master Plan
- Use a combination of hardscape and naturalized methods to protect the shoreline from erosion.
- Design a project that is likely to secure a permit within a reasonable timeline.
- Ensure that the stabilization methods chosen are protective of water quality.
- Provide stabilizations that do not restrict the City from future plans/additions



# Public Comments from Master Plan

For and foremost, I would like to see biking/walking paths along the water and through the landscape. Wheel chair accessible would be preferable. I am 81 and in good health and very active, but there are many that need smooth surface to walk or wheel on safely.

A public park that preserves natural features and water quality would be a great asset for residents of Priest River, Bonner County, and visitors alike.

Additionally, we encourage that you maintain the natural character of the area and refrain from cutting large, mature trees.

Maintaining river shading, conserving wetlands and shoreline riparian vegetation and NOT replacing existing vegetation with rip-rap is critical for the long term protection of terrestrial and aquatic species and habitats including federally threatened and endangered species such as; Bull Trout.

## **Enhance wetlands and restore wetland connectivity and use live bank stabilization methods.**

Please consider using ecologically sensitive (living) bank erosion controls instead of just riprap. There are many applications of bank stabilization that maintain riparian habitat functions for the betterment of wildlife, hikers and fisheries. There are some hybrid bank armoring options with live vegetation. An example is below, also see the bank restoration at the park in Cusick, Washington, which provides fish habitat. IDFG or the Kalispel Tribe could provide useful information on the best methods, this is just an example. Developing a trail with a setback from the water's edge with occasional viewpoints or to a fishing pier would also help maintain riparian function.

- ✓ Promotes pedestrian access to shoreline
- ✓ Preserve and maintain ecological value (large mature trees, wetlands, and biodiversity)
- ✓ Protect and enhance water quality
- ✓ River shading



# Zone 1 & 2: Existing Conditions

## Ex. Conditions and

## Observations:

- Zone 1 Length: 300'
- Zone 2 Length: 900'
- 1H:1V Bank above OHW
- 4H:1V between OHW and low water.
- Existing Debris and Wood Piles
- Stormwater structure that will need new outlet and stabilization
- Less impact from river velocities



*Photo 1: Zone 1 (Marina) at Low Water*

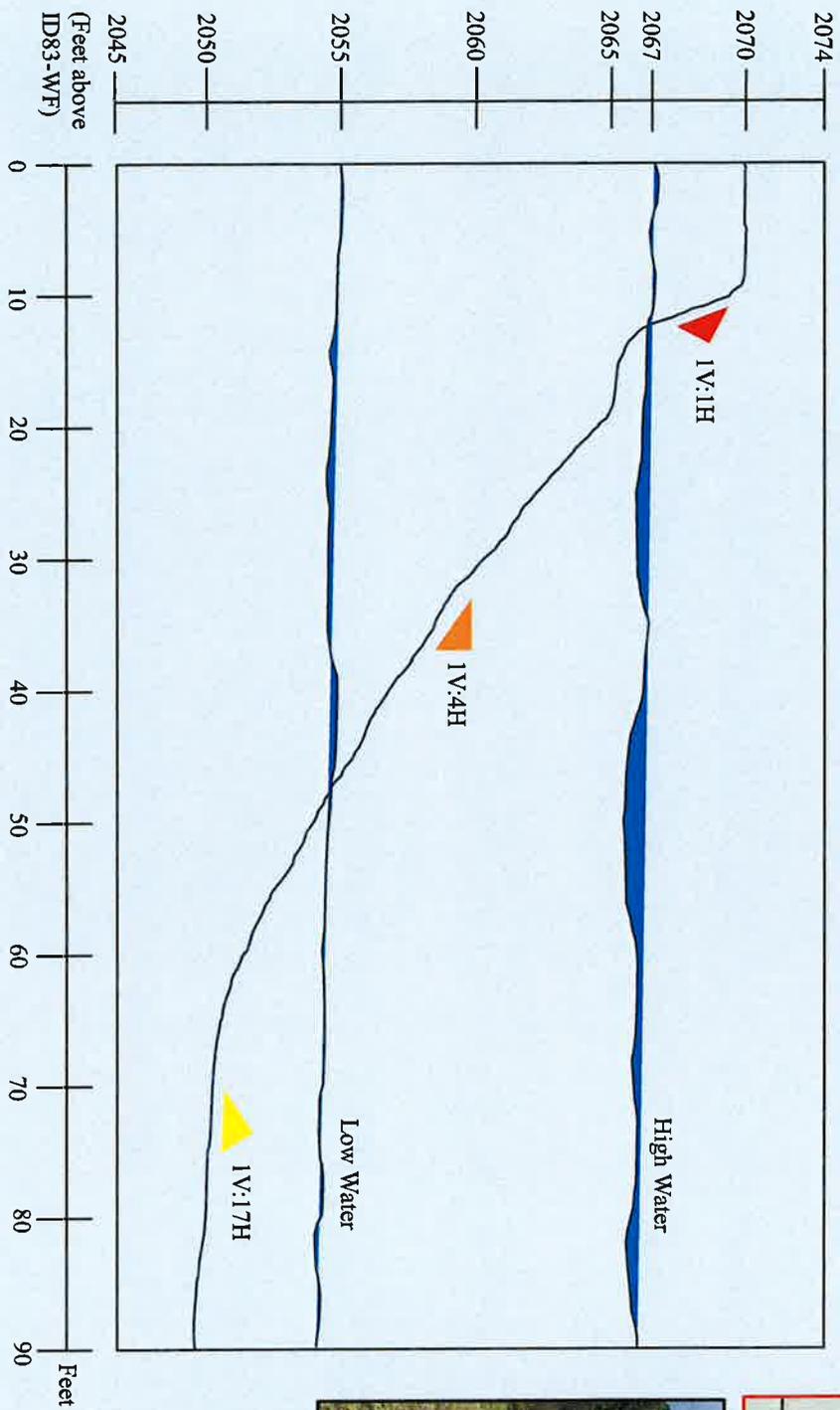


*Photo 2: Ex. Debris*



*Photo 3: Ex Stormwater Outlet and Zone 2 at Low Water*

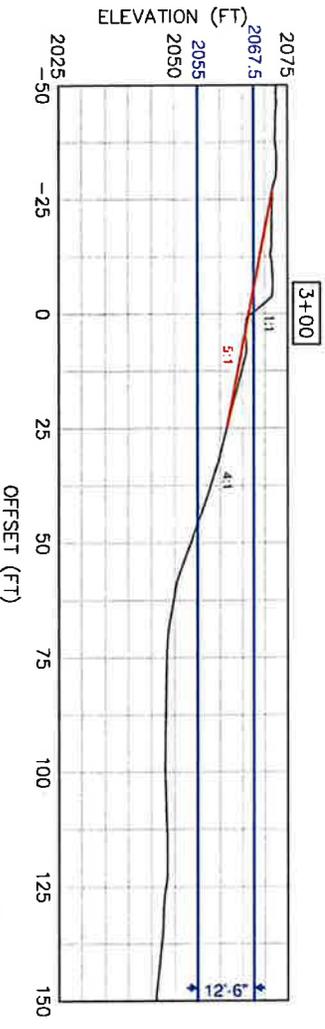
# Zone 1 & 2: Existing Conditions



*Zone 2 at Low Water*

# Zone 1 and 2: Beach Concepts

How can we meet expectations?



*Potential beach width to be between 40' and 50'*

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## Zone 1 & 2: Design Considerations

- Relatively slower velocities at location
- Removal of possible shoreline stability structures (posts, tires, etc.)
- Addition of more erosive material (sand)
- Potential excavation behind high-water mark of about 30' to 40'
- Beaches ideally graded between 1V:5H to 1V:7H
- Meets 100-year flood criteria
- Possible removal of mature vegetation



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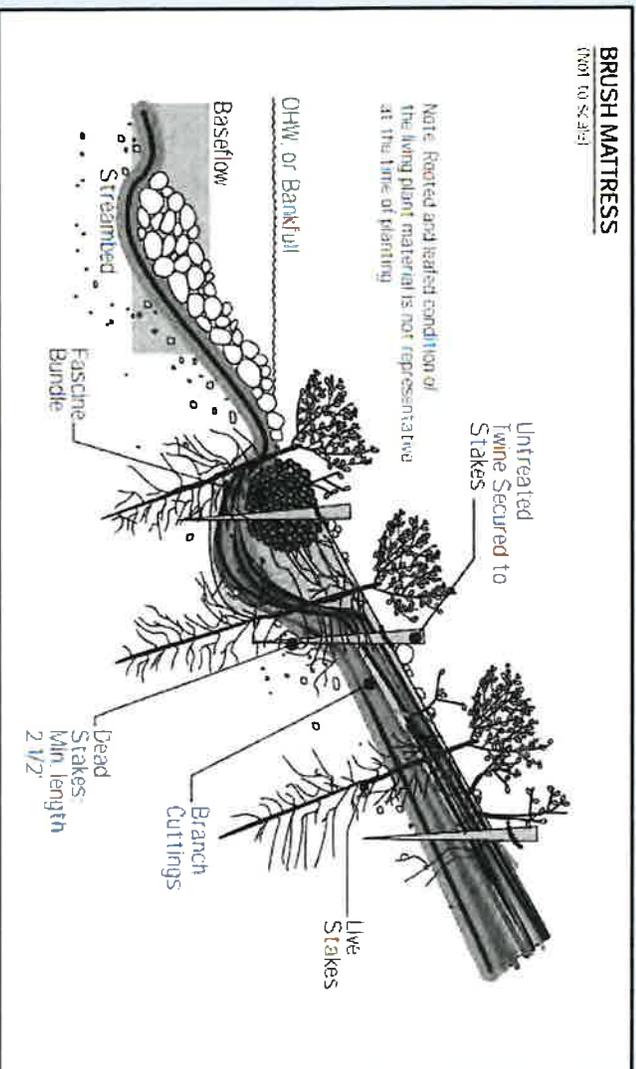
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# Zone 1: Stabilization Concept (right of the outfall structure)

## BRUSH MATTRESS

(NOT TO SCALE)



- Soft armor
- Maintains natural bank appearance
- Reduces surface erosion



Robert R. Soltau Associates, Inc.

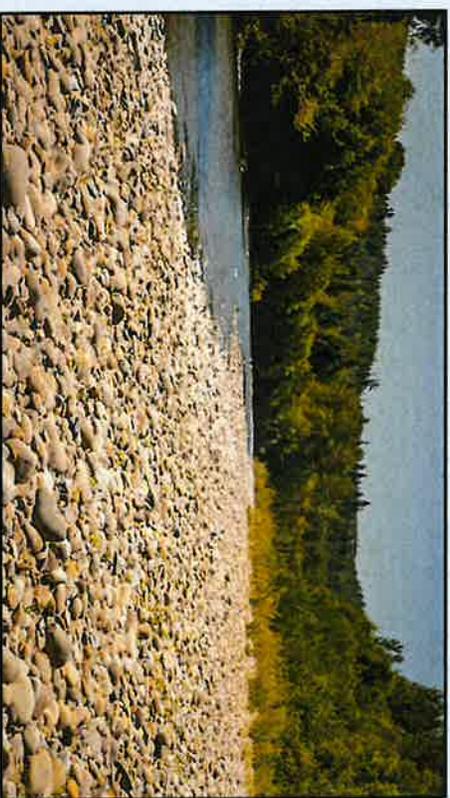


Robert R. Soltau Associates, Inc.

## Zone 2: Stabilization Concept (left of the outfall structure)

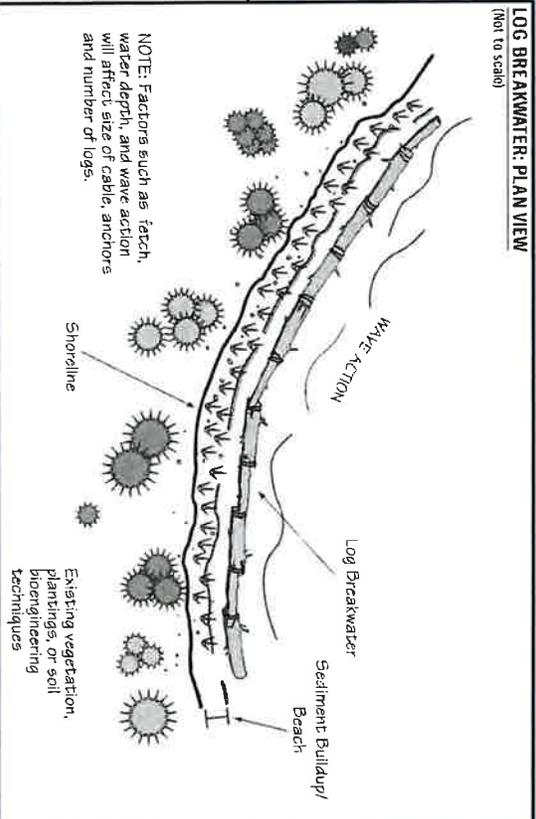
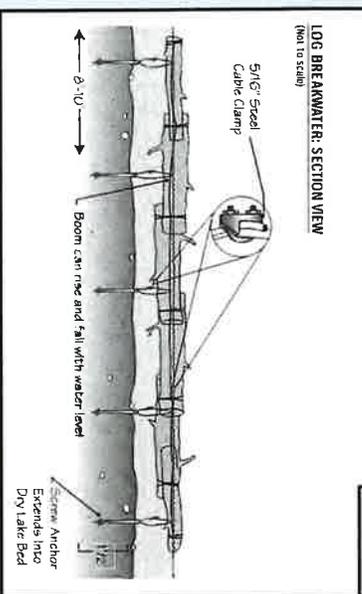
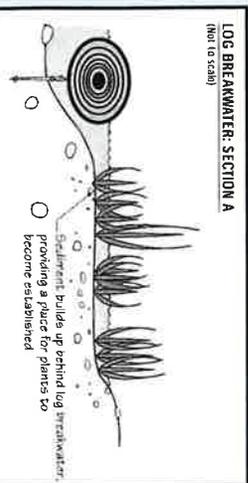


-Rip rap toe



-Beach created out of less erosive material such as small rock

# Zone 2: Beach Additional Protection



- Moves with fluctuating water levels
- Promotes sediment buildup behind logs



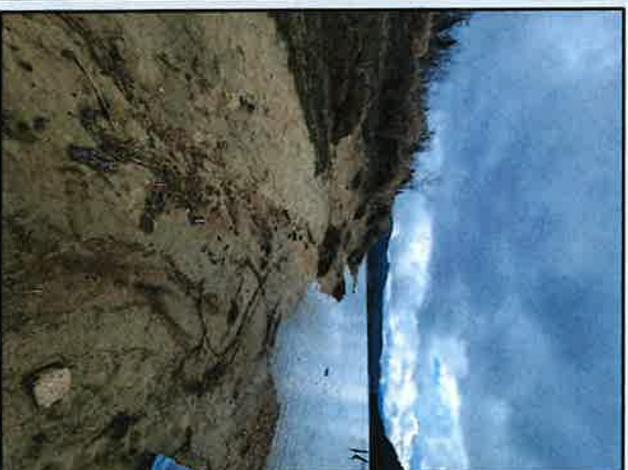
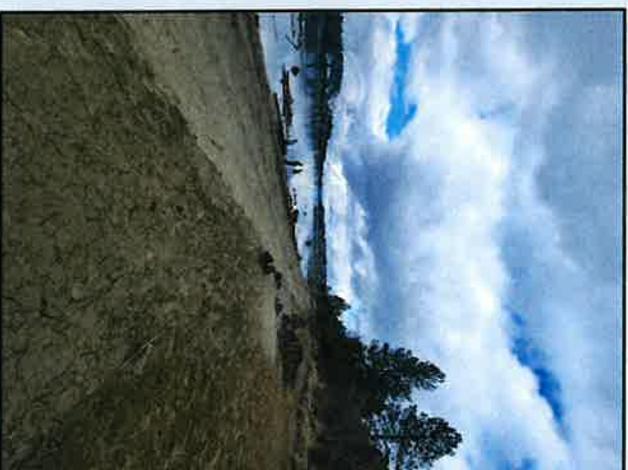
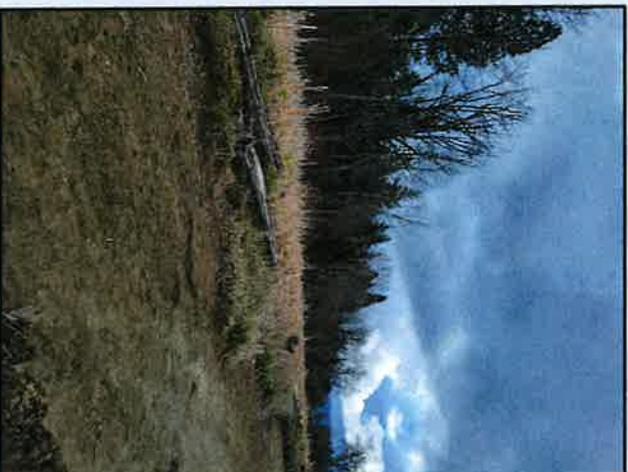
# Zone 3 & 4: Wetlands Existing Conditions

*Only in contact with the Pend Oreille River*



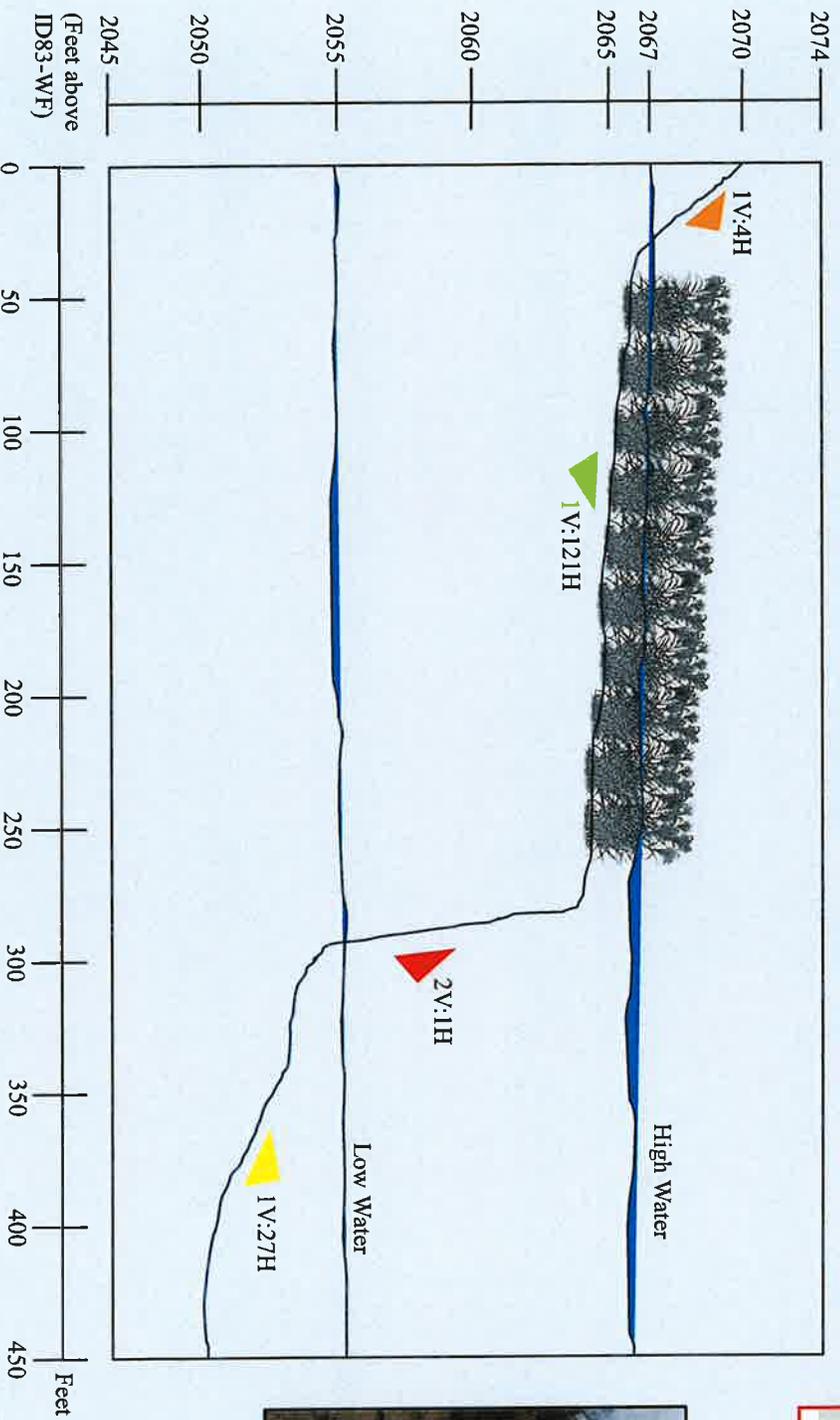
## Ex. Conditions and Observations:

- Zone 3 Length: 700'
- Zone 2 Length: 750'
- 4H:1V Bank above OHW
- Wetland Plateau to 1H:2V between OHW and low water.
- Moderate river velocities at Zone 3 to higher velocities at Zone 4



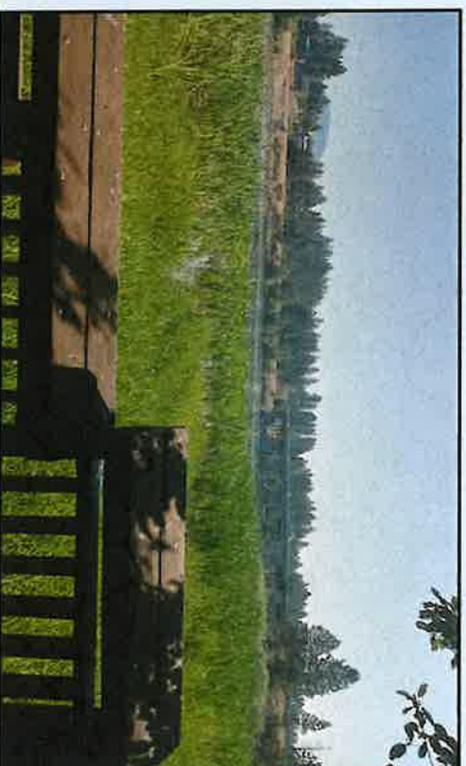
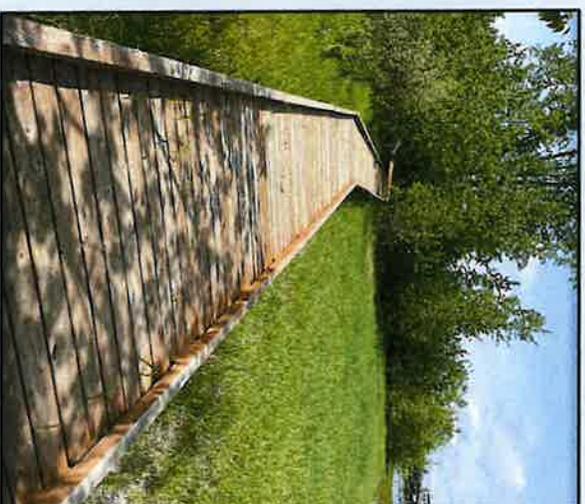
*\*At low water*

# Zone 3 & 4: Wetlands Existing Conditions



# Zone 3 & 4: Wetland Concept

*How can we facilitate this recreation activity?*



# Zone 3 & 4: Design Considerations



- Design for differential velocity impact and loss of sediment in the wetland
- Facilitating wetland habitat, consider more permeable options to allow for flow of water in and out of wetland territory
- Design for breaking down water energy to avoid scour effects
- Ability to withstand a 100-year flooding event
- Compatibility with large slopes

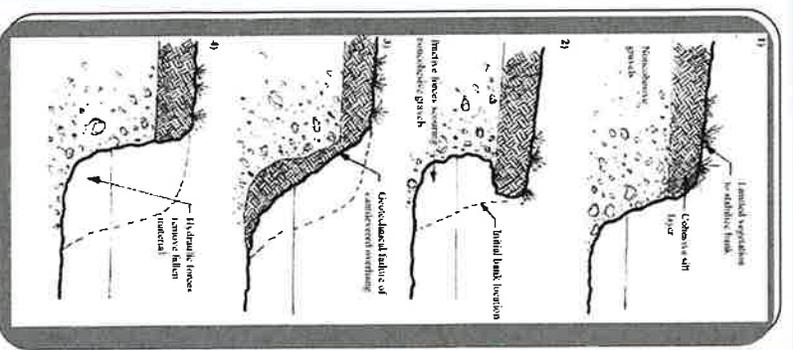
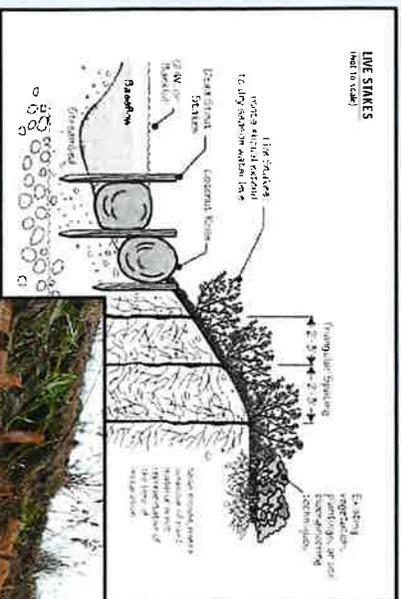
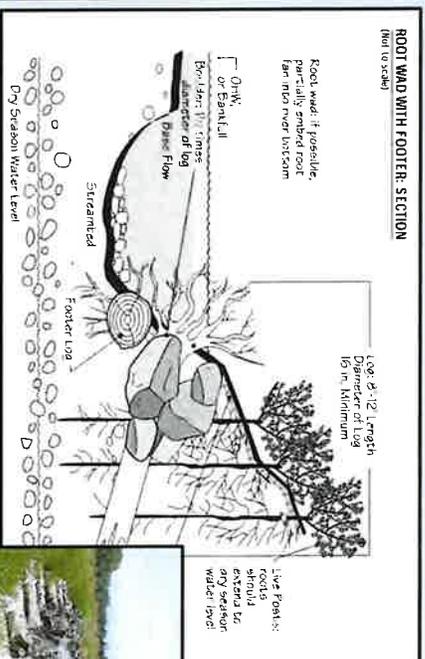


Fig. 3.5 Stratified Streambanks and Combination Failures (Adapted from Johnson and Sygula 1993)

# Zone 3 (Inner Bend): Stabilization Concepts

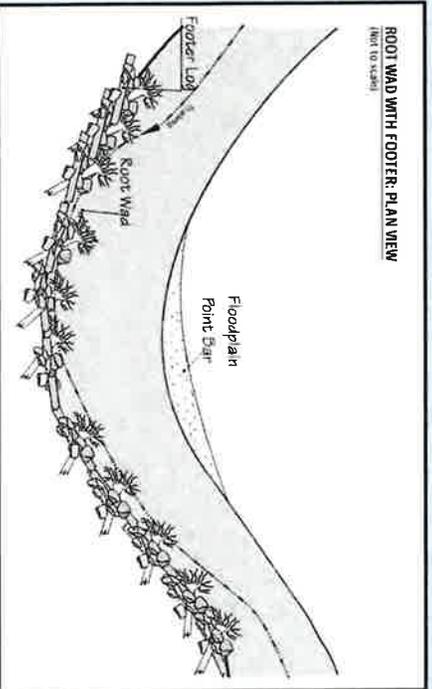
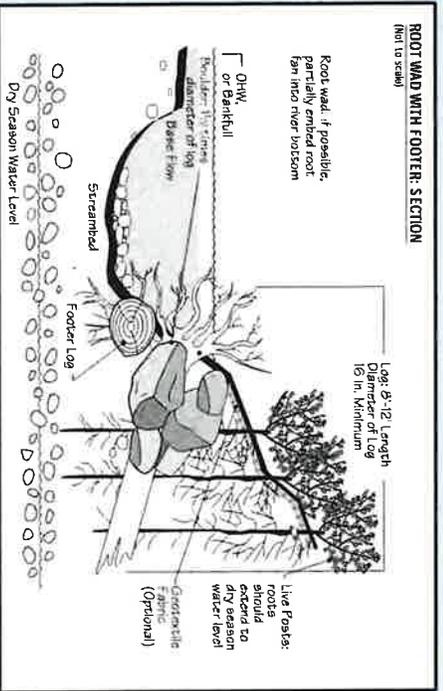


- Stabilizes bottom of slope with dead stakes and coconut rolls
- Promotes fish habitat when submerged



- Stabilizes bottom of slope with boulders and root wads
- Promotes fish habitat when submerged
- Installation disturbs existing wetland

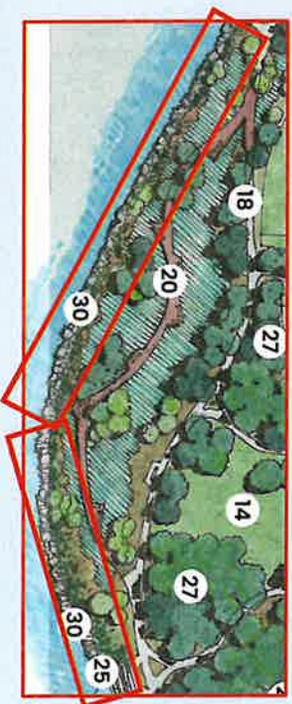
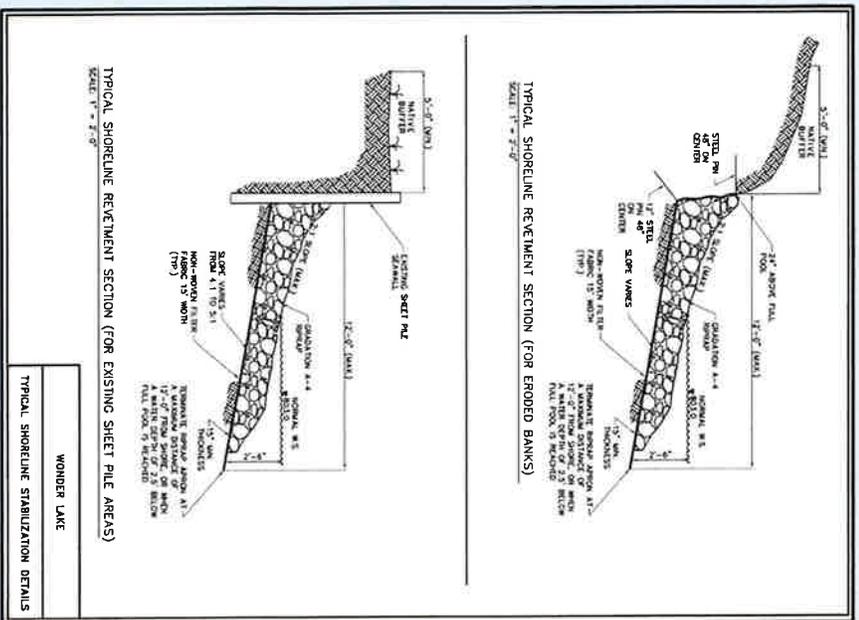
# Zone 4 (Inner Bend): Stabilization Concepts



- Assumed higher velocities
- Add more rock



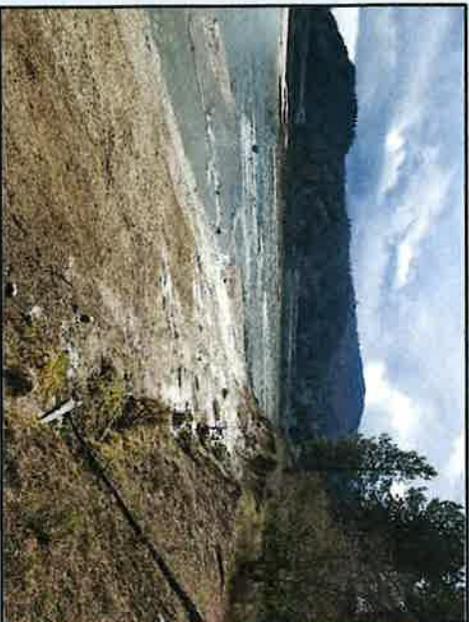
# Zone 3 & 4: Stabilization Concepts



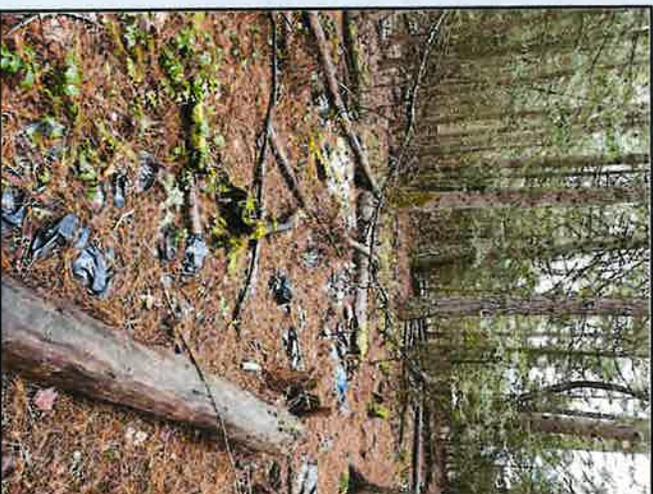
- Sheet pile around entire wetland boundary
- Would involve cut and fill method
- Potential 50' expansion of wetlands
- Not permeable, would need to space accordingly for water flow in and out of wetland
- Restricts wetland access to kayakers

# Zone 5: Existing Conditions

*Located immediately after the wetland zone, shoreline in contact with the Pend Oreille and Priest Rivers*



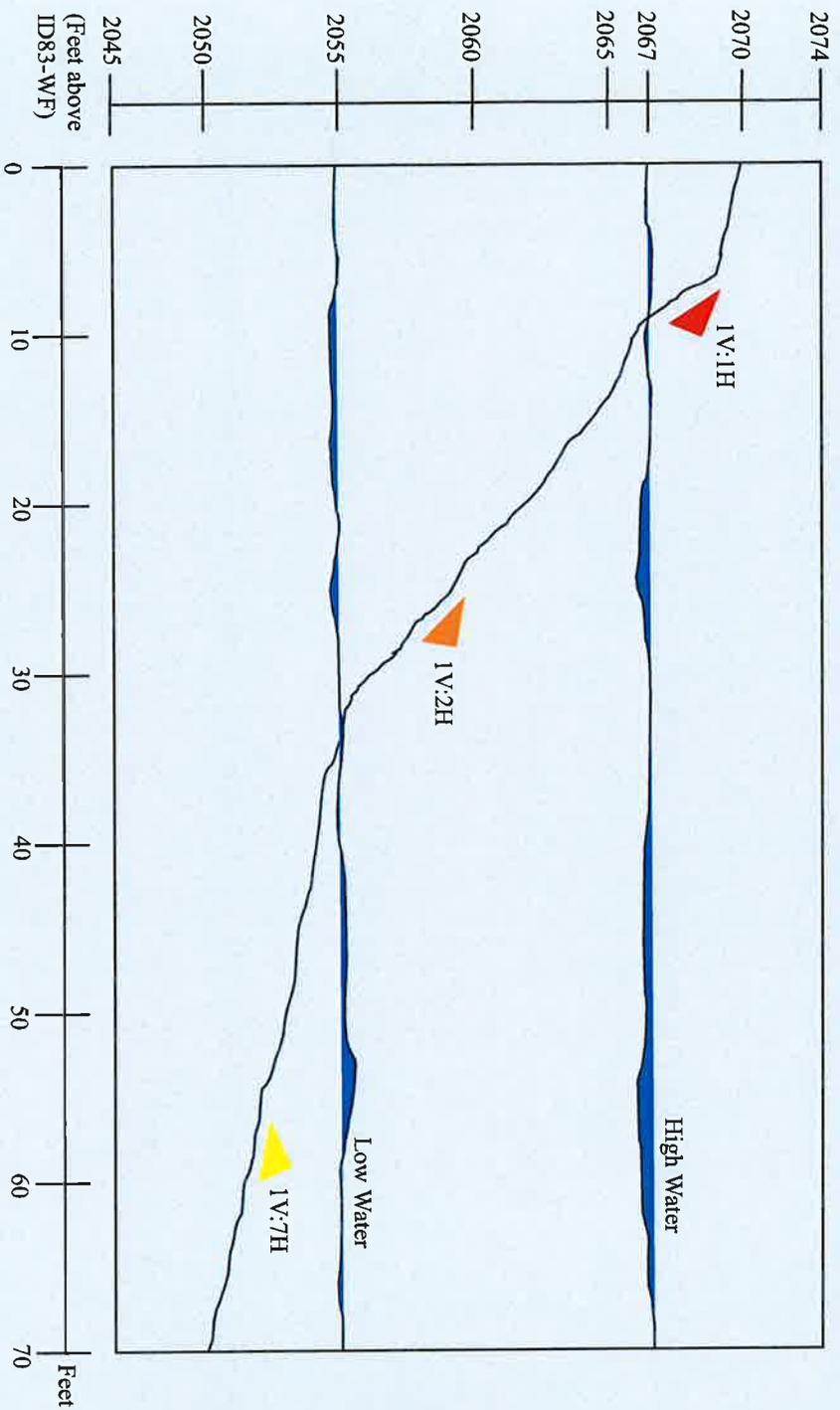
*\*At low water*



## **Ex. Conditions and Observations:**

- Zone 5 Length: 250'
- 1H:1V Bank above OHW
- Wetland Plateau to 2H:1V between OHW and low water.
- Point of Confluence
- Appears to experience high river velocities

# Zone 5: Existing Conditions



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## Zone 5: Design Considerations

- Zone of confluence, high erosion
- Pitched rip rap, we can determine size of rock depending on velocities at the confluence, as well as forces impacting this area
- Survives 100-year flooding event
- Hard armor suggestion
- Influenced by secondary flow channels from Priest River
- Fluctuation in water levels pose challenge for implanting vegetation



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# Zone 5: Stabilization Concepts

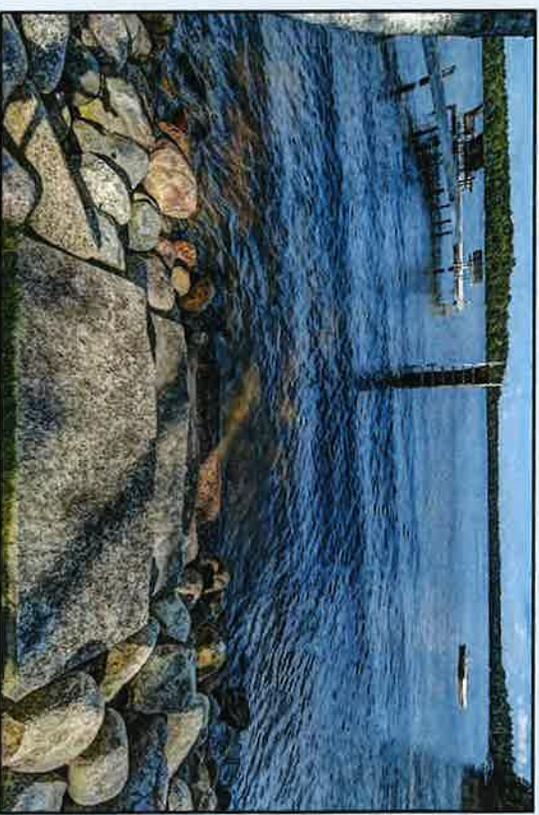
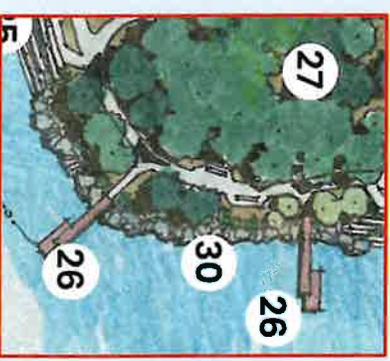


- Targeting areas where pedestrian access is desired
- Terraced Crib design method
- Removes usage of traditional building materials (concrete and steel)
- Protects against further erosion

# Zone 5: Stabilization Concepts



- Atlas beach inspiration
- Traditional building materials
- Combination of rip rap and concrete steps



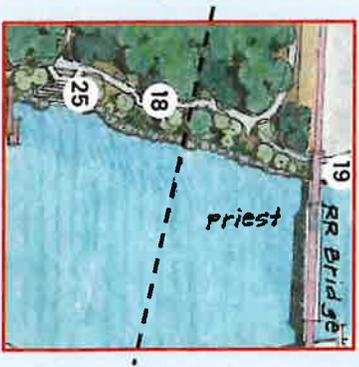
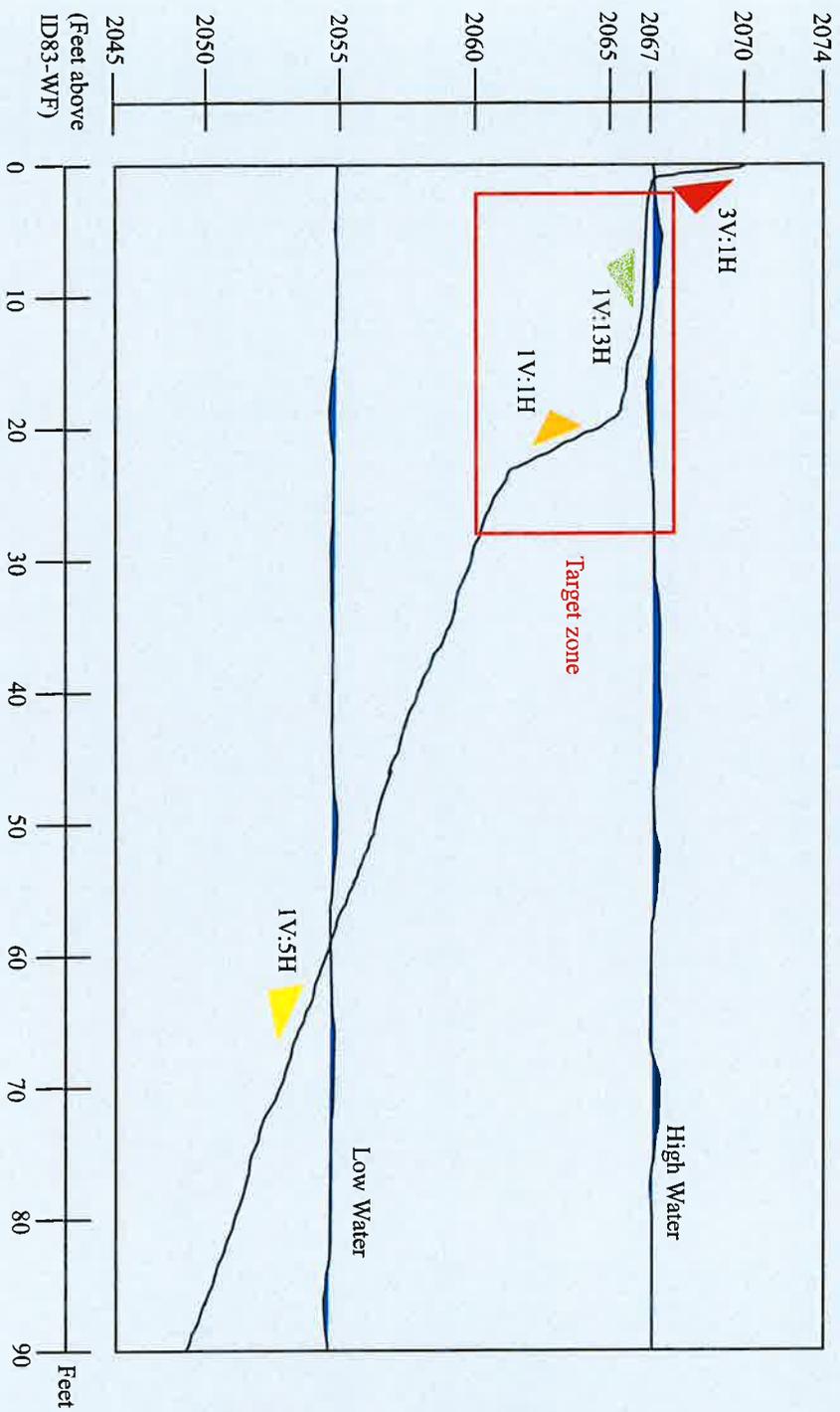
# Zone 6: Existing Conditions



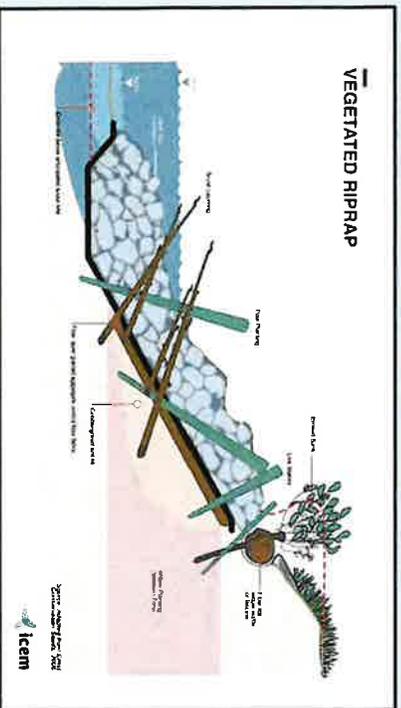
## Ex. Conditions and Observations:

- Zone 6 Length: ~700'
- 1H:3V Bank above OHW
- Wetland Plateau to 1H:1V between OHW and low water.
- Bound between a high scour zone and railway bridge

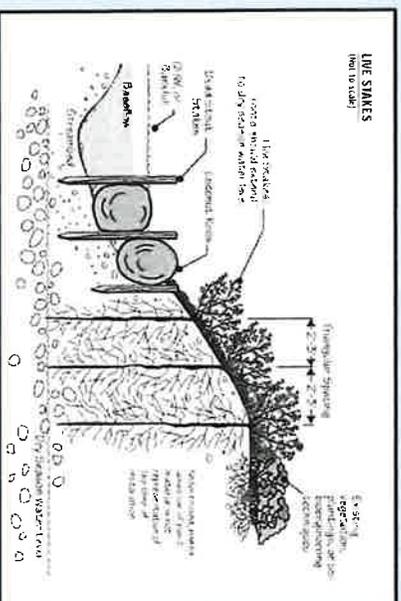
# Zone 6: Existing Conditions



# Zone 6: Stabilization Concepts



-Consider vegetated rip rap with live staking as “bulkhead”





# VISION & DECISION



Idaho Department of Lands

**JAN 05 2026**

Pend Oreille Lake Supervisory Area  
Navigable Waters

# Vision: Zone 1 & 2



## Zone 1: Marina



A

Brush  
Mattress

OR



B

Rip Rap

## Zone 2: Beach



A

Pebble Rock

OR



B

Sand



Log Breakwater



Rip Rap Toe

# Vision: Zone 3 “Wetland”



## Inner Bend



**A: Fiber rolls**



**B: Root wads**



**C: Riprap w/  
root wads**



**D: Riprap**



**E: Sheet piles**

## Outer Bend



**A: Riprap w/  
root wads**



**B: Riprap**



**C: Sheet piles**

# Vision: Zone 5

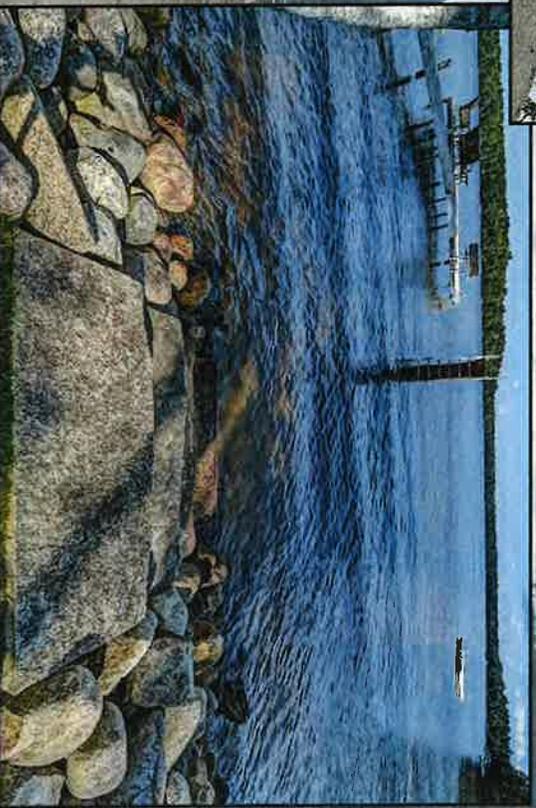


Above and Below: The 6 ft by 6 ft frames were installed from the bottom up.



Instead of a wall, looking up towards the parking lot. Note that Zone 5 dropped at the top where the timber's form a retaining wall.

OT



## B: Concrete steps and rip rap

## A: Terraced crib steps

# Vision: Zone 6



**A: Rip rap w/ green bulkhead**  
**\*live staking also an option\***



**B: Vegetated rip rap**



**C: Rip rap**