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Final

# BLACK MOUNTAIN ENERGY STORAGE

## Critical Areas Report

Prepared for  
Black Mountain Energy Storage

September 2025





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# BLACK MOUNTAIN ENERGY STORAGE

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## Critical Areas Report

### 1. Project Authorization and Scope of Work

Black Mountain Energy Storage proposes to construct a utility-scale battery energy storage system (BESS) project in Kittitas County, Washington. The land is currently under a purchase option, pending sale. Since Puget Sound Energy (PSE) operates the Wind Ridge substation and the surrounding grid, securing this interconnection represents a key milestone for the project.

Environmental Science Associates (ESA) staff conducted a field investigation of the study area (as defined below) per the scope of work, which included identifying, delineating, and rating/classifying wetlands and streams; verifying the presence of shrub-stepped habitat; conducting a ground squirrel survey; and preparing this Critical Areas Report in support of the project.

This report adheres to Kittitas County (County) requirements described in Kittitas County Code (KCC) 17A.04 (Fish and Wildlife Habitat Conservation Areas [FWHCAs]) and KCC 17A.07 (Wetlands). The report provides a brief overview of the proposed project, describes mapped natural resources, details methods used, presents the results of the field investigation, and documents potential regulatory implications associated with the identified environmentally critical areas. ESA's scope was limited to documenting the study area's existing conditions relative to wetlands and FWHCAs. Impact analysis, mitigation, flood and geologic hazard areas, and other geological critical areas are not addressed in this report.

### 2. Project Description

The utility-scale BESS would include construction of an on-site 200 megawatt (MW) standalone battery storage project with a 4-hour duration, power conversion systems, and transformers. Additional equipment that will be designed and installed as part of the project includes but is not limited to panelboards, auxiliary transformer, switchboards, polyvinyl chloride (PVC) conduit, impervious base surfaces and parking, and steel infrastructure designed to support the BESS. Detailed equipment specifications would be included in the final design documents.

The proposed, specialized infrastructure project would enhance the surrounding electrical grid by providing immediate demand-response services and combat transmission congestion, market volatility, and supply shortage events (brownouts). It would also enable the integration of intermittent renewable energy resources. The BESS would interconnect to PSE's Wind Ridge substation, located at the corner of Interstate 90 (I-90) and Stevens Road (**Appendix A, Figure 1**). The target online date is the end of 2029; advance planning is necessary for the project given the lengthy regulatory approval process. A conceptual site layout plan is provided in **Appendix A, Figure 2**.

### 3. Project Location

The study area is located on a 36.35-acre site within the southwestern quarter of Section 14 of Township 17 North, Range 20 East, Willamette Meridian, in unincorporated Kittitas County, Washington, approximately 13 miles southeast of Ellensburg. The study area is an irregularly shaped portion of agricultural land (primarily tax parcel no. 653936; map number 17-20-14030-0006). It is bordered by westbound I-90 to the south, Stevens Road to the east, and the Palouse to Cascades State Park Trail corridor to the west (**Appendix A, Figure 1**). The Highline Canal (an irrigation canal operated by the Kittitas Reclamation District) runs diagonally from the northeast to the southwest of the parcel, with transmission lines running parallel to the north side of the canal in the central portion of the parcel. These lines then cross the canal and connect to the off-site PSE Wind Ridge substation east of Stevens Road.

A review of past and current land use shows that the landscape within and near the study area has been altered over time. Analysis of historic topographic maps and aerial imagery from the late 1930s through the 2000s did not reveal any buildings or significant structures within the study area during that period (ESA 2025). The closest buildings were located along what is now Boylston Road, approximately 500 feet south of the study area, but were likely removed before the construction of I-90 around 1957 (ESA 2025). Aerial imagery from 1955 indicates that land surrounding the study area was used for cropland agriculture, but not within the study area itself. Given its ownership by cattle rangers, it seems likely that the study area was historically used for grazing cattle, which, based on current site observations, appears to continue today.

In 2006, the Renslow Microwave Tower was constructed within the study area at the top of the hill near the north boundary (ESA 2025); this tower is still standing at this location today.

### 4. Methods

Methods for the study included a review of existing documentation, followed by a field investigation focused on wetland delineation, wetland rating, and assessment of Fish and Wildlife Habitat Conservation Areas.

#### 4.1 Review of Existing Documentation

ESA reviewed the following data sources for specific information about the ecological and geographic conditions within the study area for the Black Mountain Energy Storage project:

- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (USFWS 2025b).
- Kittitas County Critical Areas Ordinance Wetlands map (Kittitas County 2025).
- Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2025a).
- Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) mapping (WDFW 2025).
- Washington Department of Natural Resources (WDNR) Forest Practices Application Mapping Tool (WDNR 2025).
- USFWS Information for Planning and Consultation (IPaC) (USFWS 2025a).

Online mapping resources indicate the potential presence of critical areas in the vicinity of the project site; however, these resources are not definitive and may not reflect current site conditions. Fieldwork combined with technical studies must be conducted to verify the presence and extent of wetlands, streams, and other critical areas.

## 4.2 Field Investigation

Field investigations were conducted on May 8 and June 11 of 2025. After the first field investigation there was a revision to the study area, so ESA biologists returned to assess areas previously not included in the study area. ESA biologists delineated wetlands within the study area according to local, state, and federal guidelines. Wetlands were delineated using the Routine Determination Method in the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region – Version 2.0 (USACE 2008) as approved by the Washington State Department of Ecology (Ecology). These methods rely on the presence of three criteria to determine wetland areas: (1) the dominance of wetland (i.e., hydrophytic) plant species; (2) the presence of hydric soils; and (3) indicators of wetland hydrology, such as soil saturation to the surface or water ponding. Wetland habitats were assessed using the USFWS habitat classification system (Cowardin et al. 1979).

ESA biologists used methods outlined in Ecology’s *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson 2016) to assess streams (watercourses) in the study area.

Wetland and watercourse boundaries were identified, and the boundary points and sample plot locations were recorded using the ArcGIS Field Maps application on an Apple iPad paired with an EOS Arrow surveyor device with sub-meter accuracy. Where wetlands extended beyond the study area, only those portions of the wetland within the study area were surveyed; the area of portions that extended beyond the study area were estimated based on visual observation of site features and conditions.

Several tools were used to identify and classify plants and soils examined within the study area. The wetland indicator status and scientific names of plants were identified using the 2022 National Wetland Plant List – Arid West Region (USACE 2022). Hydric soil conditions were assessed using *Field Indicators of Hydric Soils in the United States*, Version 9.0 (NRCS 2024).

ESA was requested to conduct a Townsend’s ground squirrel (*Uroditellus townsendii townsendii*) survey because they’re known to reside in the general vicinity of the study area. The survey was conducted by walking the site in east-west transects from each end of the study area. Biologists walked the transects approximately 100 feet apart from one another, in close enough proximity to communicate and see one another during the survey. The study area was assessed for signs of the ground squirrels including calls, dens, and scat.

## 4.3 Wetland Classifications and Functional Assessment

Functions for the wetlands within the study area were assessed according to the *Washington State Wetland Rating System for Eastern Washington (Rating System)* (Hruby 2014). The Rating System first assesses a wetland’s hydrogeomorphic (HGM) classification and then assigns multiple aspects relating to

each function type (water quality, hydrology, and habitat) a high, medium, or low level of function based on the wetland's attributes.

The County has codified the use of the Rating System (KCC 17A.07.020.4) and assigns wetland buffer widths based on the category and land use. County wetland buffers range from 25 to 250 feet (KCC 17A.07.030.4).

## 5. Existing Documentation

The following sections describe the results of the existing conditions review and field investigation.

### 5.1 Climate and Precipitation

The climate in Eastern Washington generally includes warm, dry summers and cold, dry winters with temperatures often reaching below freezing from December through February. Over the course of the year, the average temperature typically varies from 22 degrees Fahrenheit (°F) to 89°F, and most precipitation falls as snow (NRCS 2025c). The average growing season runs from April 22 to October 18 (179 days) each year (NRCS 2025a). **Table 1** and **Table 2** compare the WETS (Climate Analysis for Wetlands Table) average precipitation data with actual precipitation recorded before and during the field investigation (NRCS 2025c). ESA biologists reviewed precipitation data for the 3 months and 2 weeks prior to the field investigation, as well as during the survey itself, and compared these data to the normal range of precipitation for the weather station.

**TABLE 1**  
**AVERAGE PRECIPITATION VS. MEASURED PRECIPITATION FOR THE WATER YEAR, MAY 2025**

Time Interval	Recorded Precip.*	WETS			Within Normal Range?
		Average*	30% Chance Less*	30% Chance More*	
Prior Year (May 2024–April 2025)	9.18	8.70	7.67	9.98	Yes
<b>Three Months Prior to Field Investigation</b>					
February 2025	1.16	0.91	0.59	1.10	No (above normal)
March 2025	1.55	0.76	0.36	0.93	No (above normal)
April 2025	0.38	0.59	0.35	0.71	Yes
<b>Totals</b>	<b>3.09</b>	<b>2.26</b>	<b>1.30</b>	<b>2.74</b>	<b>No (above normal)</b>
<b>Two Weeks Prior to Field investigation</b>					
April 23–May 8, 2025	0.00	0.36	0.31	0.41	No (below normal)
<b>One Day Prior to and Day of Field investigation</b>					
May 7, 2025	0.00	0.03	0.026	0.035	No (below normal)
May 8, 2025	0.00	0.03	0.026	0.035	No (below normal)

\* Units are in inches

SOURCE: NRCS 2025a WETS Station: ELLENSBURG, WA

**TABLE 2**  
**AVERAGE PRECIPITATION VS. MEASURED PRECIPITATION FOR THE WATER YEAR, JUNE 2025**

Time Interval	Recorded Precip.*	WETS			Within Normal Range?
		Average*	30% Chance Less*	30% Chance More*	
Prior Year (June 2024–May 2025)	9.30	8.70	7.67	9.98	Yes
<b>Three Months Prior to Field Investigation</b>					
March 2025	1.55	0.76	0.36	0.93	No (above normal)
April 2025	0.38	0.59	0.35	0.71	Yes
May 2025	0.13	0.66	0.37	0.80	No (below normal)
<b>Totals</b>	<b>2.06</b>	<b>2.01</b>	<b>1.08</b>	<b>2.44</b>	<b>Yes</b>
<b>Two Weeks Prior to Field investigation</b>					
May 29–June 11, 2025	0.00	0.33	0.31	0.41	No (below normal)
<b>Day Prior to and Day of Field investigation</b>					
June 10, 2025	0.00	0.02	0.026	0.035	No (below normal)
June 11, 2025	0.00	0.02	0.026	0.035	No (below normal)

\* Units are in inches

SOURCE: NRCS 2025a WETS Station: ELLENSBURG, WA

The observed precipitation was within or above the normal range for each of the assessed time periods relative to the May 2025 field investigation. It was generally within the normal range for the assessed time periods relative to the June 2025 field investigation, except for the 1-month period prior to the June 2025 field investigation, which recorded below-normal precipitation. The two week periods prior to both of the field investigations were below normal. However, precipitation was within normal range for the prior water year relative to both field investigation dates. Therefore, the hydrology present at the time of the field investigation is considered to have been “normal” for the time of year.

Although precipitation was near normal during each period, it likely did not significantly influence wetland hydrology. Most of the wetlands and other waters present in the study area appear to have historically received hydrology directly from Highline Canal leaks, which was repaired within the last 5 years. This hydrology source, and now lack thereof, appears to impact hydrology more than recent precipitation.

## 5.2 Mapped Wetlands

The NWI maps a riverine unconsolidated bottom non-tidal permanent excavated (R2UBHx) wetland and a riverine unconsolidated bottom non-tidal semi-permanent excavated (R5UBFx) wetland in the approximate location of the Highline Canal. It also maps a linear palustrine forested broad-leaved (PFO1C) wetland in the southwestern corner of the study area west of the trail corridor, and freshwater emergent wetlands (**Appendix A, Figure 3**) in the southeast and the northeast corners of the study area close to Stevens Road (**Appendix A, Figure 3**; USFWS 2025b). The County mapping indicates the following Wetland Codes in the vicinity of the study area: PEM1C, PFO1C, R2UBHx, and R5UBFx (Kittitas County 2025). These correspond with the NWI mapping (**Appendix A, Figure 3**).

### 5.3 Mapped Fish and Wildlife Habitat Conservation Areas

The County regulates FWHCAs under KCC 17A.04. FWHCAs include areas apart from wetlands that have a primary association with federally listed endangered, threatened, and candidate species of fish or wildlife, or state-listed endangered, threatened, sensitive, candidate, and monitor species that, if altered, may reduce the likelihood that the species will survive and reproduce over the long term. These areas include waters of the state, naturally occurring ponds smaller than 20 acres; lakes, ponds, streams, rivers planted with game fish by a government or Tribal entity; state natural area preserves; and state wildlife areas.

The WDFW PHS maps rainbow trout (*Oncorhynchus mykiss*) as potentially occurring within the study area (WDFW 2025), but it is not a federally listed species. Priority Habitats mapped in the study area include shrub-steppe and biodiversity areas and corridors (WDFW 2025; **Appendix A, Figure 6**).

The WDNR maps a perennial fish-bearing stream on the site along the southern extent of the study area, as well as east of the study area (WDNR 2025; **Appendix A, Figure 7**). WDNR also maps a portion of an unknown/unclassified watercourse at the northeastern portion of the study area.

The USFWS IPaC indicates that the following threatened and endangered wildlife species have the potential to occur in the study area:

- Gray wolf (*Canis lupus*)
- Yellow-billed cuckoo (*Coccyzus americanus*)
- Bull trout (*Salvelinus confluentus*)
- Monarch butterfly (*Danaus plexippus*)

Townsend's ground squirrel are mapped in the general vicinity of the study area, but not in the study area. Other species of ground squirrel are mapped in the general area of the state, but well outside of the study area. The study area is not within a shoreline management area.

### 5.4 Mapped Soils

The NRCS Web Soil Survey maps four types of soil within the site: Grinrod-Horseflat-Rubble land complex, Brickmill gravelly ashy loam, Manastash-Durtash complex, and Durtash gravelly loam (NRCS 2025a; **Appendix A, Figure 4**). The Grinrod series consists of moderately deep, well-drained soils formed in colluvium and residuum from basalt and loess. Grinrod soils are on footslopes, hillslopes, ridgetops, and benches. Slopes are 3 to 75 percent. The Horseflat series consists of very cobbly loam in an area of rangeland, on a 38 percent, north-facing slope at an elevation of 610 meters. Rubble land refers to areas characterized by broken stone and irregularly shaped debris, often found in soil. The Brickmill series consists of very deep, moderately well-drained soils formed in old alluvium with an influence of volcanic ash in the upper part. Brickmill soils are on piedmont slopes grading from mountain footslopes to basin floors. Slopes are 0 to 5 percent. The Manastash-Durtash complex is where the two soil series are geographically mixed. The Manastash series consists of moderately deep to a duripan, well-drained soils formed in loess and alluvium. Manastash soils are on fan remnants, terrace remnants, and partial ballenas of piedmonts. Slopes are 0 to 30 percent. The Durtash series consists of shallow to a duripan, well-drained

soils formed in loess and alluvium on alluvial fans. Slopes are 2 to 30 percent. None of these soils is included on the State Hydric Soils List (NRCS 2025b).

## 6. Results of Field Investigation

### 6.1 Overview

The landscape in the study area (**Appendix A, Figure 1**) includes hillslopes along the eastern and southern portion of the area and gently sloping areas throughout the northwestern portion of the area. The hillslopes range from approximately 14 percent along the eastern side of the study area to approximately 45 percent in the southern portion of the study area. Highline Canal is located generally through the center of the study area draining from the northeast to the southwest. The canal itself is excluded from the study area because it is located outside of the subject parcel. Unimproved access roads are located on the site; one is adjacent to Highline Canal, and the other is in the southeast corner of the study area and leads off Stevens Road, up to Highline Canal.

ESA identified two wetlands (Wetlands A and B) in the study area during the May 8 and June 11, 2025, field investigations (**Appendix A, Figure 5**). The existing conditions of Wetlands A and B are likely the result of historic, subsurface leaks from the Highline Canal located upgradient of the wetlands, which resulted in the presence of the wetlands on a slope with no other source of hydrology. Much of the wetlands are dominated by common rush (*Juncus effusus*). The southern part of Wetland A contains a watercourse that generally flows from northeast to southwest. Within the portion of the watercourse that is associated with Wetland A, reed canarygrass (*Phalaris arundinacea*) dominates the bed of the channel.

Wetland A is an approximately 6-acre (~5 acres on-site) slope and riverine wetland located on the eastern hillslope of the study area. Wetland A extends off-site to the north and is located between Stevens Road and Highline Canal. The habitat associated with Wetland A is of low complexity and is almost entirely emergent vegetation with some small surviving pockets of shrubs. Several large areas were previously dominated by shrubs that have died over the last few years. Wetland A receives hydrology from multiple sources, including the watercourse located along the lower, eastern edge of the wetland, precipitation, and likely historically received most of its hydrology from Highline Canal. Water drains from Wetland A through the southwestern portion of the study area via the associated watercourse. Soils were very compacted and comprised of fine silty soil with some sand and gravel (**Appendix B**).

Wetland B is a small 0.02-acre slope wetland located on the eastern hillslope of the study area. Wetland B is located just south of Wetland A and may have historically been part of the same wetland. Wetland B provides limited habitat, dominated by emergent vegetation. Like Wetland A, Wetland B, likely historically received hydrology from Highline Canal but now appears to only receive hydrology from precipitation. Wetland B is isolated from the watercourse associated with Wetland A, and it appears any hydrology leaving the wetland infiltrates into the ground.

The ESA biologists completed wetland determination data forms (**Appendix B**), Ecology wetland rating forms and associated maps (**Appendix C**), and a function assessment for each wetland (**Table 3** and **Table 4**). Representative photos of existing conditions were taken during the field investigation (**Appendix D**).

## 6.2 Wetland Delineation Summary Tables

Wetland characteristics and other relevant information are summarized in **Table 3** and **Table 4**.

**TABLE 3**  
**WETLAND A SUMMARY INFORMATION**

<b>Local Jurisdiction</b>	Kittitas County
<b>Water Resource Inventory Area (WRIA)</b>	39 (Upper Yakima)
<b>Ecology/County Rating</b>	Category IV
<b>Standard Buffer Width</b>	40 feet (KCC 17A.07.030)
<b>Wetland Size</b>	6 acres (5 acres on-site and approximately 1 acre off-site)
<b>Cowardin Classification</b>	Palustrine emergent (PEM)
<b>HGM Classification</b>	Slope and Riverine
<b>Wetland Data Form(s)</b>	WA-SP1
<b>Upland Data Form(s)</b>	WA-SP2
<b>Dominant Vegetation</b>	The emergent vegetation class is dominated by reed canarygrass and common rush.
<b>Soils</b>	Soils consist of sandy loam and met the Depleted Matrix (F3) hydric soil indicators.
<b>Wetland Hydrology</b>	No primary indicators were present during field investigations. Secondary Indicators present: FAC-Neutral Test (D5), Saturation visible on aerial imagery (C2).
<b>Rationale for Local Rating</b>	Wetland A received an overall score of 14 points, which includes 4 points for improving water quality, 5 for hydrologic function, and 5 for habitat. The overall wetland category was determined based on functions.
<b>Function Assessment</b>	<p>Wetland A provides low water quality functions and moderate hydrologic and habitat functions.</p> <ul style="list-style-type: none"> <li>• <b>Improving Water Quality:</b> Receives and traps some sediments and pollutants that would otherwise flow into Park Creek and then the Yakima River.</li> <li>• <b>Hydrologic:</b> Has limited capacity to reduce flooding and erosion with some capacity for storage during wet periods.</li> <li>• <b>Habitat:</b> Provides moderate habitat functions but has relatively high connectivity to other habitat with moderate fragmentation.</li> </ul>

**TABLE 4**  
**WETLAND B SUMMARY INFORMATION**

<b>Local Jurisdiction</b>	Kittitas County
<b>Water Resource Inventory Area (WRIA)</b>	39 (Upper Yakima)
<b>Ecology/County Rating</b>	Category IV
<b>Standard Buffer Width</b>	40 feet (KCC 17A.07.030)
<b>Wetland Size</b>	0.02 acre
<b>Cowardin Classification</b>	Palustrine emergent (PEM)
<b>HGM Classification</b>	Slope
<b>Wetland Data Form(s)</b>	WB-SP1
<b>Upland Data Form(s)</b>	WB-SP2
<b>Dominant Vegetation</b>	The emergent vegetation class is dominated by common rush ( <i>Juncus effusus</i> ).
<b>Soils</b>	Soils consisted of sandy loams and met the Redox Dark Surface (F6) hydric soil indicators.
<b>Wetland Hydrology</b>	No primary indicators were present during field investigations. Secondary Indicators present: FAC-Neutral Test (D5), Saturation visible on aerial imagery (C2).
<b>Rationale for Local Rating</b>	Wetland B received an overall score of 13 points, which includes 4 points for improving water quality, 4 for hydrologic function, and 5 for habitat. The overall wetland category was determined based on functions.
<b>Function Assessment</b>	<p>Wetland B provides low water quality and hydrologic functions and moderate habitat functions.</p> <ul style="list-style-type: none"> <li>• <b>Improving Water Quality:</b> Traps minimal amounts of sediments and pollutants that would otherwise flow into the watercourse and subsequently Park Creek and then the Yakima River.</li> <li>• <b>Hydrologic:</b> Minimal capacity for reduction of flooding and erosion with a high depth of storage during wet periods due to its position on the landscape.</li> <li>• <b>Habitat:</b> Provides moderate habitat functions but has relatively high connectivity to other habitat with moderate fragmentation.</li> </ul>

## 6.3 Fish and Wildlife Habitat Conservation Areas

One unnamed watercourse was observed within the study area. It flows from off-site to the north through the lowest portion of Wetland A and under an access road near the southeast corner of the study area. After passing through a culvert under the access road, the watercourse is lined with large riprap boulders. Through the southern portion of the study area, another watercourse joins it from the south after passing under I-90. The watercourse then flows to the west, eventually flowing to Park Creek and then the Yakima River.

The watercourses within the study (**Appendix A, Figure 1**) area were mapped with gps at the OHWM. During the field investigations, flowing water was observed only in the portion of the watercourse west of the culvert from under I-90. This portion of the watercourse is mapped as a Type F (fish-bearing) stream (WDNR 2025). Per KCC Table 17A.04.030.6, the Type F portion of the watercourse has a buffer width of 1 Site Potential Tree Height (SPTH) from OHWM/CMZ/Floodplain with a minimum width of 100 feet, while the segment upgradient (Type Ns) has a buffer width of 100 feet. Although the Highline canal is in the vicinity of the study area, it is not considered a watercourse per KCC 17A.02.790.

No signs of Townsend’s ground squirrels were observed within the study area. There were no indications of denning, no calls heard, and no scat matching the size and appearance of ground squirrel scat observed. No dens large enough to be used by other priority wildlife species such as black-tailed jackrabbit (*Lepus californicus*), or burrowing owl (*Athene cunicularia*) were observed in the study area, but other signs of these species were not specifically searched for in the transects.

The study area does not appear to provide habitat for any federally listed, threatened, or endangered animal species or suitable habitat regulated by the USFWS (USFWS 2025a).

Shrub-steppe habitat was observed throughout most of the higher elevations of the study area, located throughout the area primarily north and west of the Highline Canal. The shrub-steppe habitat comprises approximately 31.7 acres or approximately 70.3 percent of the study area. The quality of the habitat varies throughout the study area.

## 7. Regulatory Considerations

The project is not expected to impact wetlands, their buffers, or waters of the United States.

### 7.1 Federal Regulatory Requirements

Clean Water Act (CWA) Section 404 would apply if the project impacts wetlands or other features regulated as waters of the United States. The CWA establishes the fundamental framework for regulating the discharge of pollutants into waters of the United States and setting water quality standards for surface waters. CWA Section 404 establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and mining projects. Section 404 requires that a permit be issued before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from regulation under Section 404 (e.g., certain farming and forestry activities).

The USACE defines wetlands as “*those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas*” (33 Code of Federal Regulations [CFR] 328.3[c][1]; 40 CFR 120.2[c][1]). Indicators of three wetland parameters (hydric soils, hydrophytic vegetation, and wetland hydrology), as determined by field investigation, must be present at a site for the USACE to classify the site as a wetland (Environmental Laboratory 1987).

In May 2023, the U.S. Supreme Court, ruling in *Sackett v. Environmental Protection Agency*, sharply limited the scope of protection for the nation’s waters under the federal CWA. As a result of this decision, the Environmental Protection Agency and USACE issued a final rule that amends the “Revised Definition of ‘Waters of the U.S.’” to conform key aspects of the regulatory text to the U.S. Supreme Court’s decision (88 *Federal Register* 61964–61969, September 8, 2023). In the simplest terms, waters of the United States, which prior to *Sackett v. EPA* included wetlands “adjacent to waters of the United States,” are now limited to wetlands that are “next to relatively permanent, standing or continuously flowing bodies of water,” or that are connected to other waters of the United States through surface waters.

Considering this recent decision, this report provides an analysis of whether the wetlands in the study area are regulated under the CWA or Washington State regulations (see Section 7.2). It is unlikely that any of the wetlands in the study area meet the federal criteria of waters of the United States as defined in 33 CFR 328.3[a]. The USACE must approve these findings to determine whether a Section 404 permit is needed through a process known as an Approved Jurisdictional Determination (AJD). The review time for an AJD can potentially be longer because the USACE is currently requiring AJDs to be submitted prior to the submittal of the Joint Aquatic Resources Permit Application (JARPA), which is the vehicle for CWA Section 404 review.

## 7.2 State Regulatory Requirements

Applicable state regulations and approvals include compliance with CWA Section 401 for federally regulated wetlands, the State Environmental Policy Act (SEPA), and wetland protection under the Water Pollution Control Act (WPCA).

The state certification process under federal CWA Section 401 is usually triggered through a Section 404 permit application. Although part of the federal CWA, Section 401 directs each state to certify that proposed in-water activities will not adversely affect water quality or violate state aquatic protection laws. In Washington State, Ecology is responsible for administering the state certification program. Ecology may issue approval, approval with conditions, denial, or a request for delay due to lack of information. Any conditions attached to the Section 401 water quality certification become part of the Section 404 permit. As with CWA Section 404, should the project impact wetlands or other features regulated as waters of the United States, CWA Section 401 would apply. Since neither of the wetlands appears to meet the criteria for waters of the United States, there is no trigger for Section 401 certification. However, should Black Mountain Energy Storage decide to assume that wetlands are jurisdictional waters of the United States for the purposes of expediting permit review, then Section 401 would be applicable. Water Quality Monitoring and Protection Plans (WQMPPs) outline how best management practices (BMPs) are implemented to protect waters of the United States during construction.

Washington State protects and manages wetlands, streams, and other aquatic areas via multiple state laws, including the state WPCA, the Shoreline Management Act (SMA), and the Growth Management Act (GMA). The WPCA regulates waters of the state, regardless of whether they are regulated under the federal CWA. Projects that will impact wetlands require applicants to submit a request for an administrative order for compliance under the WPCA; this is done by submitting a JARPA to Ecology. No shorelines of the state or adjacent wetlands or waters are in the study area; therefore, SMA regulations would not apply to the project. The GMA requires local jurisdictions to develop a local critical areas code, based on the jurisdiction's comprehensive plan, that regulates the protection of streams, wetlands, and other defined ecologically sensitive areas. Compliance with the GMA occurs through compliance with local jurisdiction regulations (e.g., Kittitas County; see Section 7.3).

The project will require compliance with the SEPA review process. Used to identify and analyze environmental impacts associated with governmental decisions, a SEPA environmental checklist (or equivalent) would be prepared that answers specific questions describing the project and its impacts on the surrounding environment. Although SEPA is a state law, the environmental checklist (or equivalent) prepared for SEPA compliance would be submitted to and evaluated by Kittitas County, who would publish the checklist for public notice, review, and comment.

### 7.3 Kittitas County Requirements for Wetlands and Fish and Wildlife Critical Areas

The County regulates wetlands under KCC 17A.07 – Wetlands. The locations of wetlands within the study area were identified and classified according to local and state regulations and assigned buffers according to local regulations. As noted above, the County has codified the use of the Rating System (KCC 17A.07.020.4) and assigns wetland buffer widths based on the category and land use. County wetland buffers range from 25 to 250 feet (KCC 17A.07.030, Table 17A.07.030: Standard Buffer Widths).

Fish and wildlife species and FWHCAs are also regulated by the County under KCC 17A.04 – Fish and Wildlife Habitat Conservation Areas. The habitats that are regulated are found in KCC 17A.04.020, and reporting requirements are found in KCC 17A.04.060 – Reporting. In Kittitas County, buffer widths for FWHCAs are 1 SPTH from OHWM/CMZ/Floodplain with a minimum width of 100 feet (KCC Table 17A.04.030.6).

## 8. Limitations

This report documents the investigation, best professional judgement, and conclusions of the investigators. This should be considered a preliminary determination of wetlands and other waters and is not official until confirmed and approved by the appropriate regulatory agencies.

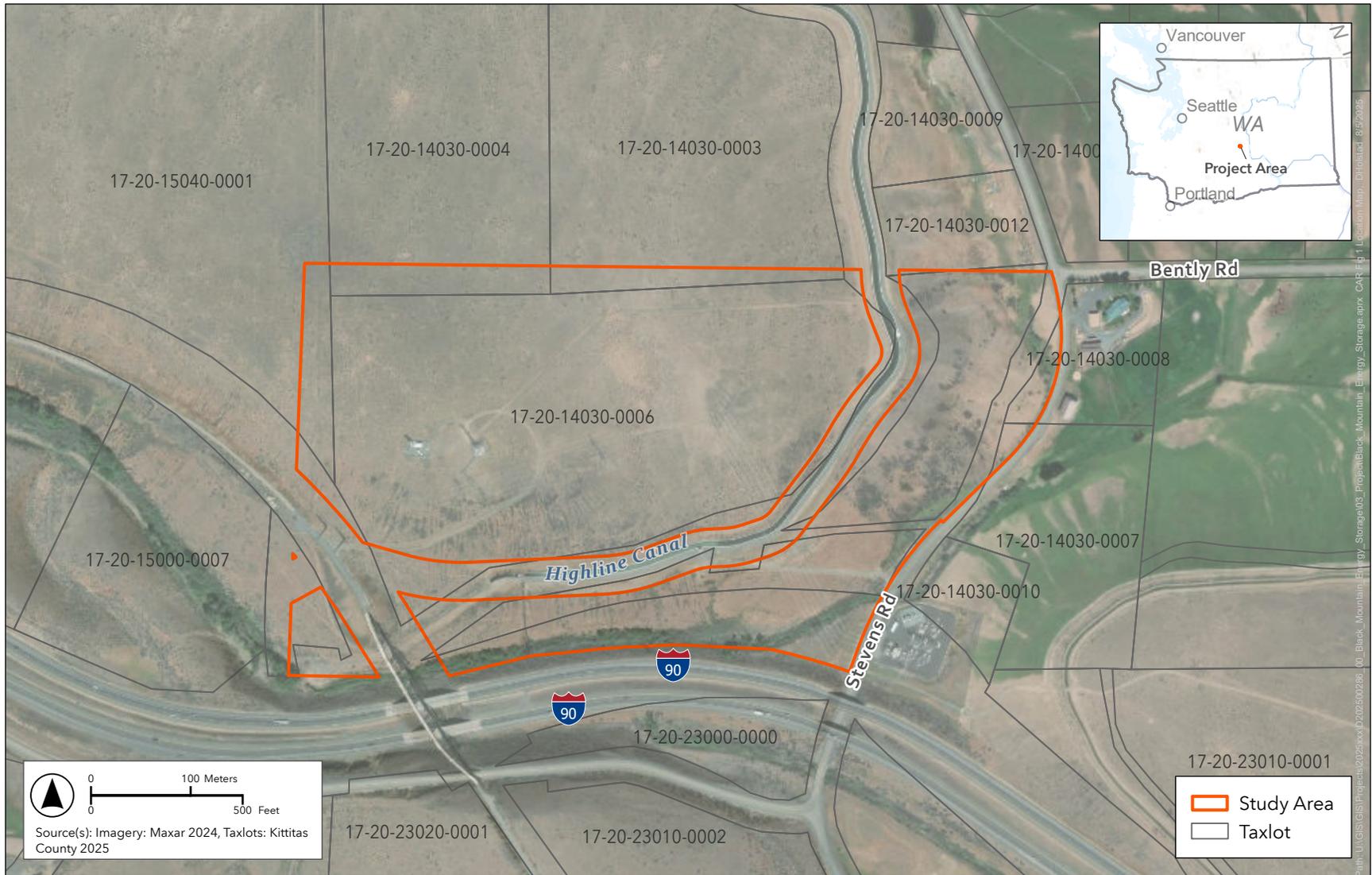
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# Appendix A

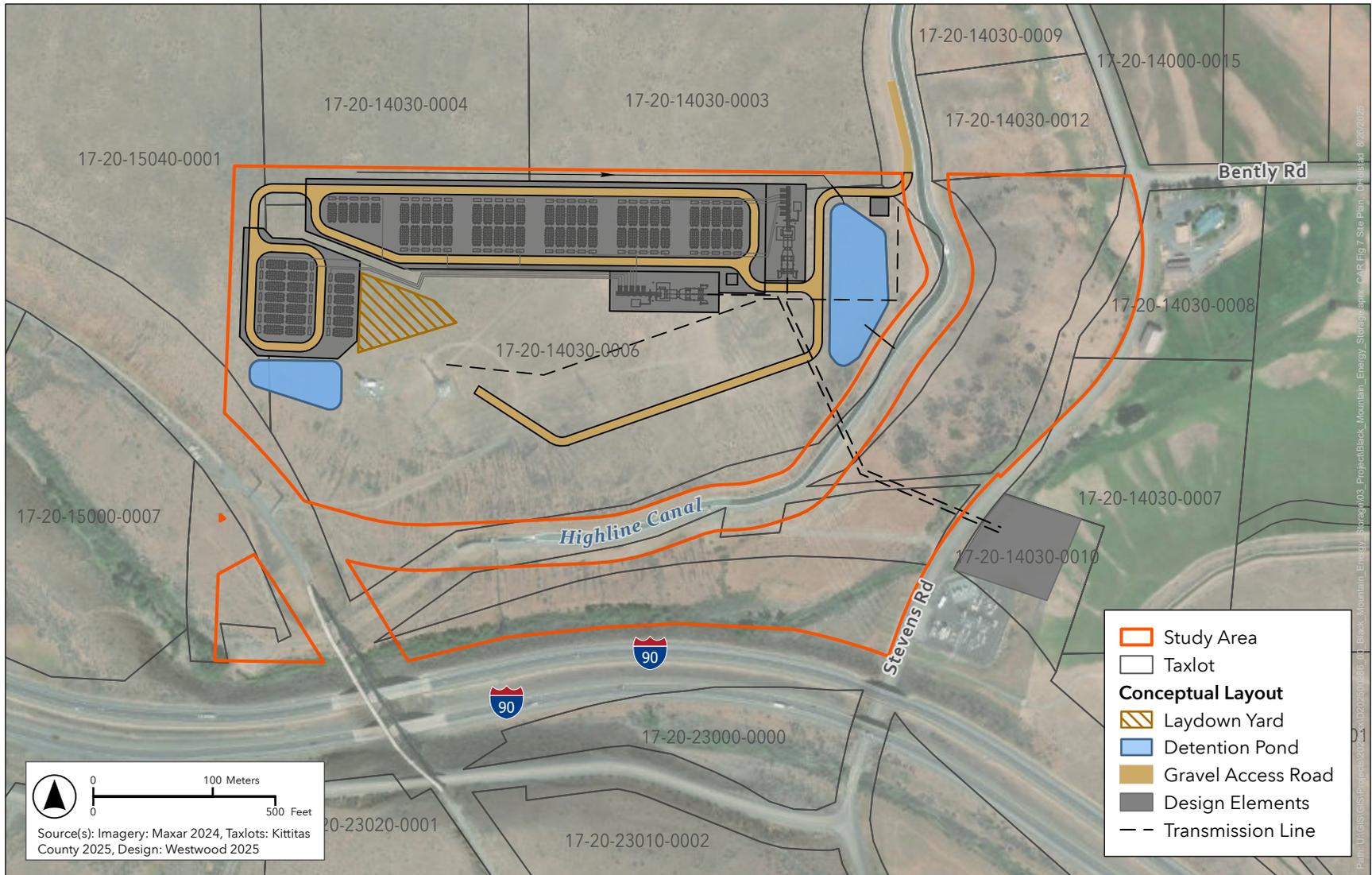
## **Figures**





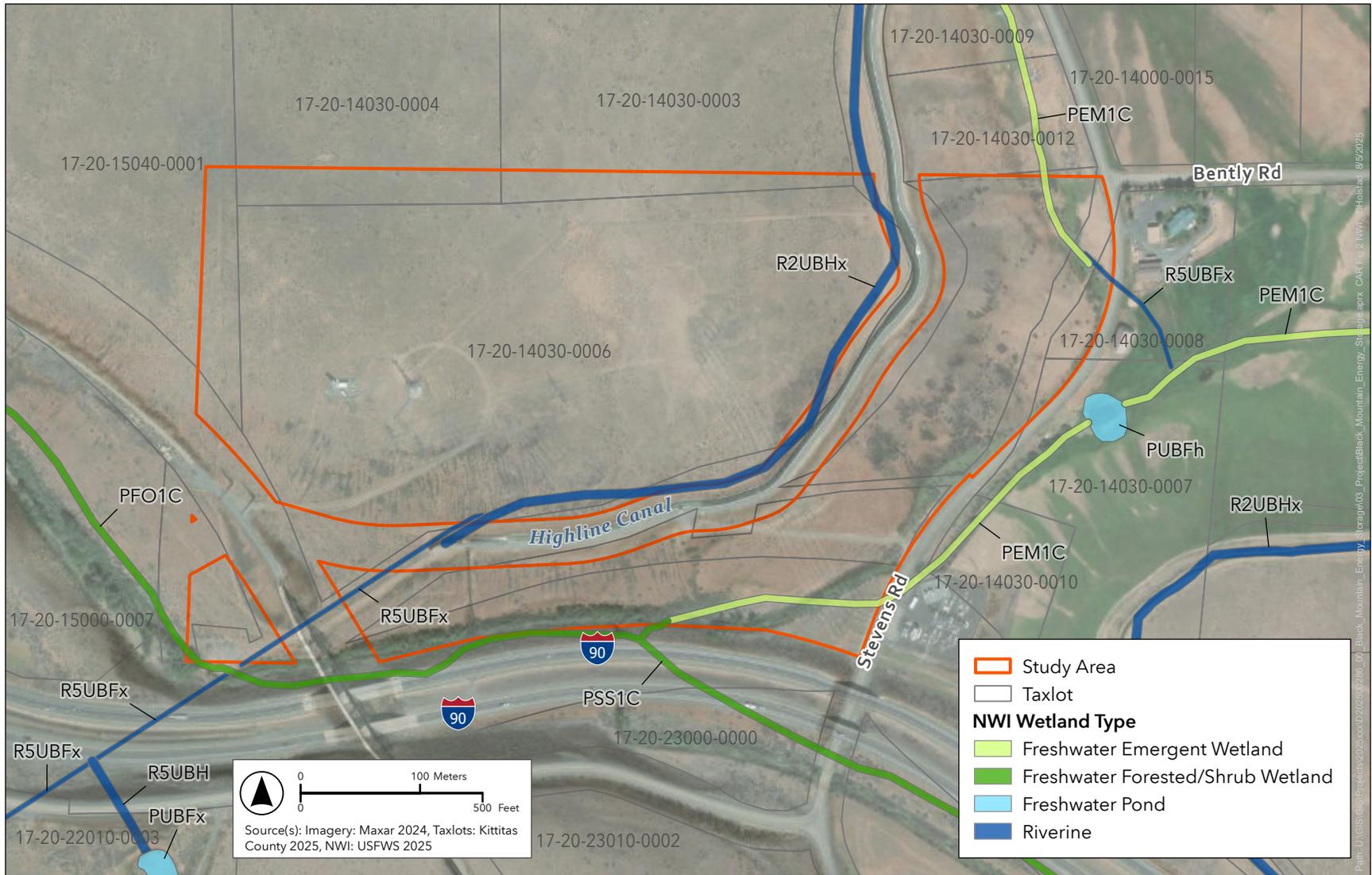
**Figure 1**  
 Site Map  
 Black Mountain Energy Storage



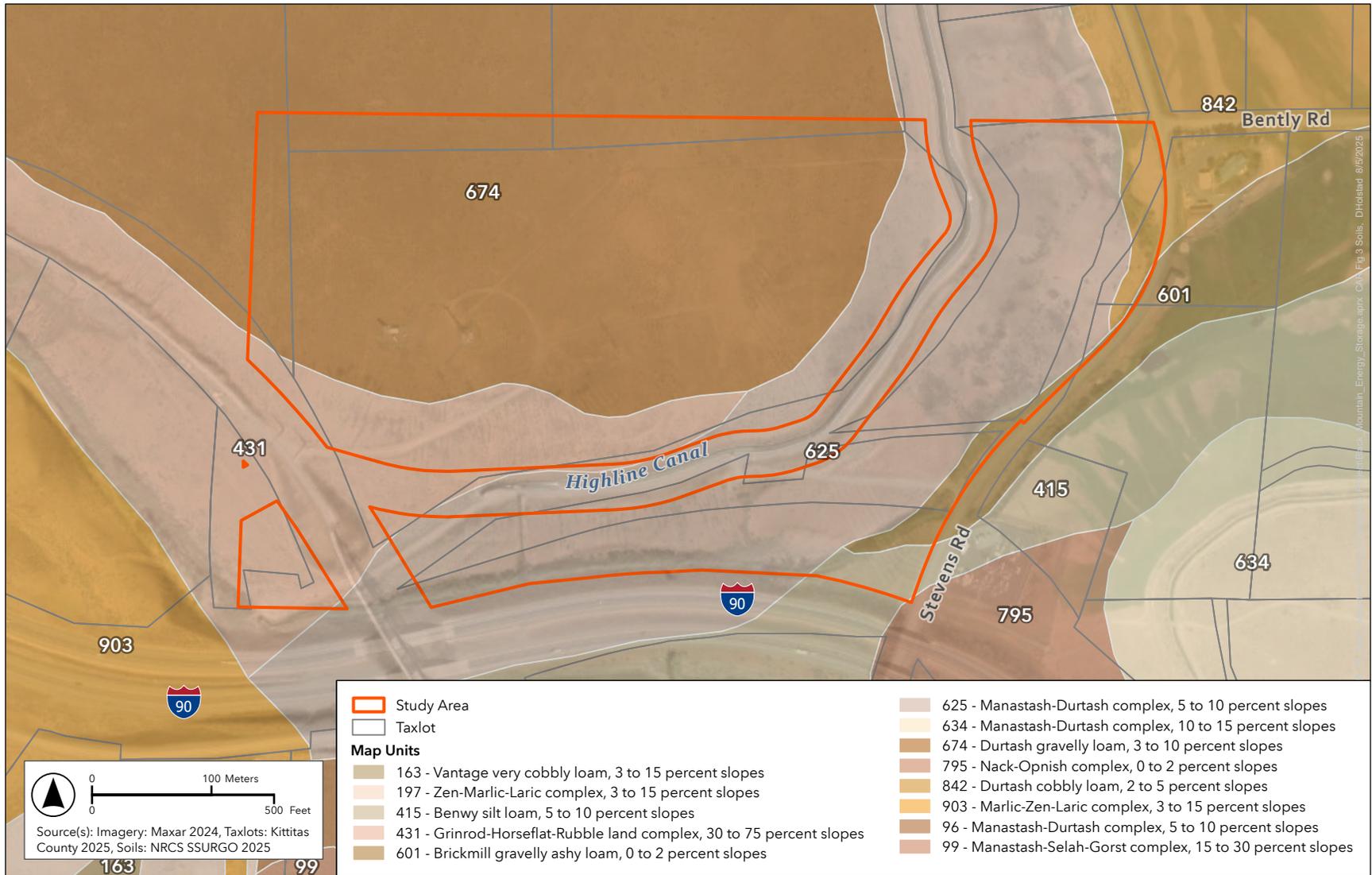


**Figure 2**  
 Conceptual Site Plan  
 Black Mountain Energy Storage

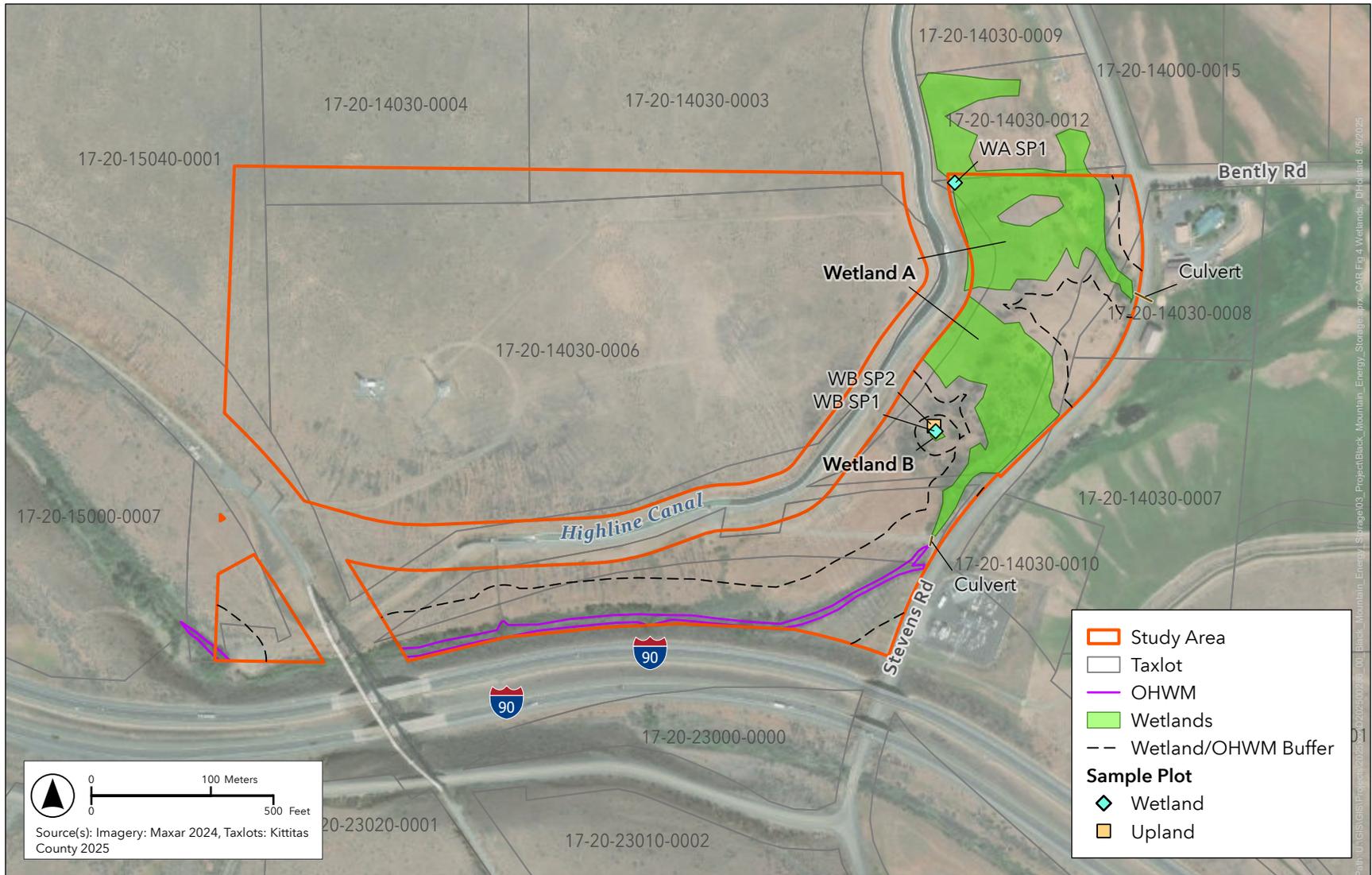




**Figure 3**  
 National Wetland Inventory (NWI)  
 Black Mountain Energy Storage

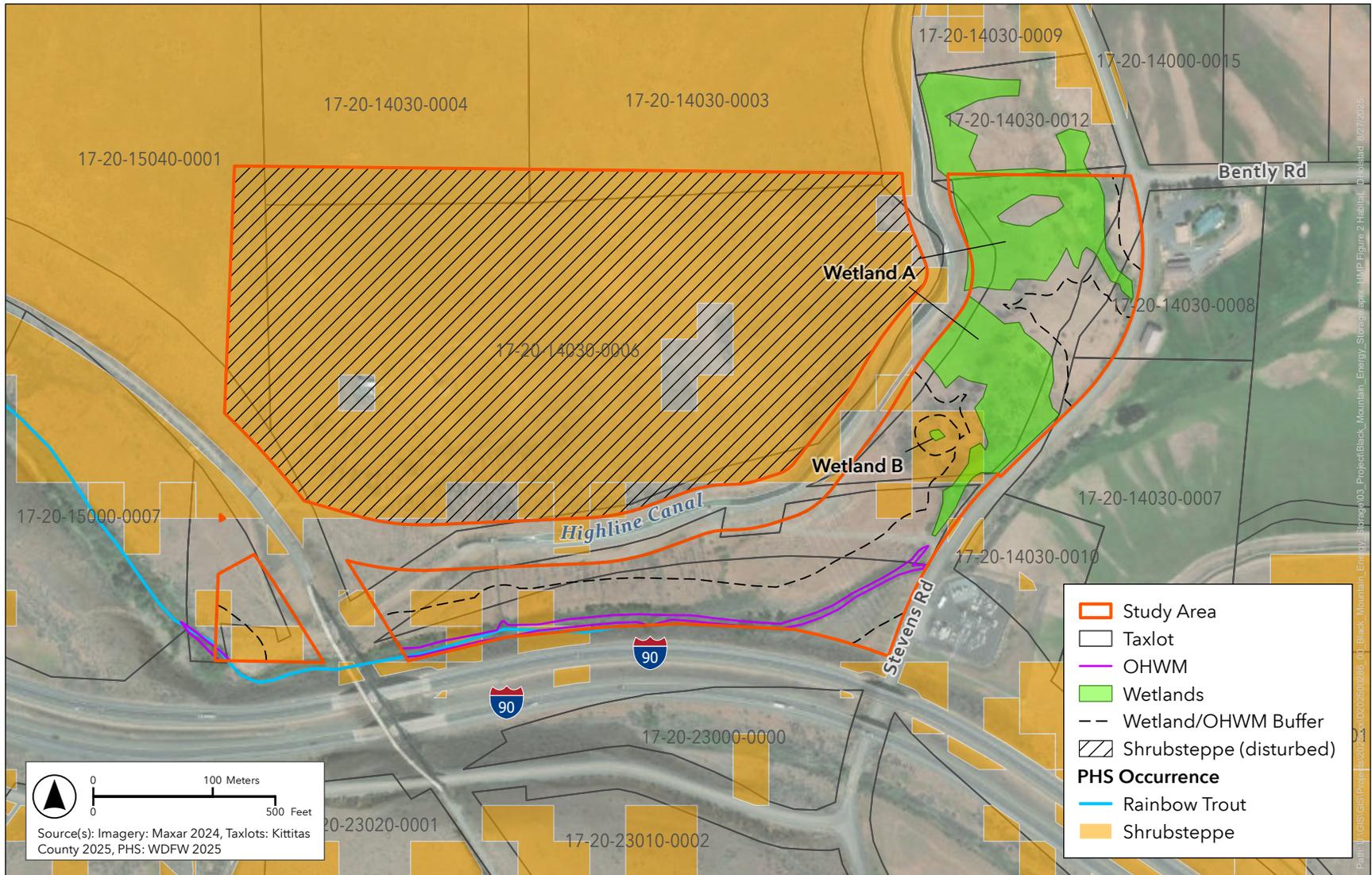


**Figure 4**  
Soils  
Black Mountain Energy Storage



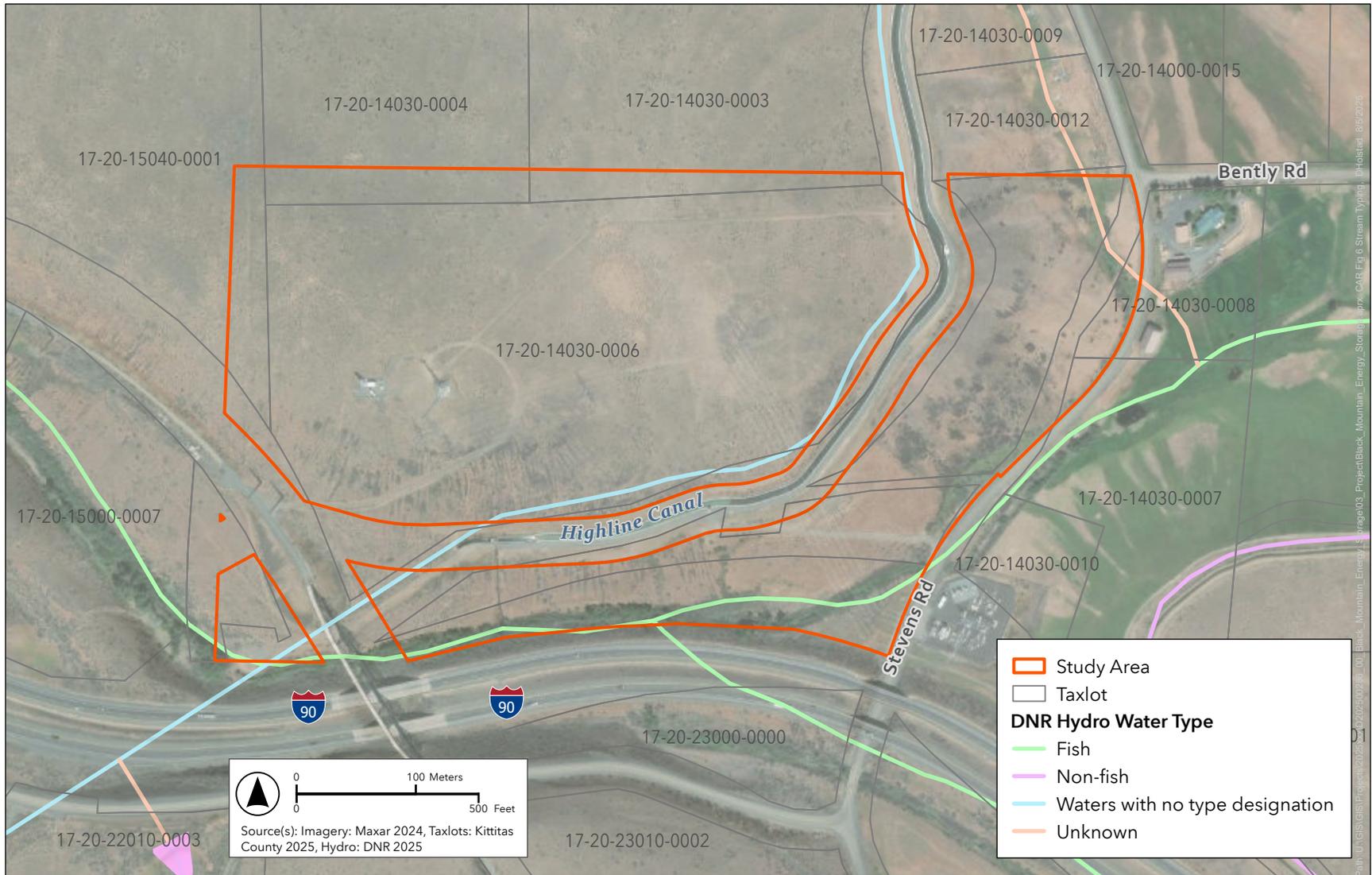
**Figure 5**  
Wetlands  
Black Mountain Energy Storage





**Figure 6**  
 Habitat  
 Black Mountain Energy Storage





**Figure 7**  
 DNR Hydro Water Typing  
 Black Mountain Energy Storage

Appendix B  
**Wetland Determination Data Forms**



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Black Mountain Energy Storage City/County: Kittitas Sampling Date: 5/8/2025  
 Applicant/Owner: Black Mountain Energy State: Washington Sampling Point: WA SP1  
 Investigator(s): Matt Maynard and Jennifer Thomas Section, Township, Range: 14, 17N, 20E  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): None Slope (%): 8  
 Subregion (LRR): LRR-B Lat: 46.9602301932 Long: -120.297809783 Datum: - WGS84  
 Soil Map Unit Name: Grinrod-Horseflat-Rubble land complex, 30 to 75 percent slopes 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 no Soil no or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation no Soil no or Hydrology no 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="checkbox"/>	No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Remarks: Hydrology is presumed based on seasonal conditions of site, presence of hydrophytic vegetation, and aerial images.					

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u> ft/radius )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____		0			Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____		0			Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____		0			Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> % (A/B)	
4. _____		0			<b>Prevalence Index worksheet:</b>	
0 = Total Cover					Total % Cover of:	
Sapling/Shrub Stratum (Plot size: <u>30</u> ft/radius )					Multiply by:	
1. _____		0			OBL species	0 x 1 = 0
2. _____		0			FACW species	20 x 2 = 40
3. _____		0			FACU species	0 x 3 = 0
4. _____		0			UPL species	0 x 4 = 0
5. _____		0			Column Totals:	20 (A)      40 (B)
0 = Total Cover					Prevalence Index = B/A = <u>2</u>	
Herb Stratum (Plot size: <u>5</u> ft/radius )					<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>Juncus effusus</u>		20	yes	FACW	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____		0			<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____		0			_____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____		0			_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____		0			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
6. _____		0				
7. _____		0				
8. _____		0				
9. _____		0				
10. _____		0				
11. _____		0				
20 = Total Cover						
Woody Vine Stratum (Plot size: <u>30</u> ft/radius )					<b>Hydrophytic Vegetation Present?</b>	
1. _____		0			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2. _____		0				
0 = Total Cover						
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust _____						

Remarks: 95% cover desiccated JUEF

**SOIL**

Sampling Point: WA SP1

**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 4/2	75	7.5YR 4/6	25			Sandy loam	Rock at 8 in
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				

<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"/> 1 cm Muck (A9) ( <b>LRR C</b> )
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR B</b> )
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> )	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> )	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

**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): 0

**Hydric Soil Present?** Yes  No

Remarks: Hydric soils present  
 Soils were very compacted and excavation was limited to 8' below the surface.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> )
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> )
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> )
<input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> )	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery(B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present?	<u>no</u>	Depth (Inches):	<u>0</u>	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	<u>no</u>	Depth (Inches):	<u>0</u>	
Saturation Present? (includes capillary fringe)	<u>no</u>	Depth (Inches):	<u>        </u>	

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

Remarks: Hydrology presumed

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Black Mountain Energy Storage City/County: Kittitas Sampling Date: 6/12/2025  
 Applicant/Owner: Black Mountain Energy State: Washington Sampling Point: WA SP2  
 Investigator(s): Matt Maynard and Jennifer Thomas Section, Township, Range: 14, 17N, 20E  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): None Slope (%): 15  
 Subregion (LRR): LRR-B Lat: 46.9593670457 Long: -120.297500592 Datum: - WGS84  
 Soil Map Unit Name: Grinrod-Horseflat-Rubble land complex, 30 to 75 percent slopes 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 no Soil no or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation no Soil no or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Remarks: Wetland criteria are not met.					

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

Tree Stratum	(Plot size: <u>30</u> ft/radius )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____		0			Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____		0			Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____		0			Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> % (A/B)	
4. _____		0			<b>Prevalence Index worksheet:</b>	
					Total % Cover of:	
					Multiply by:	
					OBL species	0 x 1 = 0
					FACW species	0 x 2 = 0
					FACU species	0 x 3 = 0
					UPL species	30 x 5 = 150
					Column Totals:	<u>30</u> (A) <u>150</u> (B)
					Prevalence Index = B/A = <u>5</u>	
					<b>Hydrophytic Vegetation Indicators:</b>	
					<u>no</u>	Dominance Test is >50%
					<u>no</u>	Prevalence Index is ≤3.0 <sup>1</sup>
						Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
						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="checkbox"/>	No <input checked="" type="checkbox"/>

Remarks:  
No hydrophytic vegetation present.

**SOIL**

Sampling Point: WA SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth		Matrix		Redox Features			Texture	Remarks		
(inches)		Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>	
0	- 1	10YR 3/3	100		0			Silt,Silt Loam		
0	- 2	10R 7/1	100	2.5YR 7/1	0					Ash
0	- 0		0		0					
0	- 0		0		0					
0	- 0		0		0					
0	- 0		0		0					
0	- 0		0		0					
0	- 0		0		0					

<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.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> ) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Vernal Pools (F9) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR C</b> ) <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR B</b> ) <input type="checkbox"/> Reduced Vertic (F18) <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.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): <u>2</u>	<b>Hydric Soil Present?</b> Yes _____ No <input checked="" type="checkbox"/>
---	--

Remarks:  
No hydric soil indicators present. Soils were very compacted and excavation was limited to 2 inches below the surface.

**HYDROLOGY**

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> )	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> )	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> )	
<input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> )	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery(B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface Water Present? <u>no</u> Water Table Present? <u>no</u> Saturation Present? <u>no</u> (includes capillary fringe)	Depth (Inches): <u>0</u> Depth (Inches): <u>0</u> Depth (Inches): _____	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
--	---	--

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

Remarks:  
No hydrology present..

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Black Mountain Energy Storage City/County: Kittitas Sampling Date: 5/8/2025  
 Applicant/Owner: Black Mountain Energy State: Washington Sampling Point: WB SP1  
 Investigator(s): Matt Maynard and Jennifer Thomas Section, Township, Range: 14, 17N, 20E  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): None Slope (%): 10  
 Subregion (LRR): LRR-B Lat: 46.9583496162 Long: -120.298014349 Datum: - WGS84  
 Soil Map Unit Name: Grinrod-Horseflat-Rubble land complex, 30 to 75 percent slopes 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 no Soil no or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation no Soil yes or Hydrology no 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="checkbox"/>	No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/>	No <input type="checkbox"/>
Remarks: Hydrology is presumed based on seasonal conditions of site, presence of hydrophytic vegetation, and aerial images.					

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u> ft/radius )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>																																					
1. _____		0			Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)																																					
2. _____		0			Total Number of Dominant Species Across All Strata: <u>1</u> (B)																																					
3. _____		0			Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> % (A/B)																																					
4. _____		0			<b>Prevalence Index worksheet:</b>																																					
					Total % Cover of:	Multiply by:																																				
					OBL species	0 x 1 = 0																																				
					FACW species	85 x 2 = 170																																				
					FACU species	1 x 3 = 3																																				
					UPL species	0 x 4 = 0																																				
					Column Totals:	<u>86</u> (A) <u>173</u> (B)																																				
					Prevalence Index = B/A = <u>2.01</u>																																					
					<b>Hydrophytic Vegetation Indicators:</b>																																					
					<u>yes</u>	Dominance Test is >50%																																				
					<u>yes</u>	Prevalence Index is ≤3.0 <sup>1</sup>																																				
					<u>no</u>	Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)																																				
					<u>no</u>	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="checkbox"/> No <input type="checkbox"/>																																					
					<table style="width: 100%;"> <tr> <td style="width: 30%;">Woody Vine Stratum</td> <td style="width: 10%;">(Plot size: <u>30</u> ft/radius )</td> <td style="width: 10%;">Absolute % Cover</td> <td style="width: 10%;">Dominant Species?</td> <td style="width: 10%;">Indicator Status</td> <td colspan="2"></td> </tr> <tr> <td>1. _____</td> <td></td> <td style="text-align: center;">0</td> <td></td> <td></td> <td colspan="2"></td> </tr> <tr> <td>2. _____</td> <td></td> <td style="text-align: center;">0</td> <td></td> <td></td> <td colspan="2"></td> </tr> <tr> <td colspan="5"></td> <td colspan="2" style="text-align: center;">0 = Total Cover</td> </tr> <tr> <td colspan="2">                     % Bare Ground in Herb Stratum <u>0</u> </td> <td colspan="4">                     % Cover of Biotic Crust _____                 </td> <td colspan="2"></td> </tr> </table>		Woody Vine Stratum	(Plot size: <u>30</u> ft/radius )	Absolute % Cover	Dominant Species?	Indicator Status			1. _____		0					2. _____		0										0 = Total Cover		% Bare Ground in Herb Stratum <u>0</u>		% Cover of Biotic Crust _____					
Woody Vine Stratum	(Plot size: <u>30</u> ft/radius )	Absolute % Cover	Dominant Species?	Indicator Status																																						
1. _____		0																																								
2. _____		0																																								
					0 = Total Cover																																					
% Bare Ground in Herb Stratum <u>0</u>		% Cover of Biotic Crust _____																																								

Remarks: P. recta more likely

**SOIL**

Sampling Point: WB SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth		Matrix		Redox Features			Texture	Remarks		
(inches)		Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>	
0	- 10	10YR 3/2	90	7.5YR 5/8	10				Rocks throughout	
0	- 0		0		0					
0	- 0		0		0					
0	- 0		0		0					
0	- 0		0		0					
0	- 0		0		0					
0	- 0		0		0					
0	- 0		0		0					

<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.)			Indicators for Problematic Hydric Soils <sup>3</sup> :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)					

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

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): <u>0</u>	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	---

Remarks:  
Soils were very compacted and excavation was limited to 10 inches below the surface.

**HYDROLOGY**

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery(B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface Water Present? <u>no</u> Water Table Present? <u>no</u> Saturation Present? <u>no</u> (includes capillary fringe)	Depth (Inches): <u>0</u> Depth (Inches): <u>0</u> Depth (Inches): _____
--	---

	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

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

Remarks:      Hydrology presumed seasonal

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Black Mountain Energy Storage City/County: Kittitas Sampling Date: 5/8/2025  
 Applicant/Owner: Black Mountain Energy State: Washington Sampling Point: WB SP2  
 Investigator(s): Matt Maynard and Jennifer Thomas Section, Township, Range: 14, 17N, 20E  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): None Slope (%): 8  
 Subregion (LRR): LRR-B Lat: 46.9583934112 Long: -120.298034564 Datum: - WGS84  
 Soil Map Unit Name: Check 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 no Soil no or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation no Soil no or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Remarks: Wetland criteria are not met.					

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u> ft/radius )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>																													
1. _____		0			Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)																													
2. _____		0			Total Number of Dominant Species Across All Strata: <u>2</u> (B)																													
3. _____		0			Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> % (A/B)																													
4. _____		0			<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">Total % Cover of:</td> <td colspan="2" style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1=</td> <td style="text-align: center;"><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=</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 3=</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>85</u></td> <td style="text-align: center;">x 5=</td> <td style="text-align: center;"><u>425</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>85</u> (A)</td> <td></td> <td style="text-align: center;"><u>425</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A =</td> <td></td> <td style="text-align: center;"><u>5</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>	FACU species	<u>0</u>	x 3=	<u>0</u>	UPL species	<u>85</u>	x 5=	<u>425</u>	Column Totals:	<u>85</u> (A)		<u>425</u> (B)	Prevalence Index = B/A =			<u>5</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>																															
FACU species	<u>0</u>	x 3=	<u>0</u>																															
UPL species	<u>85</u>	x 5=	<u>425</u>																															
Column Totals:	<u>85</u> (A)		<u>425</u> (B)																															
Prevalence Index = B/A =			<u>5</u>																															
0 = Total Cover																																		
Sapling/Shrub Stratum	(Plot size: <u>30</u> ft/radius )	Absolute % Cover	Dominant Species?	Indicator Status																														
1. <u>Rosa rubiginosa</u>		5	yes	UPL																														
2. _____		0																																
3. _____		0																																
4. _____		0																																
5. _____		0																																
5 = Total Cover																																		
Herb Stratum	(Plot size: <u>5</u> ft/radius )	Absolute % Cover	Dominant Species?	Indicator Status																														
1. <u>Bromus briziformis</u>		80	yes	UPL																														
2. _____		0																																
3. _____		0																																
4. _____		0																																
5. _____		0																																
6. _____		0																																
7. _____		0																																
8. _____		0																																
9. _____		0																																
10. _____		0																																
11. _____		0																																
80 = Total Cover																																		
Woody Vine Stratum	(Plot size: <u>30</u> ft/radius )	Absolute % Cover	Dominant Species?	Indicator Status																														
1. _____		0																																
2. _____		0																																
0 = Total Cover																																		
% Bare Ground in Herb Stratum <u>0</u>		% Cover of Biotic Crust _____																																
					<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																													

Remarks:  
Hydrophytic vegetation absent from plot.

**SOIL**

Sampling Point: WB SP2

**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 3/4	100		0				Rocks throughout
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				

<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.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<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)	
<input type="checkbox"/> Vernal Pools (F9)	

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

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): <u>0</u>	<b>Hydric Soil Present?</b> Yes _____ No <input checked="" type="checkbox"/>
---	--

Remarks:  
 No indicators of hydric soils. Soils were very compacted and excavatoin was limited to 8 inches below the surface.

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery(B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Biotic Crust (B12)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>no</u> Depth (Inches): <u>0</u> Water Table Present? <u>no</u> Depth (Inches): <u>0</u> Saturation Present? <u>no</u> Depth (Inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
--	--

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

Remarks:      Wetland criteria not met  
 No hydrology present.

Appendix C  
**Wetland Rating Forms**



Wetland name or number: A

# RATING SUMMARY - Eastern Washington

Name of wetland (or ID#): A Date of site visit: 05/08/2025

Rated By: M Maynard Trained by Ecology? Yes  No  Date of Training: N/A

HGM Class used for rating: Riverine

Wetland has multiple HGM classes? Yes  No

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

Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: **[Category IV]** (based on functions  or special characteristics )

## 1. Category of wetland based on FUNCTIONS

Category I - Total score = 22 - 27

Category II - Total score = 19 - 21

Category III - Total score = 16 - 18

Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	L	M	L	
Landscape Potential	M	M	M	
Value	L	L	M	Total
Score Based on Ratings	4	5	5	14

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Vernal Pool	
Alkali	
Wetland of High Conservation Value	
Bog	
Calcareous Fen	
Forested	
None of the above	Not Applicable

**Wetland name or number:** A

**Maps and figures required to answer questions correctly for Eastern Washington**

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Wetland name or number: A

## RIVERINE WETLANDS

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

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

**R 1.1** Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event

Depressions cover >33% of the wetland area	points = 6	
Depressions cover >10% of the wetland area	points = 3	
Depressions present but cover <10% of the wetland area	points = 1	
No depressions present	points = 0	<b>Score: 1</b>

**R 1.2** Structure of plants in the wetland (areas with >90% cover at person height; not Cowardin classes)

Forest or shrub vegetation covers >66% of the area in the wetland	points = 10	
Forest or shrub vegetation covers 33% – 66% of the area in the wetland	points = 5	
Ungrazed, herbaceous plant vegetation covers >66% of the area in the wetland	points = 5	
Ungrazed herbaceous plant vegetation covers 33% – 66% of the area in the wetland	points = 2	
Forest, shrub, and ungrazed herbaceous vegetation covers <33% of the area in the wetland	points = 0	<b>Score: 0</b>

**Total for R 1:** **1**

**Rating of Site Potential**

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

*Record the rating on the first page*

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

**R 2.1** Is the wetland within an incorporated city or within its UGA?

Yes	points = 2	
No	points = 0	<b>Score: 0</b>

**R 2.2** Does the contributing basin include a UGA or incorporated area?

Yes	points = 1	
No	points = 0	<b>Score: 0</b>

**R 2.3** Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?

Yes	points = 1	
No	points = 0	<b>Score: 0</b>

**R 2.4** Is > 10% of the area within 150 ft of wetland in land uses that generate pollutants

Yes	points = 1	
No	points = 0	<b>Score: 1</b>

**R 2.5** Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1 - R 2.4?

Yes	points = 1	
No	points = 0	<b>Score: 1</b>

Wetland name or number: A

<b>R 2.6</b> What are the other sources of pollutants coming into the wetland? Cattle feces	
<b>Total for R 2:</b>	<b>2</b>

Rating of Landscape Potential

3-6 = H  1-2 = M  0 = L

Record the rating on the first page

<b>R 3.0</b> Is the water quality improvement provided by the site valuable to society?	
<b>R 3.1</b> Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi? Yes points = 1 No points = 0 <b>Score: 0</b>	
<b>R 3.2</b> Does the river or stream have TMDL limits for nutrients, toxics, or pathogens? Yes points = 1 No points = 0 <b>Score: 0</b>	
<b>R 3.3</b> Has the site been identified in a watershed or local plan as important for maintaining water quality? Yes points = 2 No points = 0 <b>Score: 0</b>	
<b>Total for R 3:</b>	<b>0</b>

Rating of Value

2-4 = H  1 = M  0 = L

Record the rating on the first page

<b><u>RIVERINE WETLANDS</u></b> <b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and stream degradation	
<b>R 4.0</b> Does the stie have the potential to reduce flooding and erosion?	
<b>R 4.1</b> What are the characteristics of the overbank storage the wetland provides? If the ratio is more than 2 points = 10 If the ratio is 1-2 points = 8 If the ratio is 0.50 - <1 points = 4 If the ratio is 0.25 - < 0.50 points = 2 If the ratio is < 0.25 points = 1 <b>Score: 10</b>	
<b>R 4.2</b> What are the characteristics of the plants that slow down water velocities during floods? Forest or shrub vegetation covers >66% the area of the wetland points = 6 Forest or shrub vegetation covers >33% of the area OR emergent plant vegetation covers > 66% of the area in the wetland points = 4 Forest or shrub vegetation covers >10% of the area OR emergent plant vegetation covers >33% of the area in the wetland points = 2 Plants do not meet above criteria points = 0 <b>Score: 0</b>	
<b>Total for R 4:</b>	<b>10</b>

Rating of Site Potential

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

Record the rating on the first page

Wetland name or number: A

<b>R 5.0 Does the landscape have the potential to support the hydrologic functions of the site?</b>		
<b>R 5.1</b> <u>Is the stream or river adjacent to the wetland downcut?</u>		
Yes	points = 0	
No	points = 1	<b>Score: 0</b>
<b>R 5.2</b> <u>Does the up-gradient watershed include a UGA or incorporated area?</u>		
Yes	points = 1	
No	points = 0	<b>Score: 0</b>
<b>R 5.3</b> <u>Is the up-gradient stream or river controlled by dams?</u>		
Yes	points = 0	
No	points = 1	<b>Score: 1</b>
<b>Total for R 5:</b>		<b>1</b>

Rating of Landscape Potential

3 = H  1-2 = M  0 = L

Record the rating on the first page

<b>R 6.0 Are the hydrologic functions provided by the site valuable to society?</b>		
<b>R 6.1</b> <u>What is the distance to the nearest areas downstream that have flooding problems?</u>		
The sub-basin immediately down-gradient of the wetland has flooding problems	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	<b>Score: 0</b>
<b>R 6.2</b> <u>Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</u>		
Yes	points = 2	
No	points = 0	<b>Score: 0</b>
<b>Total for R 6:</b>		<b>0</b>

Rating of Value

2-4 = H  1 = M  0 = L

Record the rating on the first page

Wetland name or number: A

## HABITAT FUNCTIONS

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

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

#### **H 1.1 What is the structure of the plant community?**

Aquatic Bed

Emergent plants 0-12in (0-30cm) high are the highest layer and have >30% cover

Emergent plants >12-40in (>30-100cm) high are the highest layer with >30% cover

Emergent plants >40in (>100cm) high are the highest layer with >30% cover

Scrub-shrub (areas where shrubs have >30% cover)

Forested (areas where trees have >30% cover)

4 structures or more

points = 3

3 structures

points = 2

2 structures

points = 1

1 structure

points = 0

No structures

points = 0

**Score: 0**

#### **H 1.2 Is one of the vegetation types Aquatic Bed?**

Yes

points = 1

No

points = 0

**Score: 0**

#### **H 1.3 What is the surface water potential?**

The wetland has areas of open water (without emergent or shrub plants) that meet the scoring threshold during March to early June OR in August to the end of September

The wetland has an intermittent or permanent, and unvegetated stream within its boundaries, or along one side

The wetland is along the side of a stream or river with an unvegetated area that is at least 16ft (5m) wide

The wetland is a Lake Fringe wetland

The wetland meets at least one of these criteria

points = 3

No surface water that meets criteria

points = 0

**Score: 0**

#### **H 1.4 What is the richness of plant species in the wetland?**

>9 species

points = 2

4-9 species

points = 1

<4 species

points = 0

**Score: 1**

**Wetland name or number: A**

<b>H 1.5</b> <u>What is the interspersions of habitats within the wetland?</u>	
High	points = 3
Moderate	points = 2
Low	points = 1
None	points = 0
<b>Score: 1</b>	
<b>H 1.6</b> <u>What are the special habitat features within the wetland?</u>	
<input type="checkbox"/> Loose rocks larger than 4in OR large, downed, woody debris (>4in in diameter) within the area of surface ponding or in a stream.	
<input type="checkbox"/> Cattails or bulrushes are present within the wetland.	
<input type="checkbox"/> Standing snags (diameter at the bottom >4in) in the wetland or within 30m (100ft) of the edge.	
<input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded	
<input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) or signs of recent beaver activity.	
<input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	
6 habitat features selected	points = 6
5 habitat features selected	points = 5
4 habitat features selected	points = 4
3 habitat features selected	points = 3
2 habitat features selected	points = 2
1 habitat feature selected	points = 1
No habitat features selected	points = 0
<b>Score: 0</b>	
<b>Total for H 1:</b>	
<b>2</b>	

**Rating of Site Potential**

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

*Record the rating on the first page*

**H 2.0 Does the landscape have the potential to support the habitat functions of the site?**

<b>H 2.1</b> <u>What is the percentage of accessible habitat within 1km of the wetland?</u>	
>33% of 1km Polygon is accessible habitat	points = 3
20-30% of 1km Polygon is accessible habitat	points = 2
10-19% of 1km Polygon is accessible habitat	points = 1
<10% of 1km Polygon is accessible habitat	points = 0
<b>Score: 0</b>	
<b>H 2.2</b> <u>What is the total habitat in a 1km polygon around the wetland?</u>	
Total habitat is >50% of the 1km polygon	points = 3
Total habitat is 10-50% of the 1km polygon and in 1-3 patches	points = 2
Total habitat is 10-50% of the 1km polygon and in >3 patches	points = 1
Total habitat is <10% of the 1km polygon	points = 0
<b>Score: 3</b>	

Wetland name or number: A

<b>H 2.3</b> <u>What is the land use intensity in a 1km polygon within the wetland?</u>		
>50% of the polygon is high intensity land use	points = -2	
<50% of the polygon is high intensity land use	points = 0	<b>Score: 0</b>
<b>H 2.4</b> <u>Is the wetland is in an area where annual rainfall is less than 12in, and its water regime is not influenced by irrigation practices, dams, or water control structures?</u>		
Yes	points = 3	
No	points = 0	<b>Score: 0</b>
<b>Total for H 2:</b>		<b>3</b>

Rating of Landscape Potential

[ ] 4-9 = H [X] 1-3 = M [ ] 0 = L

Record the rating on the first page

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

<b>H 3.1</b> <u>Does the site provide habitat for species valued in laws, regulations, or policies?</u>		
<input type="checkbox"/> Aspen Stands		
<input type="checkbox"/> Biodiversity Areas and Corridors		
<input type="checkbox"/> Eastside Steppe		
<input type="checkbox"/> Inland Dunes		
<input type="checkbox"/> Juniper Savannah		
<input type="checkbox"/> Old-growth/Mature Forests		
<input type="checkbox"/> Oregon White Oak		
<input checked="" type="checkbox"/> Riparian		
<input checked="" type="checkbox"/> Shrubsteppe		
<input type="checkbox"/> Fresh Deepwater		
<input type="checkbox"/> Instream		
<input type="checkbox"/> Caves		
<input type="checkbox"/> Cliffs		
<input type="checkbox"/> Snags and Logs		
<input type="checkbox"/> Talus		
<b>The following criteria automatically score 2 points:</b>		
<input type="checkbox"/> The wetland provides habitat for Threatened or Endangered species		
<input type="checkbox"/> The wetland is mapped as a location for an individual WDFW priority species		
<input type="checkbox"/> The wetland is a Wetland of High Conservation Value (WHCV)		
<input type="checkbox"/> The wetland has been categorized as an important habitat site in a local plan		
The wetland has 3 or more WDFW priority habitats within 100m, or meets the criteria for societal value	points = 2	
The site has 1 or 2 WDFW priority habitats within 100m	points = 1	
The site does not meet any of the criteria for societal value	points = 0	<b>Score: 1</b>
<b>Total for H 3:</b>		<b>1</b>

Rating of Value

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

Record the rating on the first page

Wetland name or number: A

## CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

### SC 1.0 Vernal Pools

**SC 1.1** Is the wetland less than 4000sqft and it meets at least two of the follow criteria?

It's only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.

Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals (if you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.)

The soil in the wetland is shallow [ $<1\text{ft}$  (30cm) deep] and is underlain by an impermeable layer such as basalt or clay

Surface water is present for less than 120 days during the wet season.

Yes - Go to SC 1.2

No - Not a Special Characteristic Vernal Pool

**Result: Not a Special  
Characteristic Vernal  
Pool**

**SC 1.2** Is the vernal pool relatively undisturbed in February and March?

Yes - Go to SC 1.3

No - Not a Special Characteristic Vernal Pool

**Result:**

**SC 1.3** Is the vernal pool in an area where there are at least 3 separate aquatic resources (other wetlands, rivers, lakes, etc.) within 0.5 mi?

Yes - Category II Vernal Pool

No - Category III Vernal Pool

**Result:**

### SC 2.0 Alkali Wetlands

**SC 2.1** Does the wetland meet any of the following criteria for Alkali Wetlands?

The wetland has a conductivity  $>3.0$  mS/cm

The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover is the wetland can be classified as "alkali" species

If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt.

Yes - Category I Alkali Wetland

No - Go to SC 2.2

**Result: Go to SC 2.2**

**SC 2.2** Does the wetland meet two of the following criteria for Alkali Wetlands?

Salt encrustations around more than 75% of the edge of the wetland

more than 75% of the plant cover consists of alkali (salt tolerant) species

A pH above 9.0

Yes - Category I Alkali Wetland

No - Not a Special Characteristic Alkali Wetland

**Result: Not a Special  
Characteristic Alkali  
Wetland**

Wetland name or number: A

### SC 3.0 Wetlands of High Conservation Value

<p><b>SC 3.1</b> <u>Is the wetland listed by Washington Natural Heritage Program (WNHP) as a Wetland of High Conservation Value (WHVC)?</u></p> <p>Yes - Category I Wetland of High Conservation Value No - Go to SC 3.2</p>	<p><b>Result: Go to SC 3.2</b></p>
<p><b>SC 3.2</b> <u>Does the wetland have a rare plant species, rare plant community, or high-quality plant community that may qualify the site as a WHCV?</u></p> <p>Yes - Category I Wetland of High Conservation Value No - Not a Special Characteristic Wetland of High Conservation Value</p>	<p><b>Result: Not a Special Characteristic Wetland of High Conservation Value</b></p>

### SC 4.0 Bogs and Calcareous Fens

<p><b>SC 4.1</b> <u>Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16in or more of the first 32in of the soil profile?</u></p> <p>Yes - Go to SC 4.3 No - Go to SC 4.2</p>	<p><b>Result: Go to SC 4.2</b></p>
<p><b>SC 4.2</b> <u>Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16in deep over debrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pong?</u></p> <p>Yes - Go to SC 4.3 No - Not a Special Characteristic Bog</p>	<p><b>Result: Not a Special Characteristic Bog</b></p>
<p><b>SC 4.3</b> <u>Does an area with peats or mucks have more than 70% cover of mosses at gorund level, AND at least 30% cover of plant species listed?</u></p> <p>Yes - Category I Bog No - Go to SC 4.4</p>	<p><b>Result:</b></p>
<p><b>SC 4.4</b> <u>Is an area with peats or mucks forested (&gt;30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine AND any of the species (or combination of species) listed provide more than 30% of the cover under the canopy?</u></p> <p>Yes - Category I Bog No - Go to SC 4.5</p>	<p><b>Result:</b></p>
<p><b>SC 4.5</b> <u>Do the species listed comprise at least 20% of the total plant cover within an area of peats and mucks?</u></p> <p>Yes - Category I Calcareous Fen No - Go to SC 4.6</p>	<p><b>Result:</b></p>

**Wetland name or number:** A

**SC 4.6** Do the species listed comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met?

Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems

The pH of free water is  $\geq 6.8$  AND electrical conductivity is  $\geq 200$   $\mu\text{S}/\text{cm}$  at multiple locations within the wetland

Yes - Category I Calcareous Fen  
No - Not a Special Characteristic Calcareous Fen

**Result:**

**SC 5.0 Forested Wetlands**

**SC 5.1** Does the wetland have an area of forest rooted within its boundary that meets at least one of the following criteria?

The wetland is within the 100 year floodplain of a river or stream

Aspen (*Populus tremuloides*) represents at least 20% of the total cover of woody species

There is at least 0.25ac of trees (even in wetlands smaller than 2.5ac) that are "mature" or "old-growth" according to the definitions for these priority habitats developed by WDFW

Yes - Go to SC 5.2  
No - Not a Special Characteristic Forested Wetland

**Result: Not a Special Characteristic Forested Wetland**

**SC 5.2** Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees?

Yes - Category I Forested Wetland  
No - Go to SC 5.3

**Result:**

**SC 5.3** Does the wetland have areas where aspen (*Populus tremuloides*) represents at least 20% of the total cover of woody species?

Yes - Category I Forested Wetland  
No - Go to SC 5.4

**Result:**

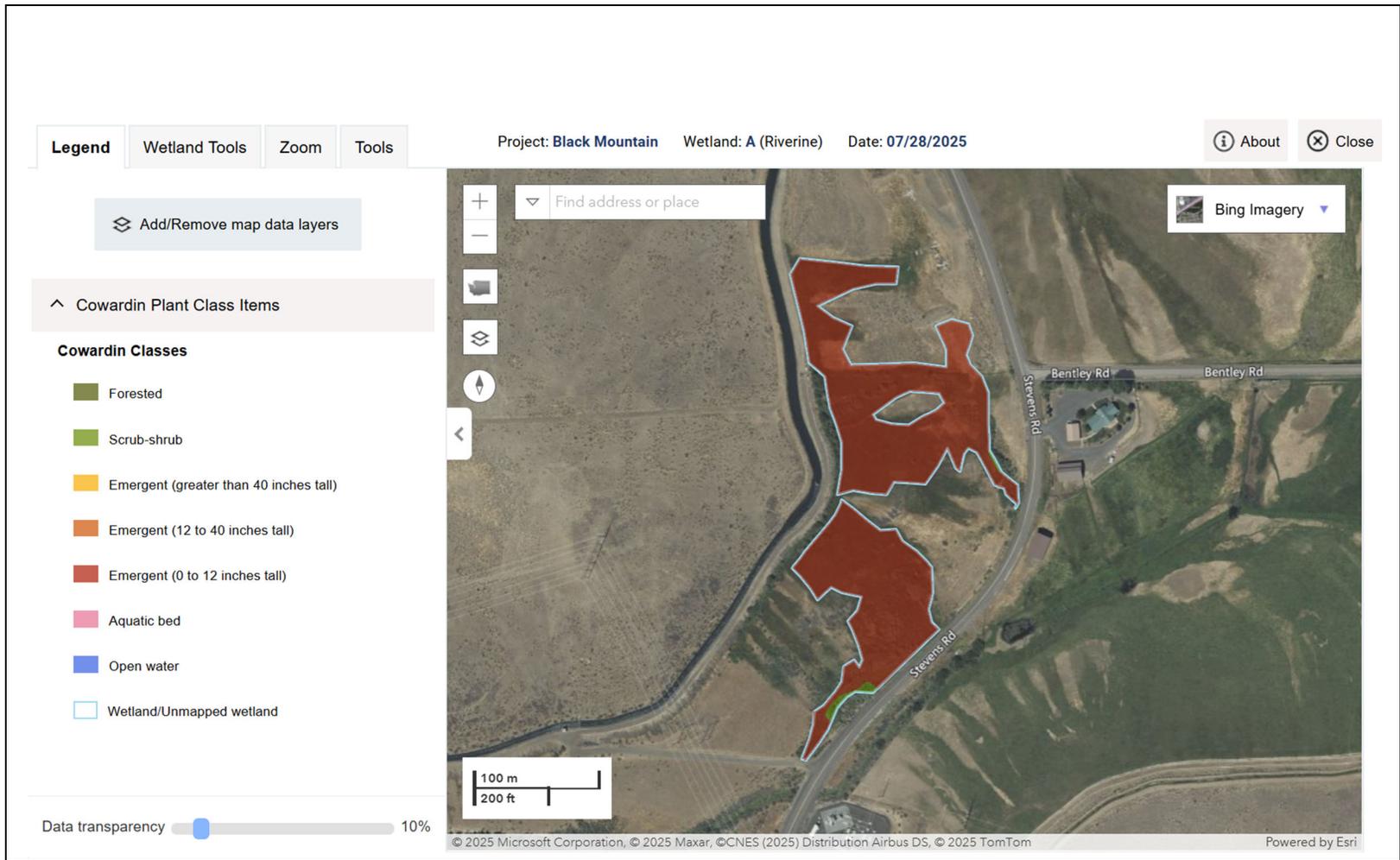
**SC 5.4** Does the wetland have at least 0.25ac with a forest canopy where more than 50% of the tree species (by cover) are fast growing species?

Yes - Category II Forested Wetland  
No - Go to SC 5.5

**Result:**

**Wetland name or number:** A

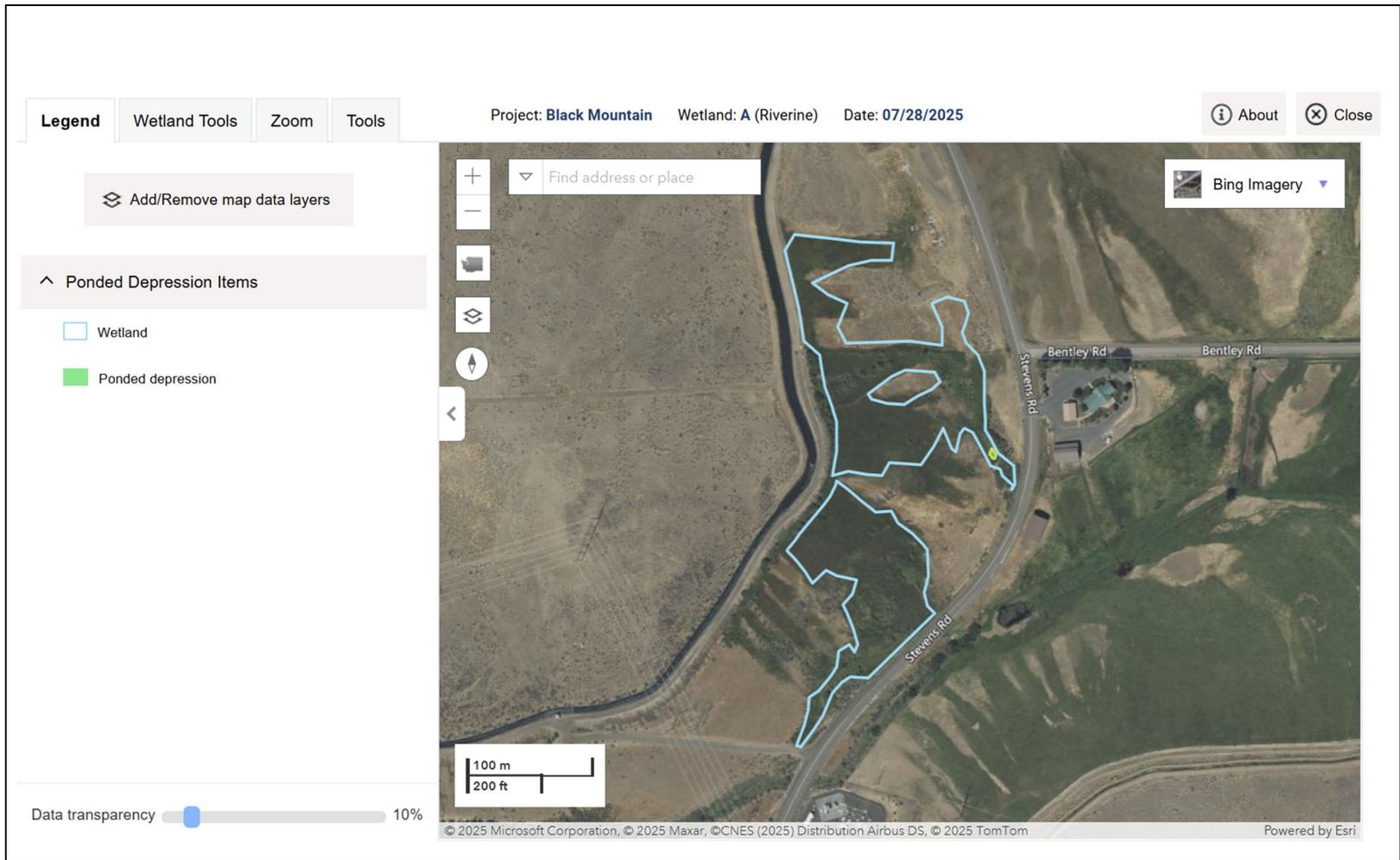
<b>SC 5.5</b> <u>Is the forested component of the wetland within the 100 year floodplain of a river or stream?</u>	
Yes - Category II Forested Wetland	
No - Not a Special Characteristic Forested Wetland	<b>Result:</b>
<b>Category of wetland based on Special Characteristics</b>	
If you answered No for all types, enter "Not Applicable" on Summary Form	<b>Final Category: Not Applicable</b>



SOURCE: WATOR 2025



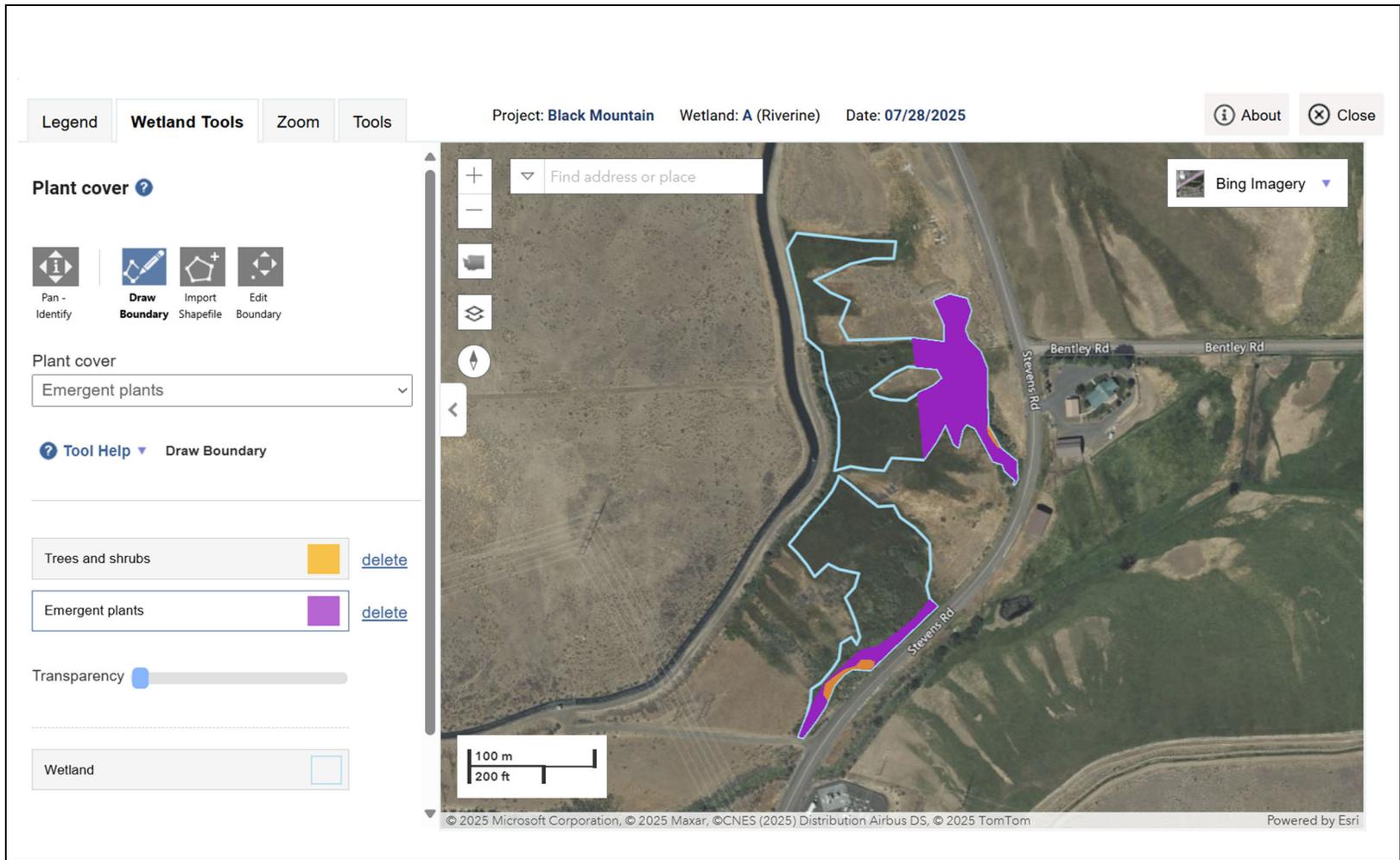
**Figure D-1**  
Cowardin Plant Classes



SOURCE: WATOR 2025



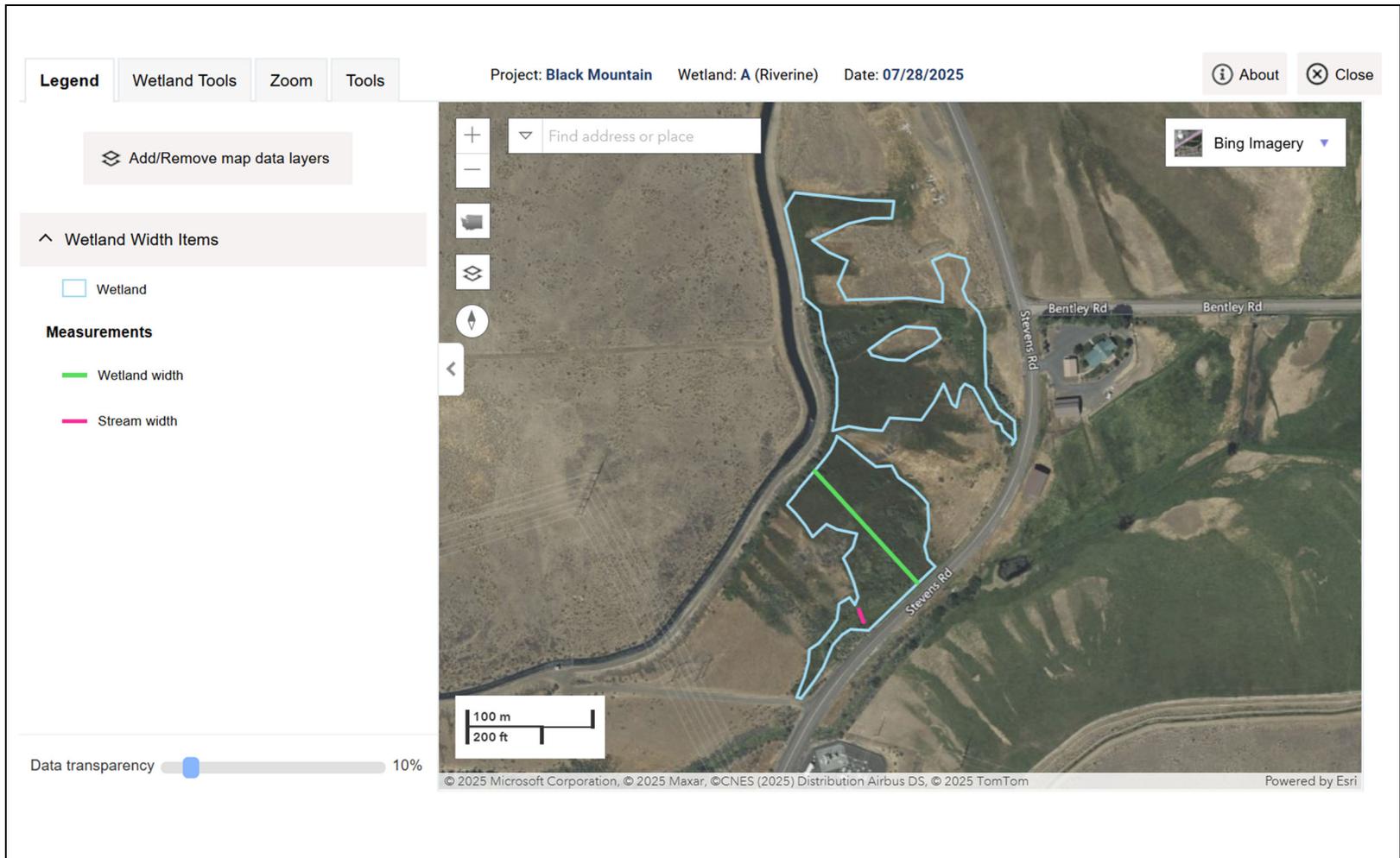
**Figure D-2**  
Ponded Depressions



SOURCE: WATOR 2025



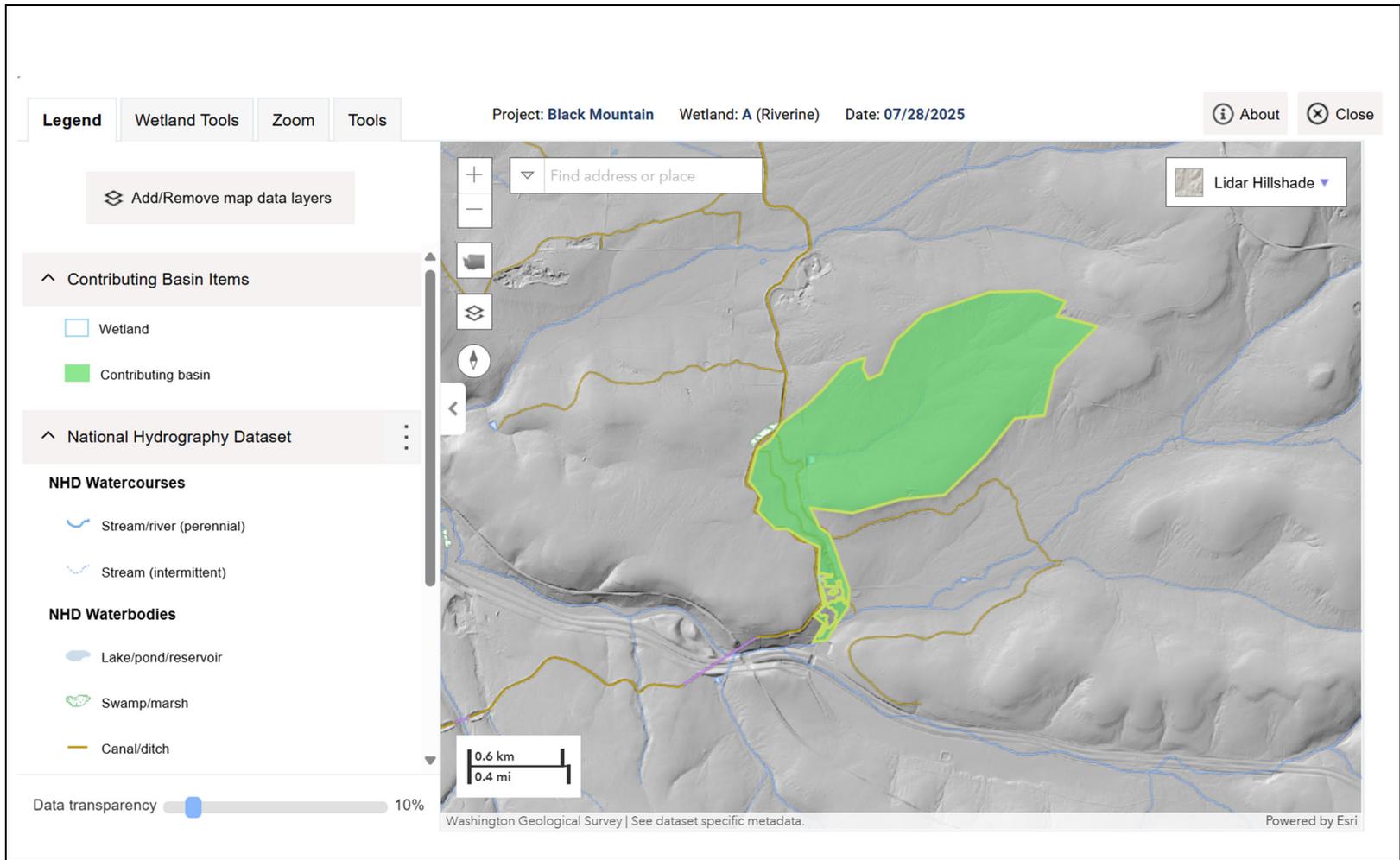
**Figure D-3**  
Plant Cover



SOURCE: WATOR 2025



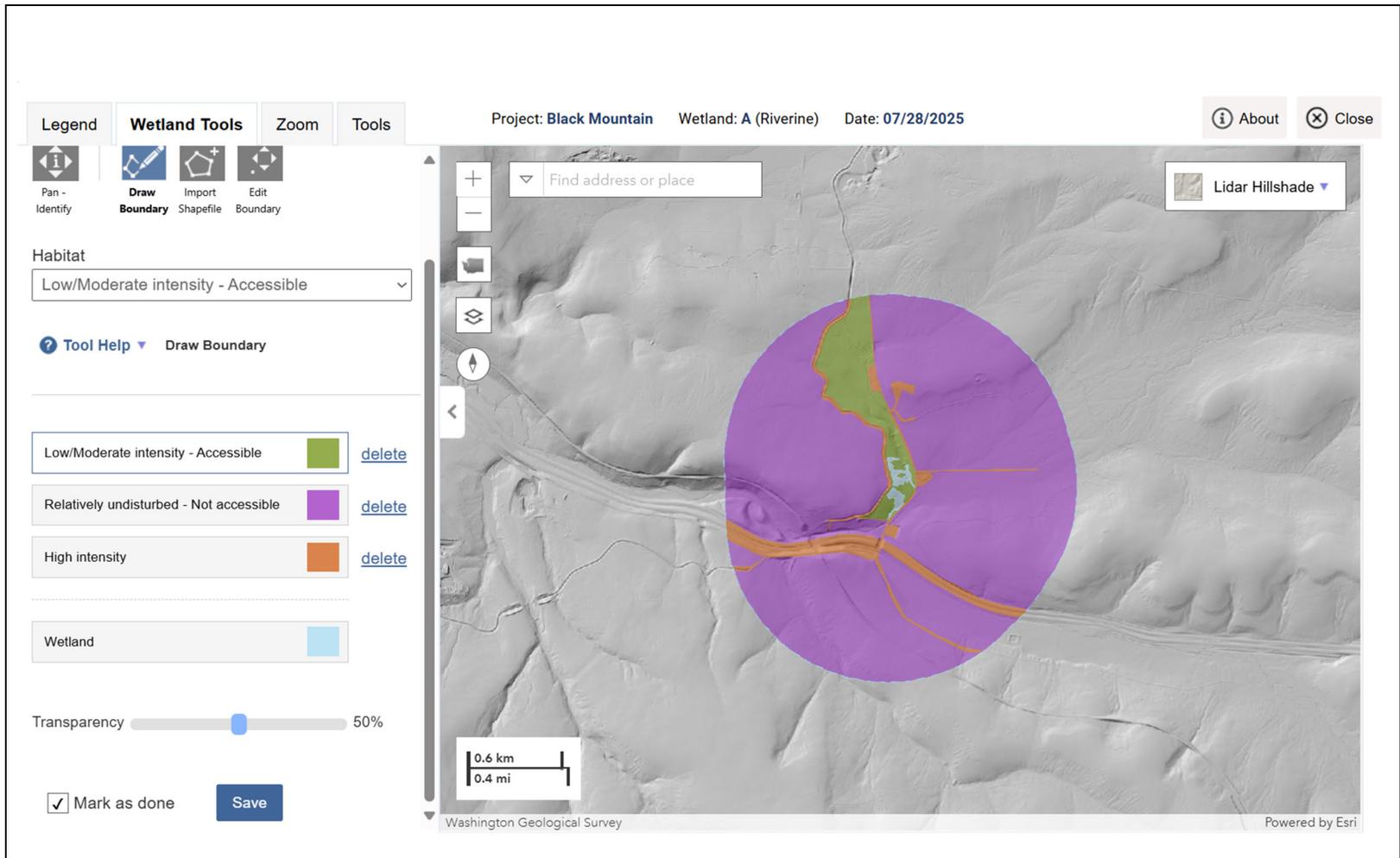
**Figure D-4**  
Width of Wetland vs. Width of Stream



SOURCE: WATOR 2025



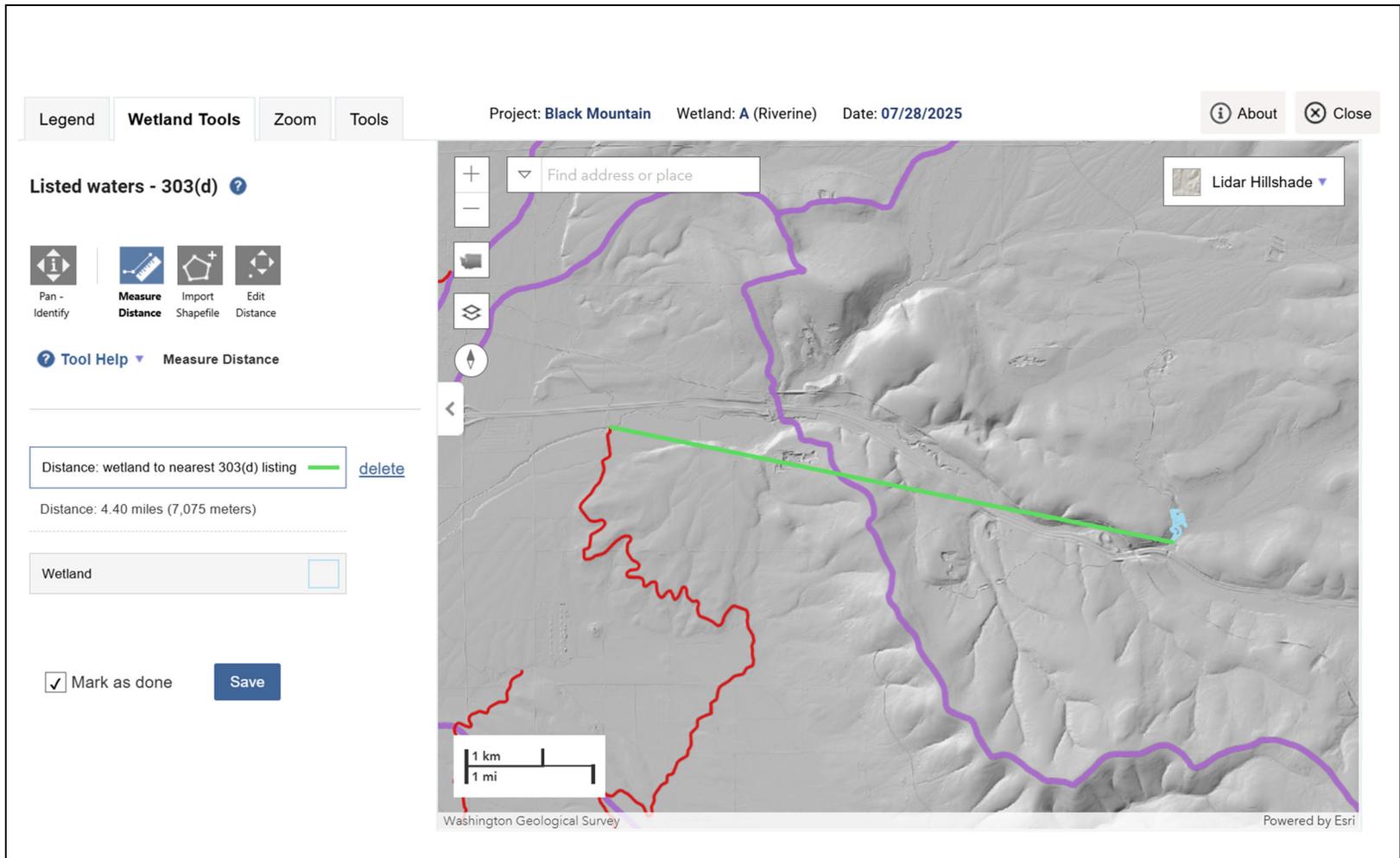
**Figure D-5**  
Contributing Basin



SOURCE: WATOR 2025



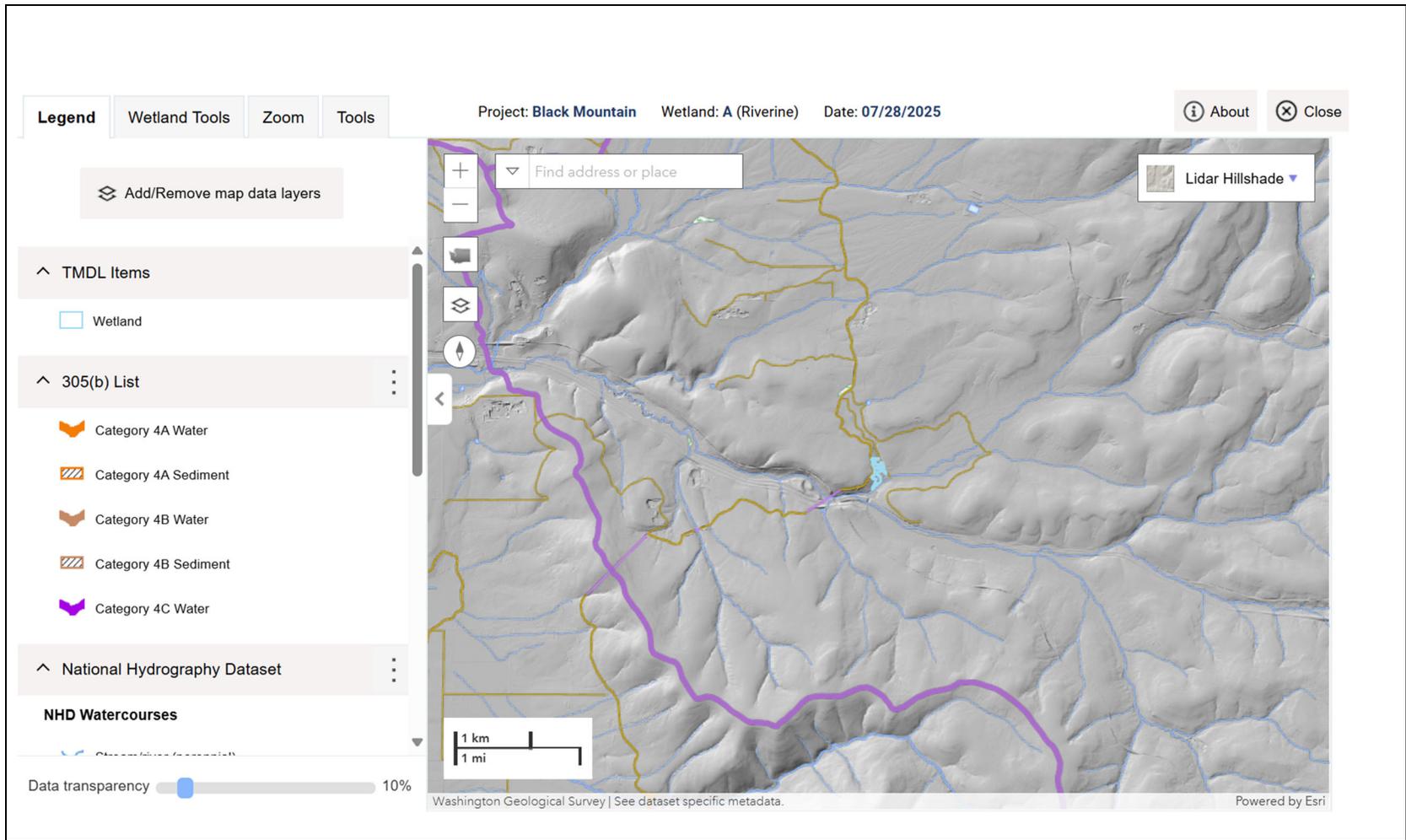
**Figure D-6**  
1km Polygon



SOURCE: WATOR 2025



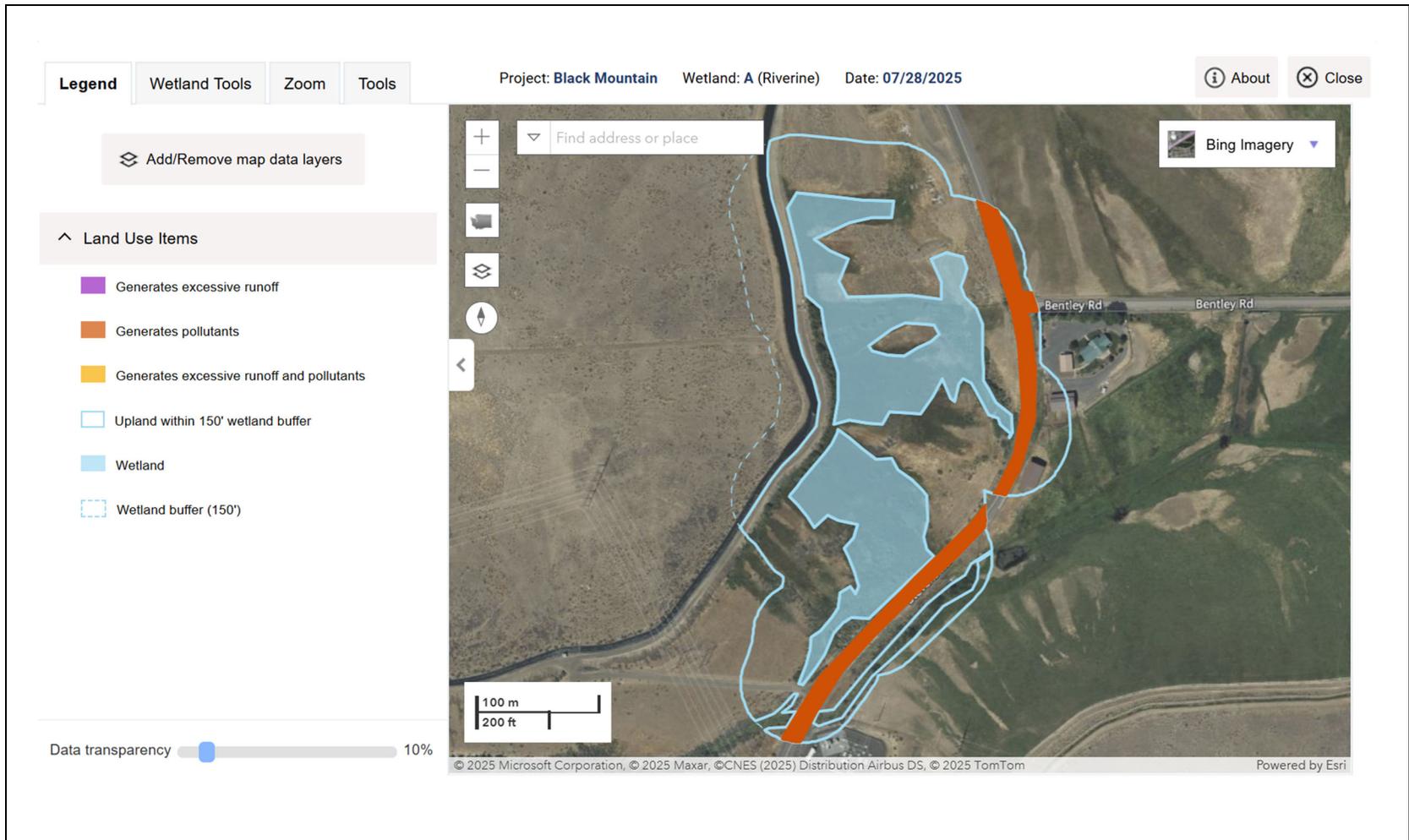
**Figure D-7**  
303d



SOURCE: WATOR 2025



**Figure D-8**  
TMDL



SOURCE: WATOR 2025



**Figure D-9**  
Land Use within 150ft



Wetland name or number: B

# RATING SUMMARY - Eastern Washington

Name of wetland (or ID#): B Date of site visit: 05/08/2025

Rated By: M Maynard Trained by Ecology? Yes  No  Date of Training: N/A

HGM Class used for rating: Slope

Wetland has multiple HGM classes? Yes  No

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

Source of base aerial photo/map:

OVERALL WETLAND CATEGORY: [Category IV] (based on functions  or special characteristics )

## 1. Category of wetland based on FUNCTIONS

Category I - Total score = 22 - 27

Category II - Total score = 19 - 21

Category III - Total score = 16 - 18

Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	L	L	L	
Landscape Potential	M	L	M	
Value	L	M	M	Total
Score Based on Ratings	4	4	5	13

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Vernal Pool	
Alkali	
Wetland of High Conservation Value	
Bog	
Calcareous Fen	
Forested	
None of the above	Not Applicable

Wetland name or number: B

**Maps and figures required to answer questions correctly for Eastern Washington**

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	S 2.1, S 5.1	
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number: B

## SLOPE WETLANDS

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

**S 1.0 Does the site have the potential to improve water quality?**

**S 1.1** What are the characteristics of the average slope of the wetland?

Slope is 1% or less	points = 3	
Slope is >1% - 2%	points = 2	
Slope is >2%-5%	points = 1	
Slope is >5%	points = 0	<b>Score: 0</b>

**S 1.2** Is the soil 2in below the surface true clay or true organic soil?

Mapped as true clay or organic (muck or peat)	points = 3	
Soil texture identified as clay or organic in field	points = 3	
Soil texture identified as clay or organic by laboratory test	points = 3	
None of the above	points = 0	<b>Score: 0</b>

**S 1.3** What are the characteristics of the plants in the wetland that trap sediments and pollutants?

Dense, uncut, herbaceous plants cover >90% of the wetland area	points = 6	
Dense, uncut, herbaceous plants cover >50% of the wetland area	points = 3	
Dense, woody, plants cover >50% of the wetland area	points = 2	
Dense, uncut, herbaceous plants cover >25% of the wetland area	points = 1	
Does not meet any of the criteria above for plants	points = 0	<b>Score: 0</b>

**Total for S 1: 0**

**Rating of Site Potential**

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

*Record the rating on the first page*

**S 2.0 Does the landscape have the potential to support the water quality function at the site?**

**S 2.1** Is >10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes	points = 1	
No	points = 0	<b>Score: 0</b>

**S 2.2** Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Yes	points = 1	
No	points = 0	<b>Score: 1</b>

**S 2.3** What are the other sources of pollutants coming into the wetland?

Cattle feces

**Total for S 2: 1**

**Rating of Landscape Potential**

1-2 = M  0 = L

*Record the rating on the first page*

Wetland name or number: B

<b>S 3.0 Is the water quality improvement provided by the site valuable to society?</b>		
<b>S 3.1</b> <u>Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (within 1 mi)?</u>		
Yes	points = 1	
No	points = 0	<b>Score: 0</b>
<b>S 3.2</b> <u>Is the wetland in a basin or sub-basin where water quality is an issue?</u>		
Yes	points = 1	
No	points = 0	<b>Score: 0</b>
<b>S 3.3</b> <u>Has the site been identified in a watershed or local plan as important for maintaining water quality</u>		
Yes	points = 2	
No	points = 0	<b>Score: 0</b>
		<b>Total for S 3: 0</b>

Rating of Value

2-4 = H  1 = M  0 = L

Record the rating on the first page

**SLOPE WETLANDS**

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

<b>S 4.0</b> <u>Does the site have the potential to reduce flooding and erosion?</u>		
<b>S 4.1</b> <u>Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland</u>		
Dense, uncut, rigid plants cover > 90% of the area of the wetland	points = 1	
All other conditions	points = 0	<b>Score: 0</b>
		<b>Total for S 4: 0</b>

Rating of Site Potential

1 = M  0 = L

Record the rating on the first page

<b>S 5.0</b> <u>Does the landscape have the potential to support the hydrologic functions of the site?</u>		
<b>S 5.1</b> <u>Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff?</u>		
Yes	points = 1	
No	points = 0	<b>Score: 0</b>
		<b>Total for S 5: 0</b>

Rating of Landscape Potential

1 = M  0 = L

Record the rating on the first page

Wetland name or number: B

<b>S 6.0 Are the hydrologic functions provided by the site valuable to society?</b>		
<b>S 6.1</b> <u>Is the wetland in a landscape that has flooding problems?</u>		
Flooding occurs in a sub-basin that is immediately down-gradient of the wetland	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
There are no problems with flooding downstream of the wetland	points = 0	<b>Score: 1</b>
<b>S 6.2</b> <u>Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</u>		
Yes	points = 2	
No	points = 0	<b>Score: 0</b>
<b>Total for S 6:</b>		<b>1</b>

Rating of Value

2-4 = H  1 = M  0 = L

Record the rating on the first page

Wetland name or number: B

## HABITAT FUNCTIONS

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

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

#### **H 1.1 What is the structure of the plant community?**

Aquatic Bed

Emergent plants 0-12in (0-30cm) high are the highest layer and have >30% cover

Emergent plants >12-40in (>30-100cm) high are the highest layer with >30% cover

Emergent plants >40in (>100cm) high are the highest layer with >30% cover

Scrub-shrub (areas where shrubs have >30% cover)

Forested (areas where trees have >30% cover)

4 structures or more

points = 3

3 structures

points = 2

2 structures

points = 1

1 structure

points = 0

No structures

points = 0

**Score: 0**

#### **H 1.2 Is one of the vegetation types Aquatic Bed?**

Yes

points = 1

No

points = 0

**Score: 0**

#### **H 1.3 What is the surface water potential?**

The wetland has areas of open water (without emergent or shrub plants) that meet the scoring threshold during March to early June OR in August to the end of September

The wetland has an intermittent or permanent, and unvegetated stream within its boundaries, or along one side

The wetland is along the side of a stream or river with an unvegetated area that is at least 16ft (5m) wide

The wetland is a Lake Fringe wetland

The wetland meets at least one of these criteria

points = 3

No surface water that meets criteria

points = 0

**Score: 0**

#### **H 1.4 What is the richness of plant species in the wetland?**

>9 species

points = 2

4-9 species

points = 1

<4 species

points = 0

**Score: 0**

**Wetland name or number: B**

<b>H 1.5</b> <u>What is the interspersion of habitats within the wetland?</u>	
High	points = 3
Moderate	points = 2
Low	points = 1
None	points = 0
<b>Score: 0</b>	
<b>H 1.6</b> <u>What are the special habitat features within the wetland?</u>	
<input type="checkbox"/> Loose rocks larger than 4in OR large, downed, woody debris (>4in in diameter) within the area of surface ponding or in a stream.	
<input type="checkbox"/> Cattails or bulrushes are present within the wetland.	
<input type="checkbox"/> Standing snags (diameter at the bottom >4in) in the wetland or within 30m (100ft) of the edge.	
<input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded	
<input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) or signs of recent beaver activity.	
<input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)	
6 habitat features selected	points = 6
5 habitat features selected	points = 5
4 habitat features selected	points = 4
3 habitat features selected	points = 3
2 habitat features selected	points = 2
1 habitat feature selected	points = 1
No habitat features selected	points = 0
<b>Score:</b>	
<b>Total for H 1:</b>	
<b>0</b>	

**Rating of Site Potential**

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

*Record the rating on the first page*

**H 2.0 Does the landscape have the potential to support the habitat functions of the site?**

<b>H 2.1</b> <u>What is the percentage of accessible habitat within 1km of the wetland?</u>	
>33% of 1km Polygon is accessible habitat	points = 3
20-30% of 1km Polygon is accessible habitat	points = 2
10-19% of 1km Polygon is accessible habitat	points = 1
<10% of 1km Polygon is accessible habitat	points = 0
<b>Score: 0</b>	
<b>H 2.2</b> <u>What is the total habitat in a 1km polygon around the wetland?</u>	
Total habitat is >50% of the 1km polygon	points = 3
Total habitat is 10-50% of the 1km polygon and in 1-3 patches	points = 2
Total habitat is 10-50% of the 1km polygon and in >3 patches	points = 1
Total habitat is <10% of the 1km polygon	points = 0
<b>Score: 3</b>	

Wetland name or number: B

<b>H 2.3</b> <u>What is the land use intensity in a 1km polygon within the wetland?</u>		
>50% of the polygon is high intensity land use	points = -2	
<50% of the polygon is high intensity land use	points = 0	<b>Score: 0</b>
<b>H 2.4</b> <u>Is the wetland is in an area where annual rainfall is less than 12in, and its water regime is not influenced by irrigation practices, dams, or water control structures?</u>		
Yes	points = 3	
No	points = 0	<b>Score: 0</b>
<b>Total for H 2:</b>		<b>3</b>

Rating of Landscape Potential

[ ] 4-9 = H [X] 1-3 = M [ ] 0 = L

Record the rating on the first page

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

<b>H 3.1</b> <u>Does the site provide habitat for species valued in laws, regulations, or policies?</u>		
<input type="checkbox"/> Aspen Stands		
<input type="checkbox"/> Biodiversity Areas and Corridors		
<input type="checkbox"/> Eastside Steppe		
<input type="checkbox"/> Inland Dunes		
<input type="checkbox"/> Juniper Savannah		
<input type="checkbox"/> Old-growth/Mature Forests		
<input type="checkbox"/> Oregon White Oak		
<input checked="" type="checkbox"/> Riparian		
<input checked="" type="checkbox"/> Shrubsteppe		
<input type="checkbox"/> Fresh Deepwater		
<input type="checkbox"/> Instream		
<input type="checkbox"/> Caves		
<input type="checkbox"/> Cliffs		
<input type="checkbox"/> Snags and Logs		
<input type="checkbox"/> Talus		
<b>The following criteria automatically score 2 points:</b>		
<input type="checkbox"/> The wetland provides habitat for Threatened or Endangered species		
<input type="checkbox"/> The wetland is mapped as a location for an individual WDFW priority species		
<input type="checkbox"/> The wetland is a Wetland of High Conservation Value (WHCV)		
<input type="checkbox"/> The wetland has been categorized as an important habitat site in a local plan		
The wetland has 3 or more WDFW priority habitats within 100m, or meets the criteria for societal value	points = 2	
The site has 1 or 2 WDFW priority habitats within 100m	points = 1	
The site does not meet any of the criteria for societal value	points = 0	<b>Score: 1</b>
<b>Total for H 3:</b>		<b>1</b>

Rating of Value

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

Record the rating on the first page

Wetland name or number: B

## CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

### SC 1.0 Vernal Pools

**SC 1.1** Is the wetland less than 4000sqft and it meets at least two of the follow criteria?

It's only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.

Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals (if you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.)

The soil in the wetland is shallow [ $<1\text{ft}$  (30cm) deep] and is underlain by an impermeable layer such as basalt or clay

Surface water is present for less than 120 days during the wet season.

Yes - Go to SC 1.2

No - Not a Special Characteristic Vernal Pool

**Result: Not a Special  
Characteristic Vernal  
Pool**

**SC 1.2** Is the vernal pool relatively undisturbed in February and March?

Yes - Go to SC 1.3

No - Not a Special Characteristic Vernal Pool

**Result:**

**SC 1.3** Is the vernal pool in an area where there are at least 3 separate aquatic resources (other wetlands, rivers, lakes, etc.) within 0.5 mi?

Yes - Category II Vernal Pool

No - Category III Vernal Pool

**Result:**

### SC 2.0 Alkali Wetlands

**SC 2.1** Does the wetland meet any of the following criteria for Alkali Wetlands?

The wetland has a conductivity  $>3.0$  mS/cm

The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover is the wetland can be classified as "alkali" species

If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt.

Yes - Category I Alkali Wetland

No - Go to SC 2.2

**Result: Go to SC 2.2**

**SC 2.2** Does the wetland meet two of the following criteria for Alkali Wetlands?

Salt encrustations around more than 75% of the edge of the wetland

more than 75% of the plant cover consists of alkali (salt tolerant) species

A pH above 9.0

Yes - Category I Alkali Wetland

No - Not a Special Characteristic Alkali Wetland

**Result: Not a Special  
Characteristic Alkali  
Wetland**

Wetland name or number: B

### SC 3.0 Wetlands of High Conservation Value

<p><b>SC 3.1</b> <u>Is the wetland listed by Washington Natural Heritage Program (WNHP) as a Wetland of High Conservation Value (WHVC)?</u></p> <p>Yes - Category I Wetland of High Conservation Value No - Go to SC 3.2</p>	<p><b>Result: Go to SC 3.2</b></p>
<p><b>SC 3.2</b> <u>Does the wetland have a rare plant species, rare plant community, or high-quality plant community that may qualify the site as a WHCV?</u></p> <p>Yes - Category I Wetland of High Conservation Value No - Not a Special Characteristic Wetland of High Conservation Value</p>	<p><b>Result: Not a Special Characteristic Wetland of High Conservation Value</b></p>

### SC 4.0 Bogs and Calcareous Fens

<p><b>SC 4.1</b> <u>Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16in or more of the first 32in of the soil profile?</u></p> <p>Yes - Go to SC 4.3 No - Go to SC 4.2</p>	<p><b>Result: Go to SC 4.2</b></p>
<p><b>SC 4.2</b> <u>Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16in deep over debrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pong?</u></p> <p>Yes - Go to SC 4.3 No - Not a Special Characteristic Bog</p>	<p><b>Result:</b></p>
<p><b>SC 4.3</b> <u>Does an area with peats or mucks have more than 70% cover of mosses at gorund level, AND at least 30% cover of plant species listed?</u></p> <p>Yes - Category I Bog No - Go to SC 4.4</p>	<p><b>Result:</b></p>
<p><b>SC 4.4</b> <u>Is an area with peats or mucks forested (&gt;30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine AND any of the species (or combination of species) listed provide more than 30% of the cover under the canopy?</u></p> <p>Yes - Category I Bog No - Go to SC 4.5</p>	<p><b>Result:</b></p>
<p><b>SC 4.5</b> <u>Do the species listed comprise at least 20% of the total plant cover within an area of peats and mucks?</u></p> <p>Yes - Category I Calcareous Fen No - Go to SC 4.6</p>	<p><b>Result:</b></p>

**Wetland name or number: B**

**SC 4.6** Do the species listed comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met?

Marl deposits [calcium carbonate (CaCO<sub>3</sub>) precipitate] occur on the soil surface or plant stems

The pH of free water is  $\geq 6.8$  AND electrical conductivity is  $\geq 200$   $\mu\text{S}/\text{cm}$  at multiple locations within the wetland

Yes - Category I Calcareous Fen

No - Not a Special Characteristic Calcareous Fen

**Result:**

**SC 5.0 Forested Wetlands**

**SC 5.1** Does the wetland have an area of forest rooted within its boundary that meets at least one of the following criteria?

The wetland is within the 100 year floodplain of a river or stream

Aspen (*Populus tremuloides*) represents at least 20% of the total cover of woody species

There is at least 0.25ac of trees (even in wetlands smaller than 2.5ac) that are "mature" or "old-growth" according to the definitions for these priority habitats developed by WDFW

Yes - Go to SC 5.2

No - Not a Special Characteristic Forested Wetland

**Result: Not a Special  
Characteristic Forested  
Wetland**

**SC 5.2** Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees?

Yes - Category I Forested Wetland

No - Go to SC 5.3

**Result:**

**SC 5.3** Does the wetland have areas where aspen (*Populus tremuloides*) represents at least 20% of the total cover of woody species?

Yes - Category I Forested Wetland

No - Go to SC 5.4

**Result:**

**SC 5.4** Does the wetland have at least 0.25ac with a forest canopy where more than 50% of the tree species (by cover) are fast growing species?

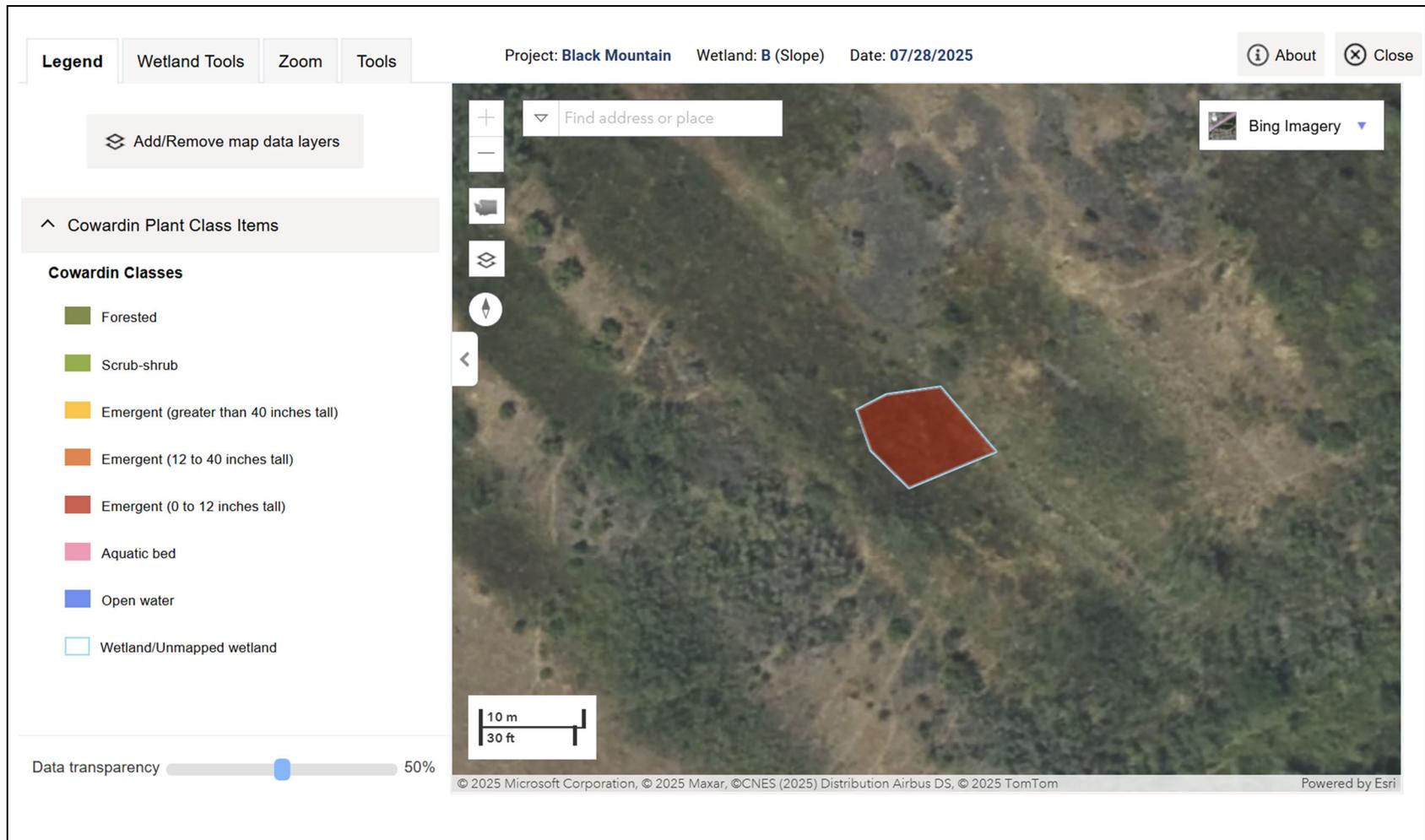
Yes - Category II Forested Wetland

No - Go to SC 5.5

**Result:**

**Wetland name or number:** B

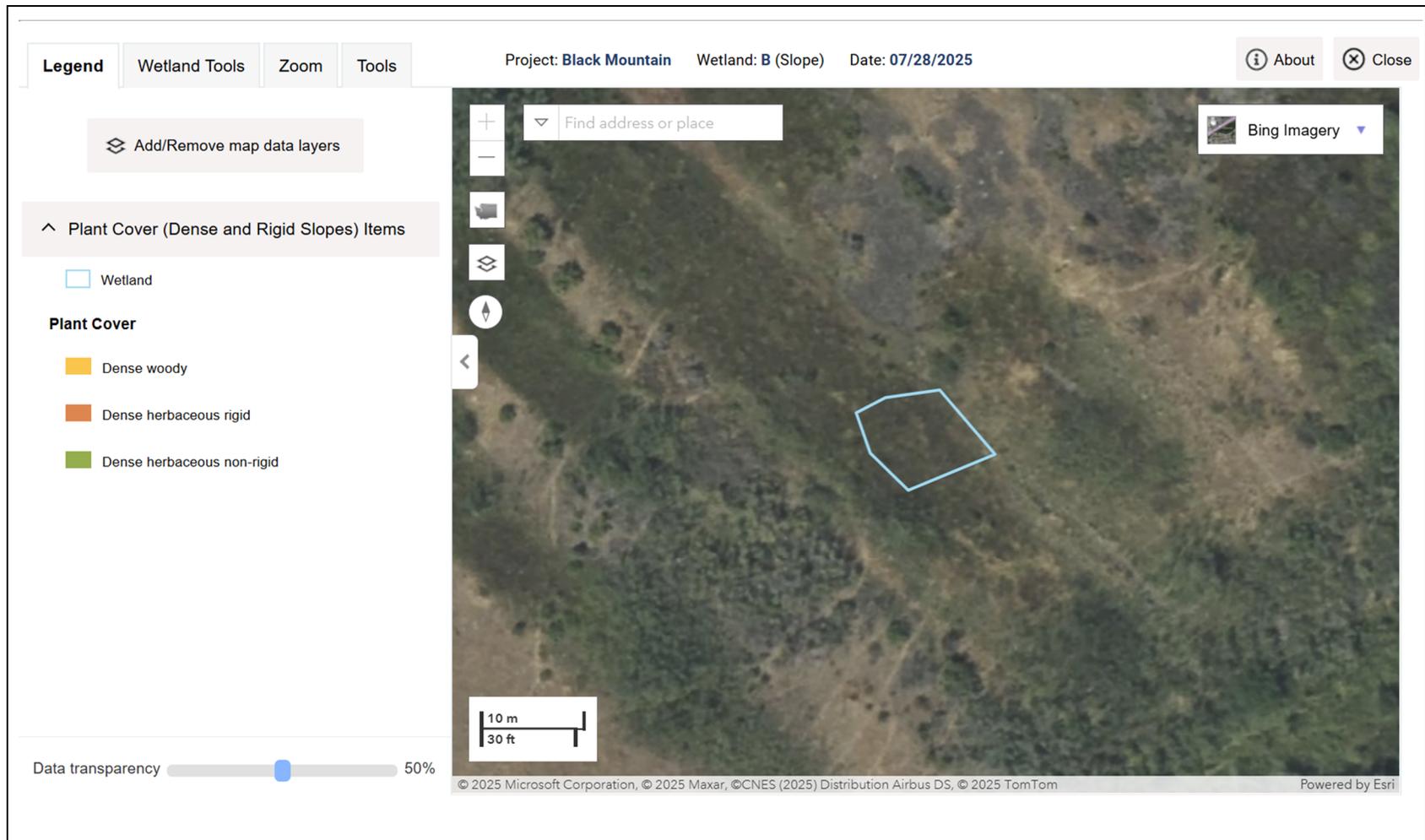
<b>SC 5.5</b> <u>Is the forested component of the wetland within the 100 year floodplain of a river or stream?</u>	
Yes - Category II Forested Wetland	
No - Not a Special Characteristic Forested Wetland	<b>Result:</b>
<b>Category of wetland based on Special Characteristics</b>	
If you answered No for all types, enter "Not Applicable" on Summary Form	<b>Final Category: Not Applicable</b>



SOURCE: WATOR 2025



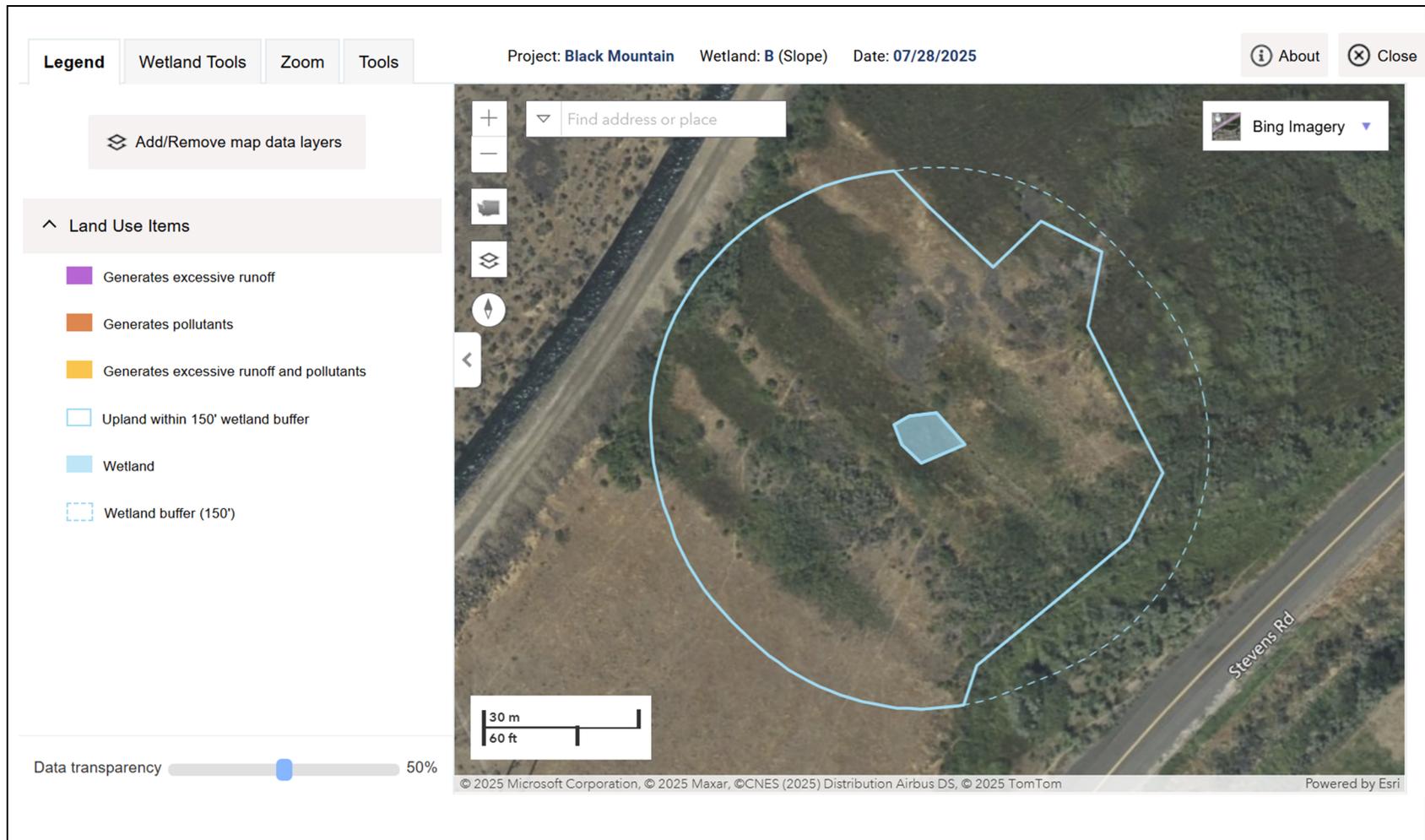
**Figure D-10**  
Cowardin Plant Classes



SOURCE: WATOR 2025



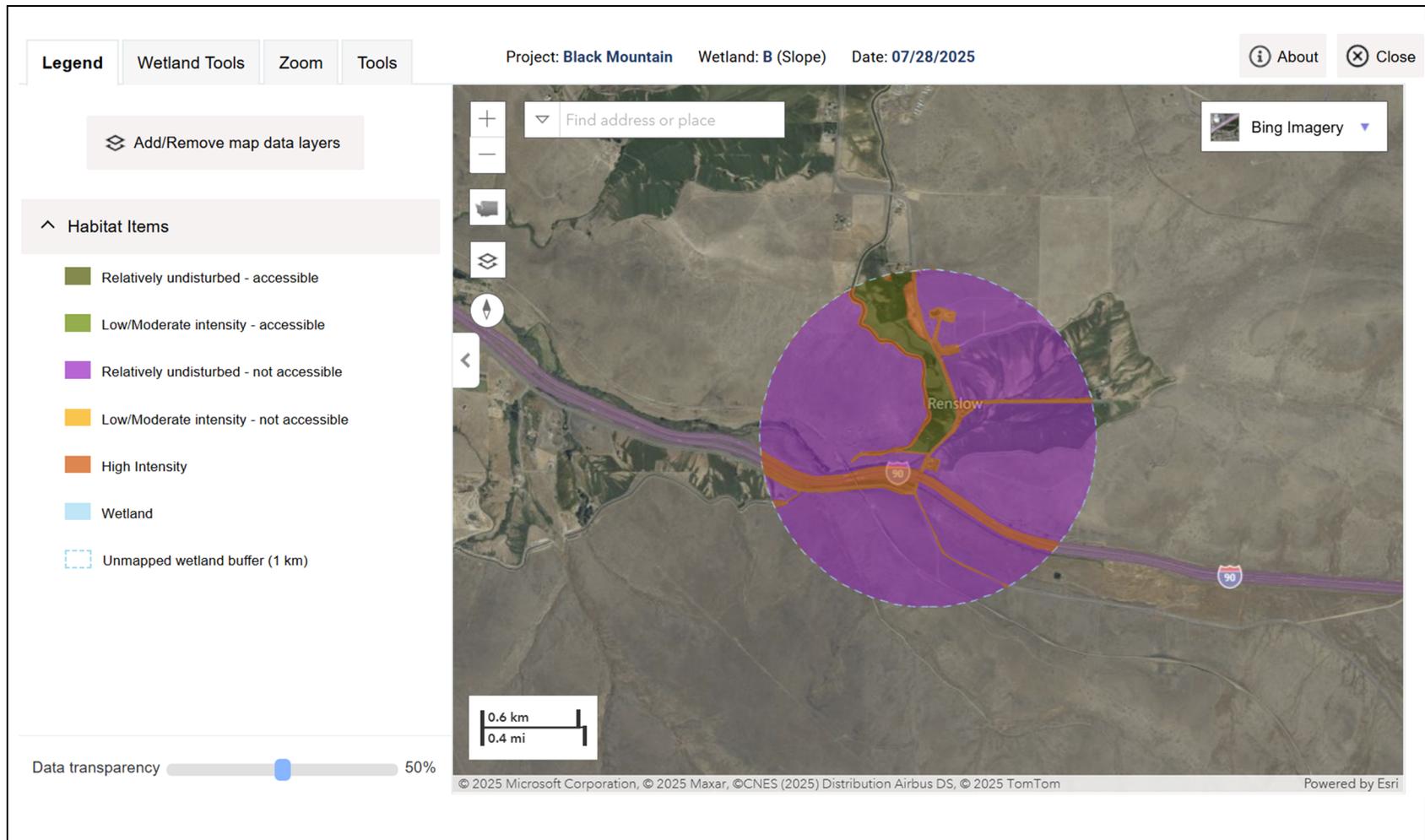
**Figure D-11**  
Dense Plant Cover



SOURCE: WATOR 2025



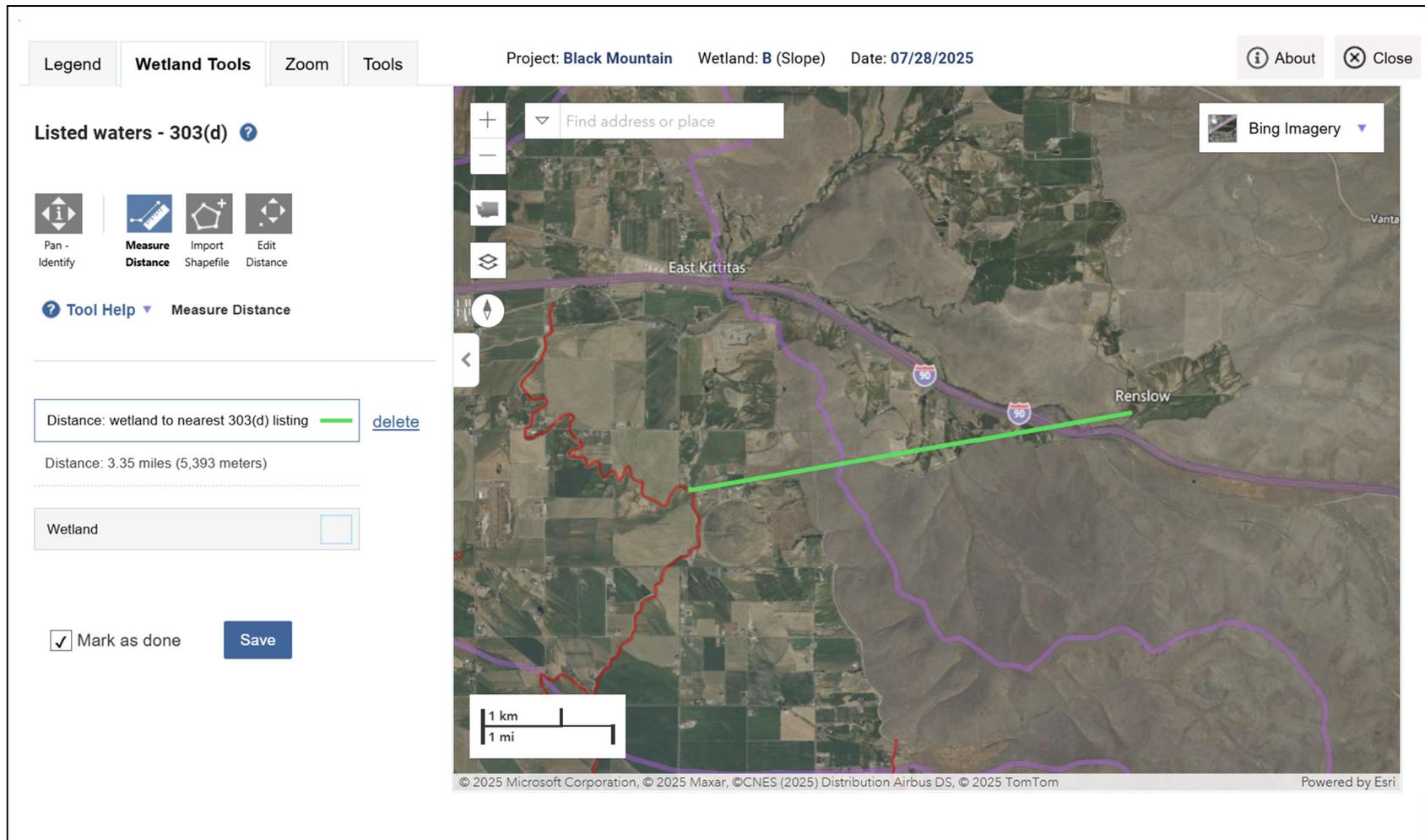
**Figure D-13**  
Boundary within 150ft of Wetland



SOURCE: WATOR 2025



**Figure D-14**  
1km Polygon

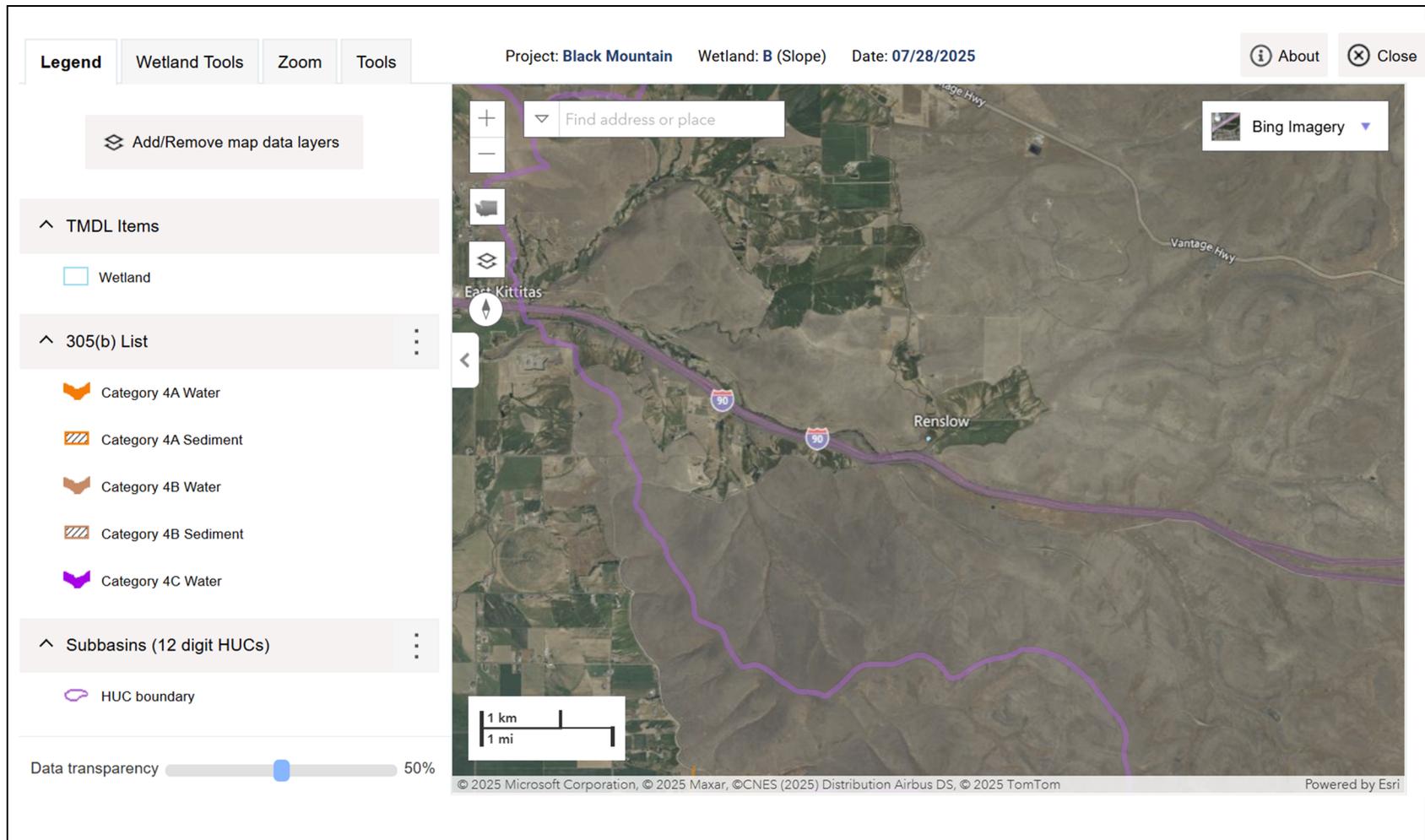


SOURCE: WATOR 2025



**Figure D-15**

303d



SOURCE: WATOR 2025



**Figure D-16**  
TMDL

# Appendix D

## **Representative Photographs**





**Figure 1. Wetland A**



**Figure 2. Southern portion of Wetland A**



**Figure 3. Wetland B**



**Figure 4. Unnamed watercourse at base of slope**



**Figure 5. Shrub-steppe habitat in northwest portion of study area**



**Figure 6. Northern portion of study area**

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