

MARLATT WETLAND

WETLAND DELINEATION REPORT

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Kittitas County CDS

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1 INTRODUCTION

Grette Associates, LLC was contracted by Shala and Kyle Marlatt to conduct a wetland delineation and classification on parcel #336336, located at 3300 Pasco Road, near Cle Elum, WA; Township 19 North, Range 14 E.W.M, Section 2. The purpose of this study was to determine the presence/absence of wetlands and, if present, to flag the boundaries and determine appropriate wetland buffers on the site. The determination of wetland buffers is necessary in order for the permitting of moderate impact uses to occur on the property; including use of the existing cabin and the placement of a 20-ft cargo container for equipment storage.

On June 2, 2022 Grette Associates conducted a field wetland delineation at the site to determine the presence, type, and extent of wetlands and waters of the U.S. within the parcel. This report presents the study methods and findings of the field investigation. Field data sheets are attached for reference in Attachment 1 and a wetland rating form is included as Attachment 2.



Figure 1. Vicinity Map

2 WETLAND SUMMARY

During the site investigation, the study area (defined as the subject parcel) was inspected for the presence of jurisdictional wetlands. The site visit identified one wetland located on parcel #336336 (Figure 2, Photographs 1-9). The Marlatt Wetland is classified as a Category II Depressional Wetland.

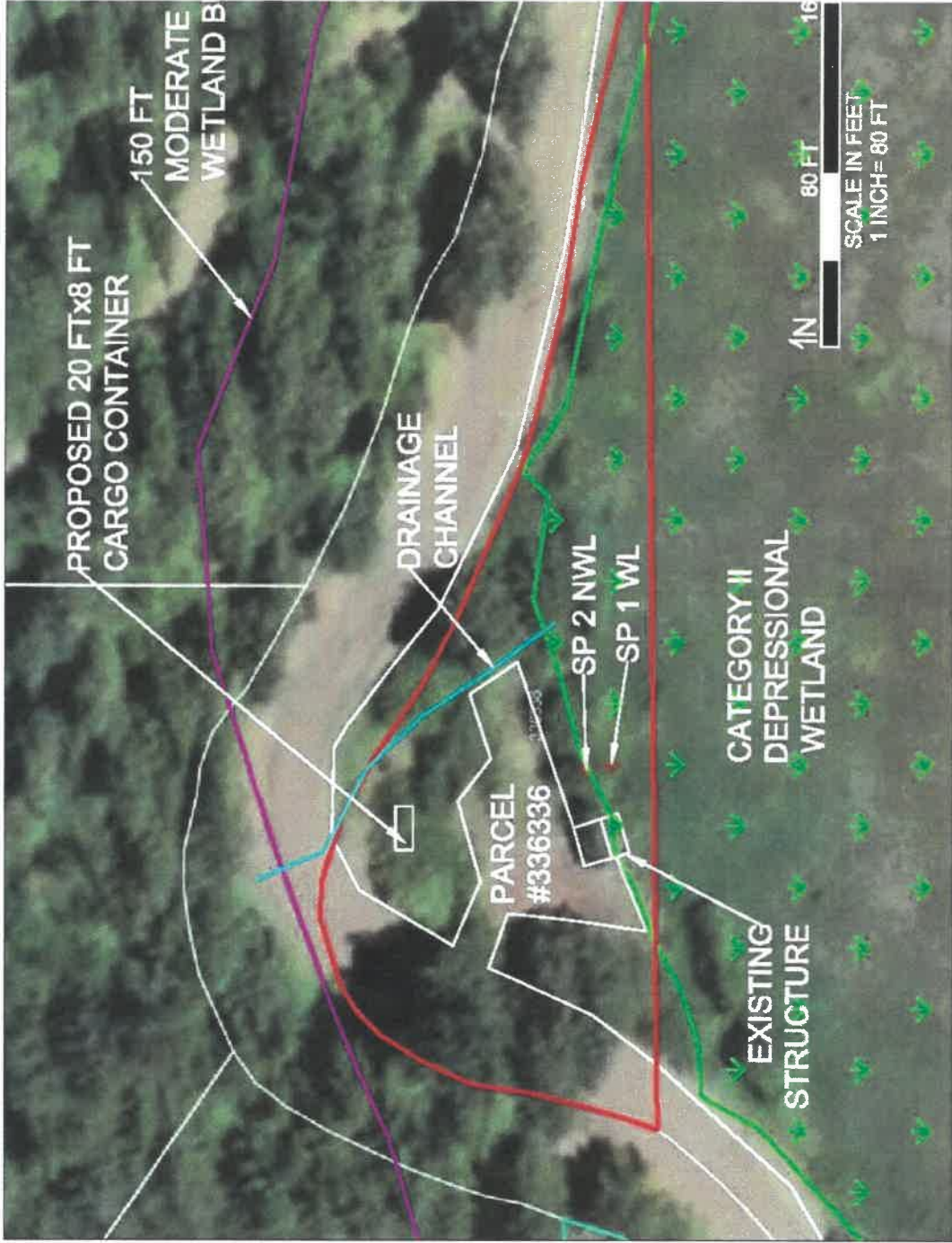


Figure 2. Wetland map of the study area.

3 METHODS

The study area was traversed on foot and two formal data plots and soil test pits plus several informal soil test pits were excavated to evaluate wetland conditions. Wetland boundaries were established based on changes in vegetation, signs of hydrology, and topographic changes. Data plots were established in and adjacent to the wetland areas. The locations of the on-site wetland boundaries and data points were identified with orange flagging and were recorded in the field by sub-meter dGPS.

During the site visit, a drainage channel was also identified on the parcel. The channel was not flowing surface water on the day of the visit. After leaving the property, the channel disappears and does not connect to a higher order water by an above-ground channel. Per KCC 17A.04.020(4)(d), the channel does not meet the definition of a type Ns water and therefore does not have a Riparian Management Zone or buffer. Although this channel does not qualify as a stream it does convey stormwater from Pasco Road into the subject wetland across the subject parcel.

3.1 WETLAND DELINEATION

The boundaries between wetlands and uplands were determined using the data collected from the data pit locations. Guidance from the 1987 Army Corps of Engineers Wetlands Delineation Manual (“1987 Manual”) (USACE 1987), as well as the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (“Western Mountain Supplement”) (USACE 2010) was used to perform the wetland delineation. The methods in these manuals recognize that the three parameters of hydrology, hydric soils, and hydrophytic vegetation are generally found in wetlands and that these parameters are important in the establishment and maintenance of wetland communities. The methods evaluate each of the three parameters to determine if a wetland is present and to establish wetland boundaries.

The presence of dominant hydrophytic vegetation and indicators of wetland hydrology are used to delineate the boundary between wetland and upland areas. Wetland boundaries are then confirmed by checking the soil color and organic content to verify presence of hydric soils. Wetlands are classified using the U.S. Fish and Wildlife Service’s (USFWS) Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979) and are categorized using Ecology’s Washington State Wetlands Rating System for Eastern Washington – Revised (Hruby 2014).

3.1.1 Hydrophytic Vegetation

The USACE’s most recent National Wetland Plant List, ver. 3.5 (USACE, 2020) was used to determine vegetation indicator status. This system assigns an indicator status to commonly occurring plant species on the basis of their frequency of occurrence in wetlands (Table 1). Species indicator status expresses the range in which plants typically occur in wetlands and non-wetlands (uplands). Under this system, vegetation is considered hydrophytic when there is an indicator status of facultative (FAC), facultative wetland (FACW) or obligate wetland (OBL) (Table 1).

Table 1. Definitions for USACE plant indicator status

Plant Indicator Status Category	Indicator Status Abbreviation	Definition (Estimated Probability of Occurrence)
Obligate Upland	UPL	Occur rarely (<1 percent) in wetlands, and almost always (>99 percent) in uplands
Facultative Upland	FACU	Occur sometimes (1 percent to <33 percent) in wetlands, but occur more often (>67 percent to 99 percent) in uplands
Facultative	FAC	Similar likelihood (33 percent to 67 percent) of occurring in both wetlands and uplands
Facultative Wetland	FACW	Occur usually in wetlands (>67 percent to 99 percent), but also occur in uplands (1 percent to 33 percent)
Obligate Wetland	OBL	Occur almost always (>99 percent) in wetlands, but rarely occur in uplands (<1 percent)
Not Listed	NL	Not listed due to insufficient information to determine status

Under the Western Mountains Supplement, the hydrophytic vegetation criterion is determined by three tests, in order of priority: the rapid test, the dominance test, and the prevalence index. Passing any one of these tests results in a determination of hydrophytic vegetation. The rapid test is passed if all dominant species across all strata are “FACW” or wetter. The dominance test is met when more than 50 percent of the dominant species in the plant community are “FAC” or wetter. The percent dominance for each plant strata is determined using the “50-20 Rule”. The prevalence index is a weighted formula that determines whether or not a plant community is hydrophytic based on the relative abundance of more or less strongly hydrophytic species. More strongly hydrophytic species (e.g. OBL) are weighted more heavily in the formula than less strongly hydrophytic species (e.g. FAC). The formula produces a numerical score, which determines whether or not the plant community is hydrophytic. Additionally, the observation of morphological plant adaptations and the presence of wetland non-vascular plants can be used as hydrophytic vegetation indicators. Non-hydrophytic vegetation can also be considered problematic hydrophytic vegetation if supported by best professional judgment and the hydric soils and hydrology indicators are also passed.

3.1.2 Hydric Soils

Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper soil horizons are considered hydric soils. Hydric soil indicators are formed primarily by the accumulation or loss of iron, manganese, sulfur, or carbon compounds in a saturated or anaerobic environment. The Western Mountains Supplement includes six hydric soils indicators that apply to all soil types, including histosols, histic epipedon layer, black histic layer, a sulfidic odor, depleted soil matrix below dark surface, and thick dark surface. Additional indicators also apply based on the soil type (USACE 2010). Some soils, even under wetland conditions, do not readily develop redoximorphic features or otherwise display typical hydric soil indicators due to their physical or chemical characteristics. Under certain circumstances described in the Western Mountains Supplement, these soils may be determined to be “Problematic Hydric Soils” if hydrophytic vegetation and wetland hydrology are present. An alpha-alpha dipyrindyl (AADP) solution test would be used to provide additional information about soils in this case.

3.1.3 Wetland Hydrology

Evidence of permanent or periodic inundation or soil saturation to the surface for a minimum of 5% of the growing season (soil temperatures above 41°F at 19.7 inches below the surface) meets the hydrology criterion. This duration is approximated as 14 consecutive days.

The Western Mountains Supplement includes several indicators of wetland hydrology, divided into four categories: Category A (observation of surface water or saturated soils), Category B (evidence of recent inundation), Category C (evidence of current or recent soil saturation), and Category D (evidence from other site conditions or data). Category A includes direct observations of hydrology, and Categories B-D include indirect observations. Within each category, indicators are further divided into “primary” and “secondary” indicators. One primary indicator or at least two secondary indicators are required to confirm the presence of wetland hydrology. According to the Western Mountains Supplement, all indicators are “intended as one-time observations that are sufficient evidence of wetland hydrology in areas where hydric soils and hydrophytic vegetation are present” (U.S. Army Corps of Engineers, 2010, p. 69).

In the Western Mountains Supplement, nineteen primary indicators have been established, including surface water, high water table, soil saturation, surface soil cracks, inundation visible on aerial imagery, water-stained leaves, presence of reduced iron as determined by a positive reaction to AADP, hydrogen sulfide odor, and oxidized rhizospheres along live roots in the top 12 inches. Eight secondary indicators have been established, including drainage patterns, dry-season water table, saturation visible on aerial imagery, and a positive FAC-neutral test.

4 BACKGROUND INFORMATION

The subject property is located at 3300 Pasco Road near Cle Elum, WA. To access the site from Ellensburg, head west on I-90 for approximately 28 miles. Use Exit 78 and follow the signs for Golf Course Road. Turn left onto Golf Course Road and continue approximately 0.9 miles. Turn left onto Westside Road and continue 0.9 miles. Keep straight onto Fowler Creek Road and continue 0.8 miles. The road name will change to Pasco Road. Continue on Pasco Road another 2.2 miles. The subject parcel will be on the right directly adjacent to the road. Park and continue on foot to the subject wetland.

4.1 STUDY AREA CHARACTERISTICS

4.1.1 Physical Characteristics

The project site is comprised of one small property located directly adjacent to Pasco Road. The parcel is 1.34 acres in size and mildly slopes to the south before flattening out within the subject wetland. The parcel is comprised of a portion of Pasco Road, a cleared and graveled high use area with small cabin, upland vegetation and the northern edge of the subject wetland. The deck of the small cabin extends out over the wetland boundary. In addition to the small cabin the graveled area is also utilized for RV parking and equipment storage. A drainage channel is located near the center of the parcel. This channel funnels stormwater from Pasco Road to the subject wetland and runs from north to south across the parcel. The parcel is zoned Forest and Range. Surrounding parcels

are comprised of Forest and Range and Rural 5 zoning and are undeveloped or comprised of low density residential and recreational uses.

4.1.2 Hydrology

Wetland hydrology at the site is derived from a shallow water table resulting from surface and sub-surface drainage of snowmelt and storm events from the surrounding ridges. As the wetland is located in the valley between two ridgelines, the hydrology becomes confined and results in the formation of hydric conditions. The outlet for the subject wetland is located approximately 0.5 miles to the west of the site where the topography begins to increase in slope toward the west and away from the wetland. Water from the subject wetland feeds Fowler Creek, which is located just to the west of the outlet and bends to the north through a confined valley before joining the Yakima River approximately 2 miles from the subject parcel.

4.1.3 Vegetation

The parcel is located within the Ponderosa pine (*Pinus ponderosa*) and Douglas fir (*Pseudotsuga menziesii*) forest of Kittitas County, WA.

The vegetative community within the upland adjacent to the wetland is comprised of species including *Pseudotsuga menziesii*, *Pinus ponderosa*, vine maple (*Acer circinatum*), speckled alder (*Alnus incana*), water birch (*Betula occidentalis*), snowberry (*Symphoricarpos albus*), mullein (*Verbascum thapsis*), reed canary grass (*Phalaris arundinacea*), stream violet (*Viola glabella*) and stinging nettle (*Urtica dioica*).

Wetland areas are vegetated with *Alnus incana* and *Phalaris arundinacea*. Offsite wetland vegetation also includes unidentified sedges and rushes, redosier dogwood (*Cornus stolonifera*) and various willow species. These species are visible from Pasco Road.

4.2 HYDROLOGIC CONDITIONS

The NOAA/NCEI Climate Division Precipitation Anomalies (CDPA) map was utilized to assess the severity of drought conditions in the three months leading up to the site visit. The dataset ranges from a value of -13 to 13, with positive values indicating wetter than normal periods and negative values representing drought conditions. The CDPA map covers specific regions of the state and is updated monthly. For the subject parcel, the East Slope of the Cascade region was utilized. CDPA precipitation data from April to June of 2022 scored a 3, indicating that precipitation for this time of year was in the range of above normal. Therefore, special wetland delineation procedures specific to drought conditions were not utilized during the site investigation.

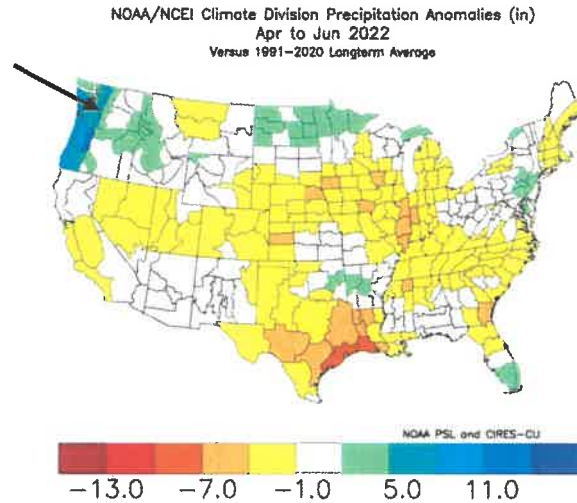


Figure 3. CDPA data for “East Slope Cascades” Division for the months preceding the site visit; blue indicates wetter, red indicates drier.

The site visit was conducted in early June of 2022. Total precipitation in 2022 prior to the field investigations (through May 31) was 22.58 inches (NRCS 2021a), which is approximately 105% of normal (21.37 inches; NRCS 2021b). The average annual rainfall within the last 10 Water Years was 41.28 inches (NRCS 2021b). Table 3 below presents an analysis of the appropriate NRCS WETS table (NRCS 2021b) for the three full months preceding the field investigation (Table 2). Bins were established to determine the overall rainfall period during the field investigation; drier (sum in 6-9), normal (sum is 10-14), wet (sum is 15-18). Based on the recorded rainfall, the WETS table sum is 15, indicating wet conditions.

Table 2. NRCS WETS table analysis for Easton (AgACIS Station EASTON, WA)

Preceding Month	WETS Rainfall Percentile (inches)		Measured Rainfall ¹ (inches)	Conditions ²	Condition Value ³	Month Weight ⁴	Value
	30%	70%					
May	1.77	2.80	5.32	Wet	3	3	6
April	1.84	3.26	3.81	Wet	3	2	5
March	2.77	5.58	5.91	Wet	3	1	4
Sum:							15

¹ Observed rainfall for the month

² Dry conditions are below 30% WETS table value, Normal conditions are between 30% and 70% of the WETS table values, Wet conditions are above 70% of the WETS table value.

³ Dry equals a value of 1, normal equals a value of 2, wet equals a value of 3.

⁴ More weight is given to the most recent months.

4.3 NATIONAL WETLANDS INVENTORY

The U.S. Fish and Wildlife Service’s National Wetlands Inventory (NWI) was queried to determine if previously identified wetlands are present on or near the study area (USFWS 2021). According to the NWI Interactive Online Mapper, a freshwater emergent wetland (PEM1A) is mapped at the site (Figure 4).



Figure 4. National Wetland Inventory data of the subject property and surrounding area.

4.4 SENSITIVE WILDLIFE AND PLANTS

The Washington Department of Fish and Wildlife’s (WDFW) Priority Habitats and Species (PHS) database and the U.S. Fish and Wildlife Service (USFWS) IPaC database for Endangered Species were queried to determine if state- or federally-listed fish or wildlife species occur on or near the study area. According to the PHS database the parcel is broadly mapped for Northern Spotted Owl (*Strix occidentalis*) Occurrence mapped to Township and Gray Wolf (*Canis lupus*) Occurrence mapped to township. However, habitat to support these species is not present at the site.



Priority Habitats and Species on the Web



Report Date: 10/03/2022, Parcel ID: [19-14-02040-0008](#)

PHS Species/Habitats Overview:

Occurrence Name	Federal Status	State Status	Sensitive Location
Northern Spotted Owl	Threatened	Endangered	Yes
Gray wolf	Endangered	Endangered	Yes
Freshwater Emergent Wetland	N/A	N/A	No

PHS Species/Habitats Details:

Figure 5. WDFW PHS mapping of the subject parcel and surrounding vicinity.

According to the USFWS IPaC database the parcel is broadly mapped for Gray Wolf (*Canis Lupus*)-Endangered, North American Wolverine (*Gulo gulo luscus*)-Proposed Threatened, Northern Spotted Owl (*Strix occidentalis*)-Threatened, Yellow-billed cuckoo (*Coccyzus americanus*)-Threatened, Bull Trout (*Salvelinus confluentus*)-Threatened, and Monarch Butterfly (*Danaus plexippus*)-Candidate. However, none of the above species were observed at the time of the site visit.

The Washington Department of Natural Resources' (WDNR) Natural Heritage Information System was queried to determine if the study area includes high-quality natural heritage wetland occurrences or occurrences of natural heritage features commonly associated with wetlands. According to WDNR data, no rare plant populations are mapped in the same Township/Range/Section as the subject wetland.

4.5 SOIL INFORMATION

The Natural Resource Conservation Service's (NRCS) Web Soil Survey (Kittitas County Area) was consulted to determine the mapped soil present on the property. The project site is primarily comprised of Haplosaprists, 0 to 2 percent slopes (214) and Volperie very paragravelly ashy sandy loam, warm, 30 to 60 percent slopes (265) (Figure 5).

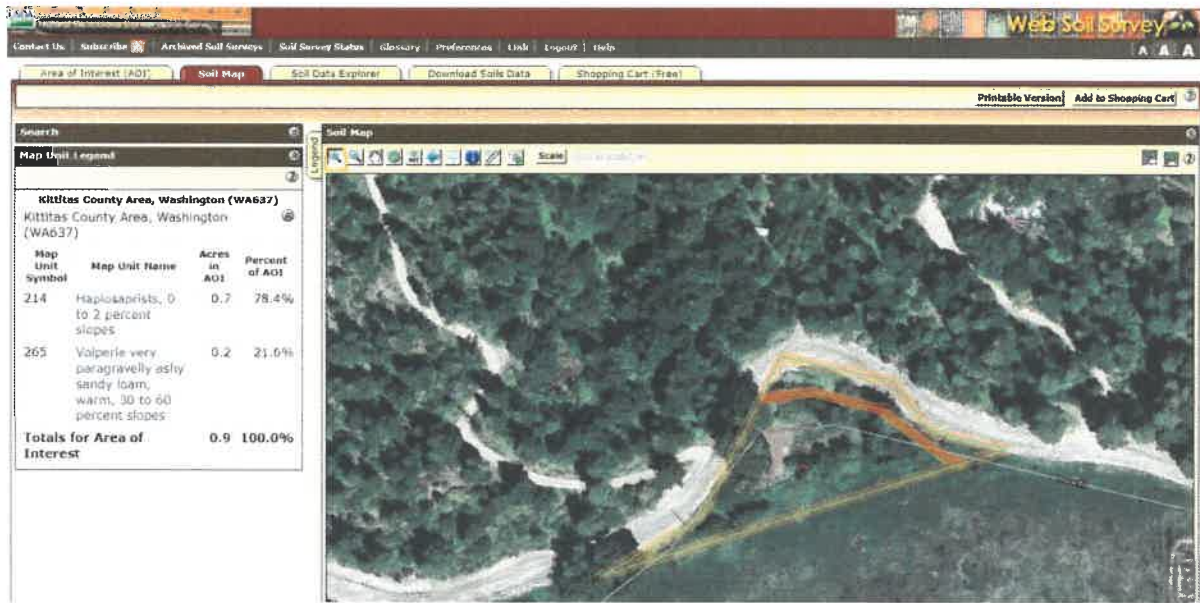


Figure 6. NRCS Web Soil Survey map of the Subject property.

Haplosaprists (214) is a deep soil formed on basin floors from herbaceous organic material over alluvium. A typical profile contains brown (10YR 4/3) muck from 0 to 8 inches, dark grayish brown (10YR 4/2) muck from 8 to 20 inches and very dark gray (10YR 3/1) muck from 20 to 43 inches with silty clay loam from 43 to 60 inches. Depth to a restrictive layer is more than 80 inches. The soil is very poorly drained but is not listed as a hydric soil in Kittitas County.

Volperie very paragravelly ashy sandy loam (265) is a relatively shallow soil formed on mountain slopes from residuum from phyllite and schist with a mantle of volcanic ash. A typical profile contains forest litter from 0-1 inches, dark brown (10YR 3/3) sandy loam from 1-7 inches, dark yellowish brown (10YR 3/4) loam from 7 to 15 inches, olive brown (2.5Y 4/4) gravelly loam from 15 to 37 inches and bedded phyllite and mica schist at 37 inches. Depth to a restrictive layer is 30 to 40 inches. The soil is well drained and is not listed as a hydric soil for Kittitas County.

5 RESULTS

Observations at 2 formal sampling locations (SP1 and SP2) and several informal test pits throughout the property were used to determine the presence and extent of wetland conditions (data sheets are presented in Attachment 1). This resulted in the identification of one depressional wetland on parcel #336336 (Figure 2, Photographs 1-9). The Marlatt Wetland is discussed below.

5.1 MARLATT WETLAND

The Marlatt Wetland is a 77.65-acre depressional wetland located from east to west in a confined valley approximately 2 miles south of the Yakima River and outside of Cle Elum, WA. On the subject parcel the wetland runs from east to west in the southern half of the property. The wetland extends onto neighboring parcels to the east, south and west. The wetland is roughly oval shape, with the long axis running from east to west approximately 5,258 ft and the short axis running north to south approximately 1,145 ft. Hydrology is primarily driven by the surface and sub-surface drainage of the surrounding ridgelines which coalesce in the valley bottom and form hydric soil conditions. The wetland margin is well established and defined by topography and a distinct shift in vegetation.

5.1.1 Vegetation

The site visit was conducted in early June, so much of the vegetation was identifiable or actively growing. Vegetation within the wetland sampling location (SP1) is dominated by *Alnus incana* (FACW) and *Phalaris arundinacea* (FACW).

Vegetation within the upland along the wetland boundary (SP2) is dominated by *Alnus incana* (FACW), *Phalaris arundinacea* (FACW), and Kentucky bluegrass (*Poa pratense*) (FAC). Upland areas adjacent to the wetland are mowed and maintained lawngrass.

Based on the dominance of hydrophytic plant species at sampling location SP1, the hydrophytic vegetation criterion for a wetland is passed.

5.1.2 Soils

As mentioned above, three formal test pits were dug within the vicinity of the Marlatt Wetland. Additional informal pits were dug to properly establish the wetland boundaries.

Wetland pit SP1 soils consist of 100% very dark brown (10YR 2/2) mucky sand from 0-4 inches and black (10YR 2/1) mucky sand from 5 to 16 inches in depth.

Upland Pit SP2 soils consist of 100% dark yellowish brown (10YR 3/4) loamy sand from 0-13 inches in depth.

Based on the presence of sandy mucky mineral soils at SP1, the hydric soils criterion is passed.

5.1.3 Hydrology

As discussed above, hydrology within the Marlatt Wetland is provided by surface and subsurface contributions from the drainage of snowmelt and storm events from the surrounding ridgelines. Primary indicators of hydrology include a high water table and saturation. The water table was present at 11 inches in depth and saturation was visible starting at 5 inches. Secondary indicators include the FAC-Neutral Test for vegetation.

Based on these observations, the qualification for wetland hydrology is satisfied for the Marlatt Wetland.

6 DISCUSSION

6.1 FUNCTIONS AND VALUES

Wetlands provide a number of values and functions, such as fish and wildlife habitats, natural water quality improvement, flood storage, shoreline erosion protection and opportunities for recreation and aesthetic appreciation. Protecting wetlands can, in turn, protect our health and safety by reducing flood damage and preserving water quality. Although every wetland serves some function, the type and the degree to which a particular function is served varies from wetland to wetland.

To rate the relative functions of a certain wetland in comparison to other wetlands in the region, Ecology has developed the *Washington State Wetland Rating System for Eastern Washington - Revised* (Hruby 2014). This rating system categorizes wetlands using a function-based approach. Possible ratings range from Category I (highest-quality) to Category IV (lowest-quality). Wetlands are categorized based on their potential and opportunity to perform certain water quality, hydrologic, and habitat functions. These functions include filtering runoff, reducing flooding and erosion, and providing diverse and undisturbed habitat for a variety of wildlife species.

Ecology's 2014 wetland rating system evaluates the three main functions of a wetland (Water Quality Improvement, Hydrologic function, and Habitat function) at three scales: "Site Potential," "Landscape Potential," and "Value". A rating of High ("H"), Medium ("M"), and Low ("L") is assigned for each scale/function, for a total of nine ratings (Table 3). Ratings are worth 3 points for "H," 2 points for "M," and 1 point for "L." These ratings are summed to generate a score for each function, which are then summed to generate an overall wetland score and category (Table 4). The functional scores and category ratings for the wetlands are included in Table 5.

Table 3. Functional rating matrix

Marlatt Wetland				
Function	Improving Water Quality	Hydrologic	Habitat	Total
Site Potential	H / M / L	H / M / L	H / M / L	
Landscape Potential	H / M / L	H / M / L	H / M / L	
Value	H / M / L	H / M / L	H / M / L	
Score Based on Ratings	8	5	7	20

Table 4. Category of wetland based on functions

Category	Total Score
Category I	22-27
Category II	19-21
Category III	16-18
Category IV	9-15

Table 5. Wetland rating and categorization summary

Wetland Name	Wetland Size (acres)	Cowardin Class	HGM Class	Water Quality	Hydrology	Habitat	Total	Function Category	Special Characteristics
Marlatt Wetland	77.65	PEM1A	Depression	8	5	7	20	II	None

Based on the wetland rating form the **Marlatt Wetland** rates as **Category II Depressional** wetland based on function. Wetland function/value categories are discussed below.

6.2 MARLATT WETLAND

The wetland provides moderately high water quality functions. The wetland has an intermittently flowing outlet and un-grazed vegetation from 1/3 to 2/3 of its area. There is seasonal ponding. The wetland receives stormwater discharges and has land uses that generate pollutants within 150 ft. The wetland is in a basin or sub-basin with water quality issues and is in a drainage or basin that has a TMDL for water quality.

The wetland has a moderately low potential for providing hydrologic functions. The wetland has an intermittently flowing outlet but seasonal ponding is minimal. The wetland receives stormwater discharges. There are surface flooding problems in a sub-basin farther down-gradient.

The wetland provides a moderately high level of habitat function. The wetland has high structural complexity and several special habitat features. Potential of the surrounding landscape to support habitat function is high due to the level of undisturbed and low intensity land abutting the wetland. The wetland has one WDFW priority habitat within 100 meters.

Scoring for specific elements of the wetland function is determined by the Wetland Rating Form, which is provided in Attachment 2.

6.3 REGULATORY CONSIDERATIONS

Wetland buffer widths and mitigation requirements in Kittitas County are determined based on the wetland rating. Standard buffer widths for wetlands outside of shoreline jurisdiction are presented in Kittitas County Code (KCC) Title 17A.07.030 Wetland Buffers. Based on Table 17A.07.030: Standard Buffer Widths, the buffer width for a **Category II** wetland with a **Moderate Impact** Land Use is **150 ft**. The footnotes for the table define the level of impact from proposed land use.

Wetland buffers shall be measured horizontally in all directions from the outer edge of the wetland boundary as established in the field per KCC 17A.07.030.2.

Except as otherwise specified, wetland buffer zones shall be retained in their natural conditions (see KCC 17A.07.030.13 and 17A.07.050 for exemptions and allowed buffer uses and KCC17A.01.060.2.c. reasonable use criteria). Filling or otherwise disturbing wetlands is generally prohibited by Kittitas County. If a proposed development is located within or adjacent to a known or suspected wetland, the Director shall require the applicant to submit a wetland critical areas report prepared by a qualified professional pursuant to 17A.07.060. Where impacts to the wetland buffer are unavoidable, mitigation is required pursuant to KCC 17A.07.070.

Non-isolated wetlands are also regulated by the USACE under Section 404 of the Clean Water Act. If the USACE were to exert jurisdiction, a Section 404 permit from the USACE would only be required if filling, grading, vegetation removal or other development activities are proposed within the limits of the wetland. The Corps project manager for the Kittitas County area should be contacted prior to any proposed activity occurring within the wetland to determine if a USACE permit is necessary.

In addition, if any proposed wetland alteration requires a federal permit, an Ecology Individual 401 Water Quality Certification may also be required. Ecology regulates all wetlands under the State Clean Water Act (RCW 90.48).

6.4 REASONABLE USE REVIEW CRITERIA

An application has been submitted by the applicant's representative for a reasonable use exception pursuant to KCC 17A.01.060 to allow a 175 sq ft shed and 160 sq ft storage container within the wetland buffer. The majority of the north side of the entire wetland is either bounded by Pasco Road or pre-existing development which effectively interrupts a significant portion of the buffer per KCC 17A.07.030.7. Given the substantial existing impacts to the buffer that reduce its potential to perform normal functions, the 335 total sq ft of non-habitable structure on the subject property will be immeasurable and therefore will not result in a loss of critical area function compared to existing conditions. If any new vegetation removal is required, it should be replaced with native species planted adjacent to the wetland to ensure there is no reduction in woody vegetation on the property.

7 QUALIFICATIONS

Eron Drew is a professional biologist who meets the qualifications for Wetlands, Habitat Conservation Areas and Vegetation Management qualified professional. Eron holds Bachelor of Science degrees in Geology, Conservation Biology, and Zoology from the University of Wisconsin, Madison with a focus on geomorphology, conservation ecology, and limnology. Professional experience includes over 11 years of natural resource management experience in limnology, fisheries, freshwater ecology, wetland ecology, ESA and PHS species protection, and wildlife habitat assessment, management, and mitigation. She is an Army Corps of Engineers certified wetland delineator and has completed the Department of Ecology training for Using the Revised Washington State Wetland Rating System (2014) in Eastern Washington. She has completed the Department of Ecology training for Determining the Ordinary High Water Mark and the WADNR Ecological Integrity Assessment training. She is also a Cornell Lab of Ornithology eBird data contributor and a member of the Washington Native Plant Society. Eron has over 13 years of professional experience in agriculture and landscape management within Central Washington, and 6 years of experience as a WSU Chelan-Douglas Master Gardener and Master Gardener instructor; with over 75 hours of continuing education through the WSU Research Extension in vegetation management including soils, tree and shrub identification, pruning, site and variety selection, trellising and support, fire-wise landscaping, forest health, xeric and native vegetation, plant health diagnosis, and disease and pest management. Eron can be reached at erond@gretteassociates.com or by phone at (509) 663-6300.

Ryan Walker is a Senior Biologist who meets the qualifications for Wetlands, Habitat Conservation Areas and Vegetation Management with experience in shoreline permitting, forestry, wetland biology, riparian restoration, fish and wildlife habitat and code administration. He is an Army Corps of Engineers certified wetland delineator and is on Ecology's qualified list for wetland ratings in eastern and western Washington and use of the credit/debit mitigation system. His background includes natural resource management, land-use planning, ESA compliance, storm water management planning and Shoreline Management Act permitting. Ryan manages a team of employees whose work includes designing projects to meet the requirements of the Clean Water Act (Section 404 and 401), Rivers and Harbors Act, construction stormwater regulations, Washington State Hydraulic Code Rules and local jurisdiction Shoreline Master Programs and critical area regulations. His work also includes bid administration, contracting and construction management of restoration and salmon recovery projects. He holds a B.S. degree in Natural Resource Management from Washington State University and has completed the Department of Ecology's course on determining the ordinary high water mark. He has worked with federal, state, and local agencies in north-central Washington on environmental permitting issues for over 21 years.

8 BIBLIOGRAPHY

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MARLATT WETLAND

WETLAND DELINEATION REPORT

PHOTOGRAPHS



Photograph 1. Subject property; looking southeast from Pasco Road.



Photograph 2. SP1; wetland soils.



Photograph 3. SP1; wetland pit. Saturation present at 5 inches and water table present at 11 inches.



Photograph 4. SP1; wetland pit looking east.



Photograph 5. SP2; non-wetland soils.



Photograph 6. SP2; non-wetland pit.



Photograph 7. Wetland boundary; looking east.



Photograph 8. Drainage channel; looking south.



Photograph 9. Offsite portion of subject wetland; looking south from Pasco Road.

MARLATT WETLAND

WETLAND DELINEATION REPORT

ATTACHMENT 1: WETLAND DATA SHEETS

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

Project/Site: Marlatt 11032 Pasco Road
 Applicant/Owner: Shala and Kyle Marlatt
 Investigator(s): ED, Grette Associates, LLC
 Landform (hillslope, terrace, etc.): depression
 Subregion (LRR): A
 Soil Map Name: Haplosaprists 0-2% Slope (214)

City/County: Cle Elum, Kittitas
 State: WA

Sampling Date: 6/2/22
 Sampling Point: SP1 WL
 Section: 2 Township: 19 Range: 14
 Local relief (concave, convex, none: Slope (%): 0-1
 Lat: 47.165 Long: -121.051 Datum: _____
 NWI Classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are Vegetation Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil , or Hydrology significantly problematic? (If needed, explain 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"/>	Is the sampled area within a wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric soils present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland hydrology present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: Sample at toe of topo break that defines wetland.			

VEGETATION – Use scientific names of plants

<u>Tree Stratum</u> (Plot size:r-15)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u><i>Alnus incana</i></u>	25	Y	FACW	Number of Dominant Species that are OBL, FACW, or FAC: <u>2 (A)</u>														
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2 (B)</u>														
3. _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100 (A/B)</u>														
4. _____	_____	_____	_____	Prevalence Index worksheet:														
	25	= Total Cover																
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				<table style="width:100%; border: none;"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals _____ (A)</td> <td>_____ (B)</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals _____ (A)	_____ (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species _____	x 2 = _____																	
FAC species _____	x 3 = _____																	
FACU species _____	x 4 = _____																	
UPL species _____	x 5 = _____																	
Column Totals _____ (A)	_____ (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
	_____	= Total Cover																
<u>Herb Stratum</u> (Plot size:r-5)				Prevalence index = B/A = _____														
1. <u><i>Phalaris arundinacea</i></u>	100	Y	FACW	Hydrophytic Vegetation indicators:														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
	100	= Total Cover																
<u>Woody Vine Stratum</u> (Plot size: _____)				<input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 – Wetland non-vascular plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
	_____	= Total Cover																
<u>% Bare Ground in Herb Stratum</u> _____	<u>% Cover of Biotic Crust</u> _____																	

Remarks: Wetland is dominated by reed canary grass at this locatino. Other species include nettle @ margin, spiraea in core. WL is very large. CWD and alder along margin.

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

Project/Site: Marlatt 11032 Pasco Road
 Applicant/Owner: Shala and Kyle Marlatt
 Investigator(s): ED, Grette Associates, LLC
 Landform (hillslope, terrace, etc.): slope
 Subregion (LRR): A
 Soil Map Name: Haplosaprists 0-2% Slope (214)

City/County: Cle Elum, Kittitas
 State: WA

Sampling Date: 6/2/22
 Sampling Point: SP2 NWL
 Section: 2 Township: 19 Range: 14
 Local relief (concave, convex, none): Slope (%): 5-7
 Lat: 47.165 Long: -121.051 Datum: _____
 NWI Classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are Vegetation Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil , or Hydrology significantly problematic? (If needed, explain 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"/>	Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric soils present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland hydrology present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Sample on hillslope above wetland margin. Site may be comprised of old fill. Encountered some spall while digging.		

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size:r-15)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u><i>Alnus incana</i></u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species that are OBL, FACW, or FAC: <u>3 (A)</u>
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3 (B)</u>
3. _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100 (A/B)</u>
4. _____	_____	_____	_____	Prevalence Index worksheet:
	<u>80</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Prevalence index = B/A = _____
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation indicators:
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	<input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 – Wetland non-vascular plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain)
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	<u>100</u>	= Total Cover		
Herb Stratum (Plot size:r-5)				Hydrophytic vegetation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. <u><i>Phalaris arundinacea</i></u>	<u>45</u>	<u>Y</u>	<u>FACW</u>	
2. <u><i>Poa pratensis</i></u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
3. <u><i>Urtica dioica</i></u>	<u>5</u>	_____	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	<u>100</u>	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	_____	= Total Cover		
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		

Remarks:

SOIL

Sampling Point: SP2 NWL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ₂	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ₁			
0-13	10YR 3/4	100					loamy sand	

¹Type: C=Concentration; D=Depletion; RM=Reduced matrix; CS=Covered or Coated Sand Grains. ² Location: PL=Pore linings; M=Matrix

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Material (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 Material (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
Restrictive Layer (if present): Type: <u>none</u> Depth (inches): _____		Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:		

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

MARLATT WETLAND

WETLAND DELINEATION REPORT

ATTACHMENT 2: WETLAND RATING FORM

Wetland name or number 11032

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Marlatt 11032 Date of site visit: 6/2/22
 Rated by ED; Grette Associates, LLC Trained by Ecology? Yes No Date of training 11/19
 HGM Class used for rating Depressional Wetland has multiple HGM classes? Y N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth; Kittitas Co. GIS

OVERALL WETLAND CATEGORY II (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	
<i>Circle the appropriate ratings</i>				
Site Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	
Landscape Potential	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	
Value	H <input checked="" type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	8	5	7	20

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
	<i>Circle the appropriate category</i>
Vernal Pools	II <input type="checkbox"/> III <input type="checkbox"/>
Alkali	I <input type="checkbox"/>
Wetland of High Conservation Value	I <input type="checkbox"/>
Bog and Calcareous Fens	I <input type="checkbox"/>
Old Growth or Mature Forest – slow growing	I <input type="checkbox"/>
Aspen Forest	I <input type="checkbox"/>
Old Growth or Mature Forest – fast growing	II <input type="checkbox"/>
Floodplain forest	II <input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>

Wetland name or number 11032

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

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	1
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	1
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	1
Map of the contributing basin	D 5.3	5
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	4

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	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

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

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	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

NO - go to 2 YES - The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks;
 The water leaves the wetland **without being impounded**.

NO - go to 3 YES - The wetland class is **Slope**
NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).

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

The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river;
 The overbank flooding occurs at least once every 10 years.

NO - go to 4 YES - The wetland class is **Riverine**
NOTE: The Riverine wetland can contain depressions that are filled with water when the river is not flooding.

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

NO - go to 5 YES - The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

Wetland name or number 11032

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

HGM classes within the wetland unit being rated	HGM Class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

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

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland: Wetland has no surface water outlet <input type="checkbox"/> points = 5 Wetland has an intermittently flowing outlet <input checked="" type="checkbox"/> points = 3 Wetland has a highly constricted permanently flowing outlet <input type="checkbox"/> points = 3 Wetland has a permanently flowing, unconfined, surface outlet <input type="checkbox"/> points = 1		3
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils) <input type="checkbox"/> YES = 3 <input checked="" type="checkbox"/> NO = 0		0
D 1.3. Characteristics of persistent vegetation (Emergent, Scrub-shrub, and/or Forested Cowardin classes) Wetland has persistent, ungrazed, vegetation for > 2/3 of area <input type="checkbox"/> points = 5 Wetland has persistent, ungrazed, vegetation from 1/3 to 2/3 of area <input checked="" type="checkbox"/> points = 3 Wetland has persistent, ungrazed vegetation from 1/10 to < 1/3 of area <input type="checkbox"/> points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area <input type="checkbox"/> points = 0		3
D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.</i> Area seasonally ponded is > 1/2 total area of wetland <input type="checkbox"/> points = 3 Area seasonally ponded is 1/4 - 1/2 total area of wetland <input checked="" type="checkbox"/> points = 1 Area seasonally ponded is < 1/4 total area of wetland <input type="checkbox"/> points = 0		1
Total for D 1		Add the points in the boxes above 7

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

D 2.0. Does the landscape have the potential to support the water quality function of the site?		
D 2.1. Does the wetland receive stormwater discharges?		Yes = 1 No = 0 1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?		Yes = 1 No = 0 1
D 2.3. Are there septic systems within 250 ft of the wetland?		Yes = 1 No = 0 1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source <u>Old Equipment</u>		Yes = 1 No = 0 0
Total for D 2		Add the points in the boxes above 3

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

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

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

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion.		
D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. Characteristics of surface water outflows from the wetland: Wetland has no surface water outlet <input type="checkbox"/> points = 8 Wetland has an intermittently flowing outlet <input checked="" type="checkbox"/> points = 4 Wetland has a highly constricted permanently flowing outlet <input type="checkbox"/> points = 4 Wetland has a permanently flowing unconstricted surface outlet <input type="checkbox"/> points = 0 <i>(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")</i>		4
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry). Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding <input type="checkbox"/> points = 8 Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding <input type="checkbox"/> points = 6 The wetland is a headwater wetland <input type="checkbox"/> points = 4 Seasonal ponding: 1 ft - < 2 ft <input type="checkbox"/> points = 4 Seasonal ponding: 6 in - < 1 ft <input type="checkbox"/> points = 2 Seasonal ponding: < 6 in or wetland has only saturated soils <input checked="" type="checkbox"/> points = 0		0
Total for D 4		4



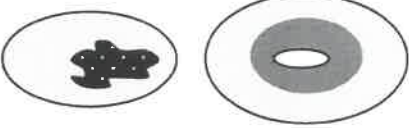
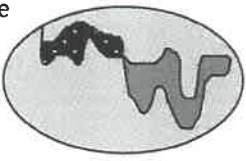

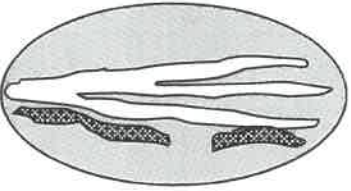
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	1
D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?	Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?	Yes = 1 No = 0	0
Total for D 5	Add the points in the boxes above	2

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

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

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

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed</p> <p><input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover</p> <p><input checked="" type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover</p> <p><input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover</p> <p><input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover)</p> <p><input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p> <p style="text-align: right;">4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>		1
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0
H 1.3. <u>Surface water</u>		
<p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? <i>Answer YES for Lake Fringe wetlands.</i></p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 points & go to H 1.4 <input checked="" type="checkbox"/> No = go to H 1.3.2</p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? <i>Answer yes only if H 1.3.1 is No.</i></p> <p style="text-align: right;"><input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		0
<p>H 1.4. <u>Richness of plant species</u></p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p> <p style="text-align: right;">Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>		2
<p>H 1.5. <u>Interspersion of habitats</u></p> <p>Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Low = 1 point <input type="checkbox"/></p> </div> <div style="text-align: center;">  <p>Moderate = 2 points <input checked="" type="checkbox"/></p> </div> </div> <p>All three diagrams in this row are</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <p>High = 3 points <input type="checkbox"/></p>  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Riparian braided channels with 2 classes</p> </div> </div>		Figure 1 2

Wetland name or number 11032

<p>H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i></p> <p><input type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream.</p> <p><input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland.</p> <p><input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge.</p> <p><input checked="" type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded.</p> <p><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</p> <p><input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)</p>	3
<p>Total for H 1</p>	<p>Add the points in the boxes above</p> <p>8</p>

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

<p>H 2.0. Does the landscape have the potential to support habitat functions of the site?</p>	
<p>H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>43</u> + [(% moderate and low intensity land uses)/2] <u>17</u> = <u>60</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0</p>	3
<p>H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>58</u> + [(% moderate and low intensity land uses)/2] <u>21</u> = <u>79</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0</p>	3
<p>H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0</p>	0
<p>H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0</p>	0
<p>Total for H 2</p>	<p>Add the points in the boxes above</p> <p>6</p>

Rating of Landscape Potential If score is: 4-9 = H 1-3 = M < 1 = L Record the rating on the first page

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>	
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated</p> <p>Site meets ANY of the following criteria: points = 2</p> <ul style="list-style-type: none"> <input type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan <p>Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0</p>	1

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p>SC 1.0. Vernal pools Is the wetland less than 4000 ft², and does it meet at least two of the following criteria? — Its 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. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) 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. <input type="radio"/> Yes – Go to SC 1.1 <input type="radio"/> No = Not a vernal pool</p> <p>SC 1.1. Is the vernal pool relatively undisturbed in February and March? <input type="radio"/> Yes – Go to SC 1.2 <input type="radio"/> No = Not a vernal pool with special characteristics</p>	
<p>SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? <input type="radio"/> Yes = Category II <input type="radio"/> No = Category III</p>	<p>Cat. II Cat. III</p>
<p>SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — 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 in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — 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. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <input type="radio"/> Yes = Category I <input type="radio"/> No = Not an alkali wetland</p>	<p>Cat. I</p>
<p>SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <input type="radio"/> Yes – Go to SC 3.2 <input type="radio"/> No – Go to SC 3.3 SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <input type="radio"/> Yes – Contact WNHP/WDNR and go to SC 3.4 <input type="radio"/> No = Not a WHCV SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? <input type="radio"/> Yes = Category I <input type="radio"/> No = Not a WHCV</p>	<p>Cat. I</p>

<p>SC 4.0 Bogs and Calcareous Fens Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <input type="radio"/> Yes – Go to SC 4.3 <input type="radio"/> No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 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 in Table 5 provide more than 30% of the cover under the canopy? <input type="radio"/> Yes = Category I bog <input type="radio"/> No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? <input type="radio"/> Yes = Is a Calcareous Fen for purpose of rating <input type="radio"/> No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 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 (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland <input type="radio"/> Yes = Is a Category I calcareous fen <input type="radio"/> No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
<p>SC 5.0. Forested Wetlands Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p><input type="radio"/> Yes – Go to SC 5.1 <input type="radio"/> No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)</i>? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? <input type="radio"/> Yes = Category I <input type="radio"/> No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)</i>? <input type="radio"/> Yes = Category II <input type="radio"/> No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? <input type="radio"/> Yes = Category II <input type="radio"/> No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics Choose the highest rating if wetland falls into several categories If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>N/A</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

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

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

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

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- Aquatic Bed
- Rigid Emergent 0-12"
- Rigid Emergent 12-40"
- Rigid Emergent >40"
- Scrub-Shrub
- Forested
- ||||| Open Water
- 150' Assessment Area

LOCATION OF OUTLET



VEGETATION CLASSES, HYDROPERIODS, AND 150' ASSESSMENT AREA

WETLAND RATING FORM FIGURES

FOR: SHALA AND KYLE MARLATT
 AT: 3300 PASCO RD
 CLE ELUM, WA 98922

COUNTY OF: KITTITAS
 STATE: WA

SHEET NO. 1 OF 5 DATE: 09/29/22



Grette Associates LLC
 ENVIRONMENTAL CONSULTANTS
 151 South Westport, Suite 101
 Wenatchee, WA 98801
 (509) 663-6300 | www.gretteassociates.com

Yakima River

LAND USE INTENSITY

- Relatively Undisturbed: 68% (43% accessible)
- Low/Moderate Intensity: 42% (34% accessible)
- High Intensity: 0%



SCALE IN FEET
1 INCH=1500 FT

Google Earth

Imagery Date: 7/13/2017 47° 16' 48.00" N 121° 04' 07.00" W Elev: 7402 ft Area: 21039 ft

LANDUSE INTENSITY

WETLAND RATING FORM FIGURES

FOR: SHALA AND KYLE MARLATT
 AT: 3300 PASCO RD
 CLE ELUM, WA 98922

COUNTY OF: KITTITAS
 STATE: WA

SHEET NO. 2 OF 5 DATE: 09/29/22



Grette Associates^{llc}
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 157 South Western, Suite 101
 Wenatchee, WA 98801
 (509) 663-0301 | www.gretteassociates.com



Water Quality Atlas Map

Legend Filter Zoom Tools

Assessed Water/Sediment Filter

Water

Category 5 - 303d

Category 4C

Category 4B

Category 4A

Category 2

Category 1

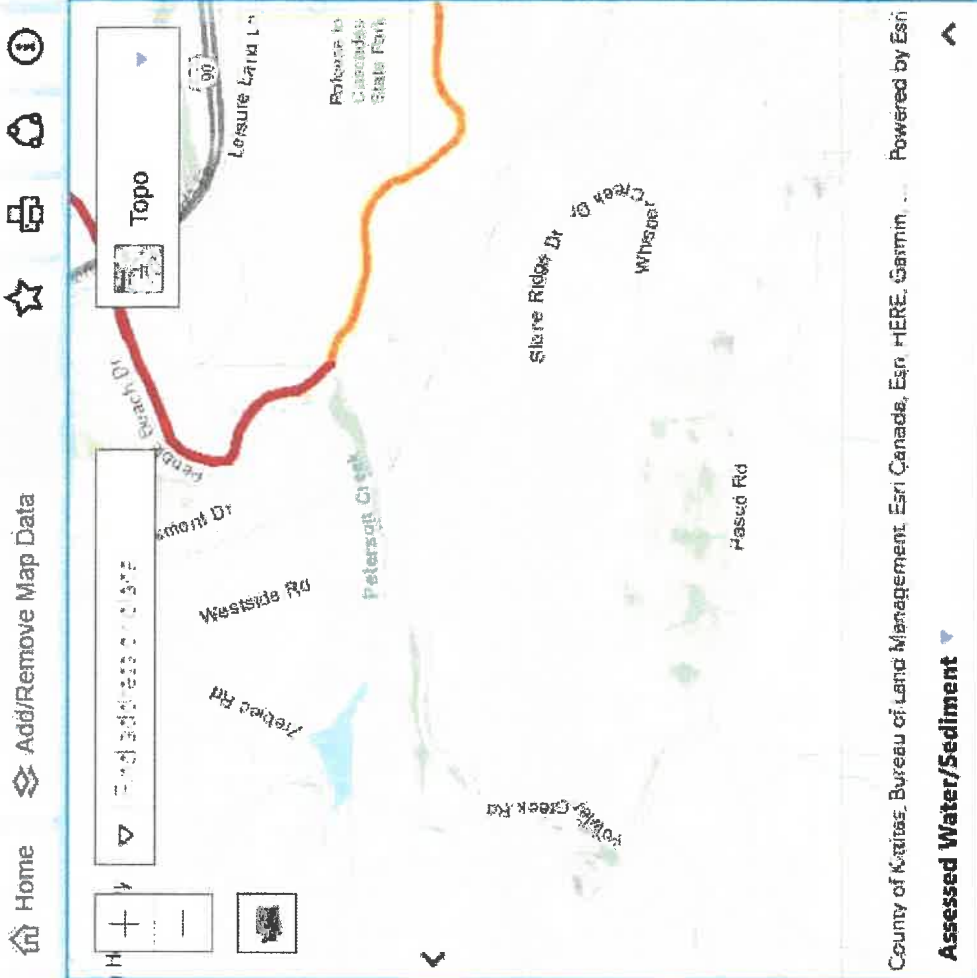
Sediment

Category 5 - 303d

Category 4C

Category 4B

Data transparency 10%



WETLAND RATING FORM FIGURES

FOR: SHALA AND KYLE MARLATT
AT: 3300 PASCO RD
CLE ELUM, WA 98922

COUNTY OF: KITTITAS
STATE: WA

SHEET NO. 3 OF 5 DATE: 09/29/22

303d





Kittitas County

Ecology homepage > Water & Shorelines > Water Improvements & TMDLs > Maximum Daily Load process > Division of projects > Kittitas County

Water quality improvement projects

Select the waterbody or pollutant name to find more information about the specific project.

Waterbody Name(s)	Pollutant(s)	Status	Project Lead(s)
Coville Creek	Ammonia-N BOD (g-day) Chlorine Fecal Coliform	EPA approved	Jane Creach 509-454-7860
Naches River	Temperature	EPA approved	Laine Young 509-575-2642
Teanaway River	Temperature	EPA approved and Has implementation plan	Jane Creach 509-454-7860
Wheat Creek Subbasin	Fecal Coliform	EPA approved Has an implementation plan Post-TMDL monitoring report	Jane Creach 509-454-7860
Yakima River	Toxics	Under development	Jane Creach 509-454-7860
Upper Yakima River	Dieldrin DDT Suspended sediments Turbidity	EPA approved and Has implementation plan	Jane Creach 509-454-7860
Lower Yakima River	Temperature	Under development	Jane Creach 509-454-7860

To request ADA accommodation, call Ecology at 360-407-7668, 711 (relay service), or 877-893-6341 (TTY). More about our accessibility services.

TMDL

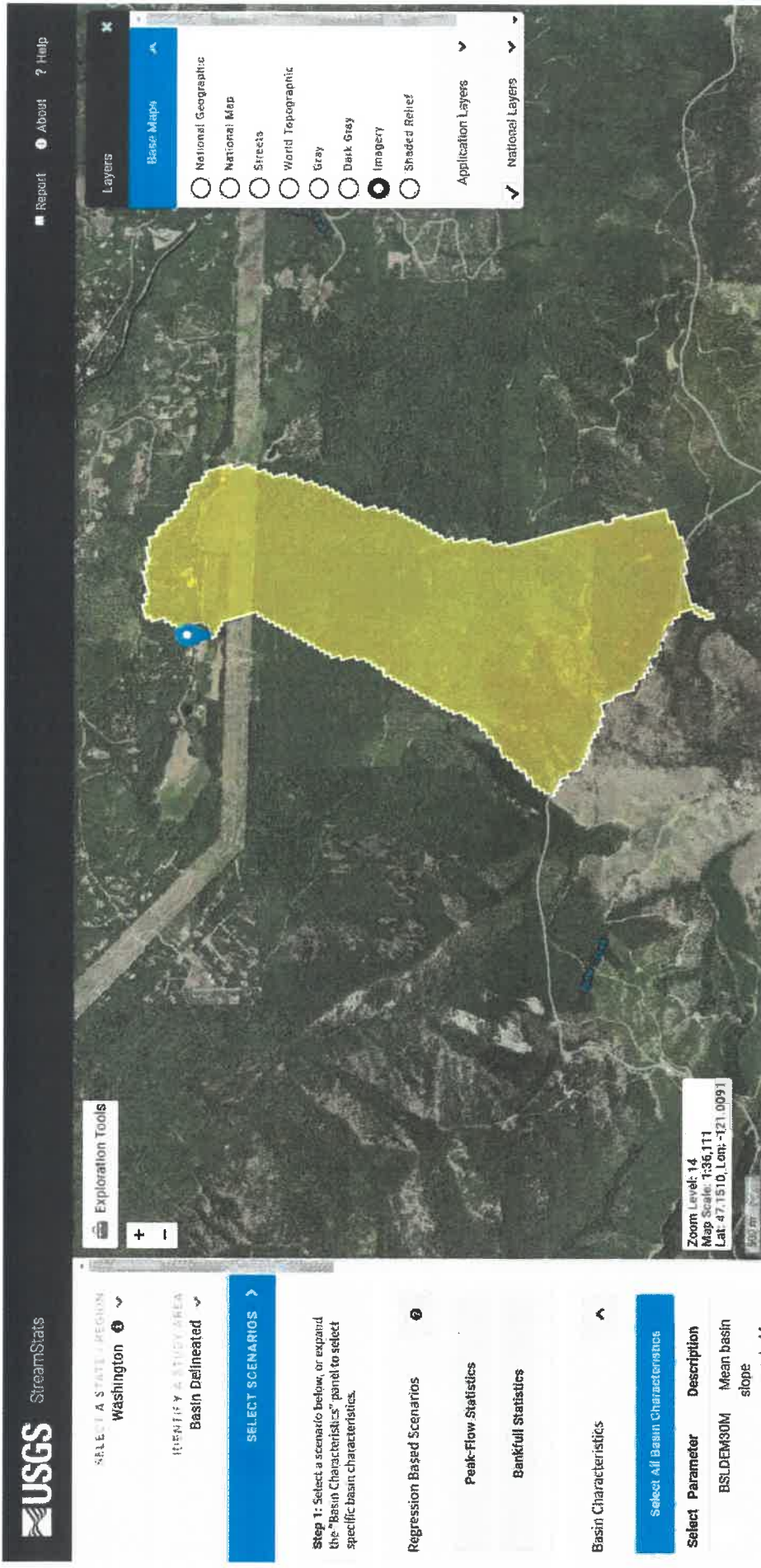
WETLAND RATING FORM FIGURES

FOR: SHALA AND KYLE MARLATT
 AT: 3300 PASCO RD
 CLE ELUM, WA 98922

COUNTY OF: KITTITAS
 STATE: WA

SHEET NO. 4 OF 5 DATE: 09/29/22





WETLAND RATING FORM FIGURES
 FOR: SHALA AND KYLE MARLATT
 AT: 3300 PASCO RD
 CLE ELUM, WA 98922
 COUNTY OF: KITTITAS
 STATE: WA
 SHEET NO. 5 OF 5 DATE: 09/29/22

CONTRIBUTING BASIN

