



TECHNICAL MEMORANDUM

To: Kittitas County Community Development Services
411 N. Ruby St., Suite 2
Ellensburg, WA. 98926

April 21, 2023

From: Eron Drew, Biologist II
151 South Worthen, Suite 101
Wenatchee, Washington 98801

File No.: 11242

Re: **Ware Garage Project Critical Areas Assessment Technical Memo; Parcel #120134**

1 Introduction

This technical memorandum provides supplemental information regarding an assessment of potential wetlands and surface hydrology within 250 ft of subject parcel #120134 located at 601 Pine Glen Drive in Easton, WA. The applicant proposes to construct a 25 ft x 40 ft garage in the southwest corner of the parcel. The subject parcel is part of the Pine Glen residential community and is surrounded by small highly developed residential and recreational parcels. The proposed building site is comprised of an existing gravel driveway and weedy herbaceous species and grasses.

As part of the permitting for the garage, Kittitas County requested an evaluation of the site by a qualified professional to determine if wetlands or surface hydrology is present and determine the potential impact of the proposed project to these critical areas. This technical memorandum serves as the requested assessment. The findings in this tech memo are based on a site visit made to the property by a Grette Associates biologist on April 19, 2023, and supplemented with best available science and current and historical aerial photography of the site. The subject parcel and a 250 ft radius around the proposed project area were investigated for the potential presence of any mapped or unmapped wetlands and surface hydrology (Figure 1.). The results of the investigation are summarized below. Site photos and relevant data sheets are included at the conclusion of this memo.

It was determined that no wetlands or surface hydrology would be impacted from the construction of the proposed garage in the southwest corner of the subject parcel (Figure 2). The Yakima River, Lavender Lake, and a Category III Lake Fringe and Depressional wetland were identified within 250 ft of the project site. Although these critical areas are present within 250 ft of the project site, the project would be located away from any wetlands or surface hydrology and outside of any associated buffers. The project area is landward of the 100 ft Shoreline Residential buffer and 15 ft building setback for the Yakima River. The 100 ft Rural Conservancy shoreline buffer for Lavender Lake and the estimated 110 ft Category III wetland buffer for moderate intensity land use are both interrupted by the presence of Pine Glen Drive and do not extend onto the subject

parcel. Interrupted buffers for wetlands and shorelines are defined in the Kittitas County Shoreline Master Program (KCSMP) sections 5.5.B.3. and 5.2.G.4.



Figure 1. 250 ft investigation radius around the proposed project area at the subject parcel.



Figure 2. Location of the proposed garage in relation to critical areas and their associated buffers.

2 Results

Surface Hydrology

Kittitas County GIS identifies a potential water course crossing through the southwest corner of the subject parcel (Figure 3). The county GIS also identifies the presence of the Yakima River along the northern property line and Lavender Lake located approximately 166 ft south of the parcel.

During the site visit, it was determined that the Yakima River is present along the northern property line. The OHWM of the river was flagged in the field and the location of the OHWM was recorded by sub-meter dGPS for incorporation into the site map (Figure 2) (Photograph 1). The proposed project will be located more than 100 ft from the OHWM and outside of the additional 15 ft building setback from the buffer, as required in KCSMP Table 6.21-1.

It was determined that no additional surface hydrology is located on the parcel, including the potentially mapped water course in the southwest corner of the property (Photographs 2 and 3). This area of the parcel is developed with a graveled driveway and two portable storage sheds. There are no channel features present and no culverts indicating that a channel is present underneath Pine Glen Drive.

Lavender Lake is located within proximity of the subject parcel (Photograph 4). A Lake Fringe and Depressional wetland is associated with the shoreline of the lake in this location. The wetland is discussed in detail below. The proposed project will not affect Lavender Lake. Because of the presence of Pine Glen Drive which interrupts the 100 ft Rural Conservancy shoreline buffer, the project area is located outside of the modified buffer and the associated 15 ft building setback. The definition of an interrupted shoreline buffer is addressed in KCSMP 5.5.B.3. and includes existing legally established public or private roads. This definition applies to Pine Glen Drive, which serves as a main residential arterial within the Pine Glen development.

No other surface hydrology was observed within the 250 ft assessment area.

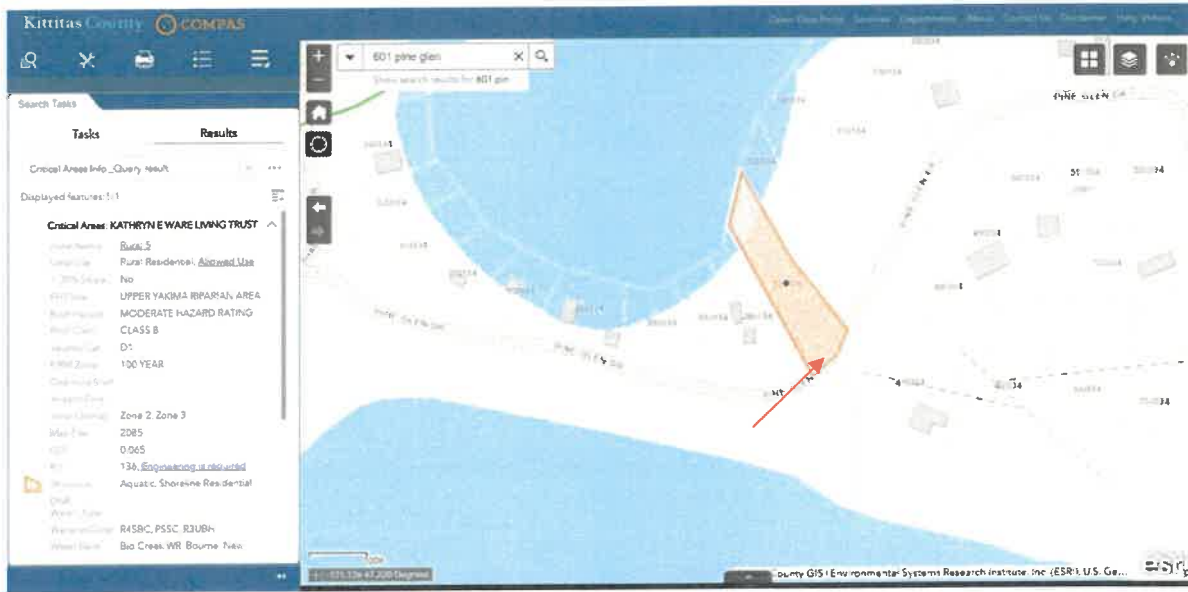


Figure 3. Potential surface hydrology within the project vicinity.

Wetlands

Kittitas County GIS identifies several potential wetlands within the vicinity of the project site. (Figure 4). The island located in the Yakima River, the south shore of the Yakima River on neighboring parcels to the west, the potential channel feature in the southwest corner of the subject parcel, and Lavender Lake are mapped as potentially containing wetland conditions.

During the site visit it was determined that no wetlands are present on the subject parcel. As mentioned in the section above, there is no channel feature located in the southwest corner of the subject parcel.

It was also determined that wetland conditions are not apparently present on the island located in the Yakima River to the north of the parcel (Photograph 5). This area was inaccessible during the site visit. However, the site was visually assessed utilizing binoculars for any indication of hydrophytic vegetation or topographic features that would support the formation of wetland conditions. Vegetation on the island consists of speckled alder (*Alnus incana*) along the shoreline, and Douglas fir (*Pseudotsuga menziesii*) with a snowberry (*Symphoricarpos albus*) understory within the island’s interior. The island is located approximately 3 vertical ft above the OHWM and there are no indications of depressions or areas where ponding is occurring. The shoreline is

comprised of bare cobble. Based on these visual indications, wetland conditions are absent to the north of the subject parcel.

Wetland conditions are also absent along the shoreline of parcels to the west of the site (Photograph 6). The shoreline is rocky and steep and lacking in topography that would allow the formation of hydric soils.

A Category III Lake Fringe and Depressional wetland was identified in Lavender Lake to the south of the parcel (Photographs 7 and 8). The location of the wetland closest to the subject parcel was recorded by sub-meter dGPS for inclusion on the site map and a rating form was completed to estimate the buffer (the rating form and figures are included below). However, the wetland was not delineated as it is located offsite on a neighboring parcel and permission was not obtained for a formal delineation. The estimated 110 ft Category III wetland buffer for moderate intensity land uses is interrupted by the presence of Pine Glen Drive, a well-established and highly utilized residential road within the Pine Glen development. Because of this interruption, the effective edge of the wetland buffer terminates on the lakeside edge of the road and does not extend onto the subject parcel. The definition of an interrupted wetland buffer is addressed in KCSMP 5.2.G.4 and is the same criteria that applies to the interrupted shoreline buffer, as discussed above.

No other wetlands were observed within the 250 ft assessment area.

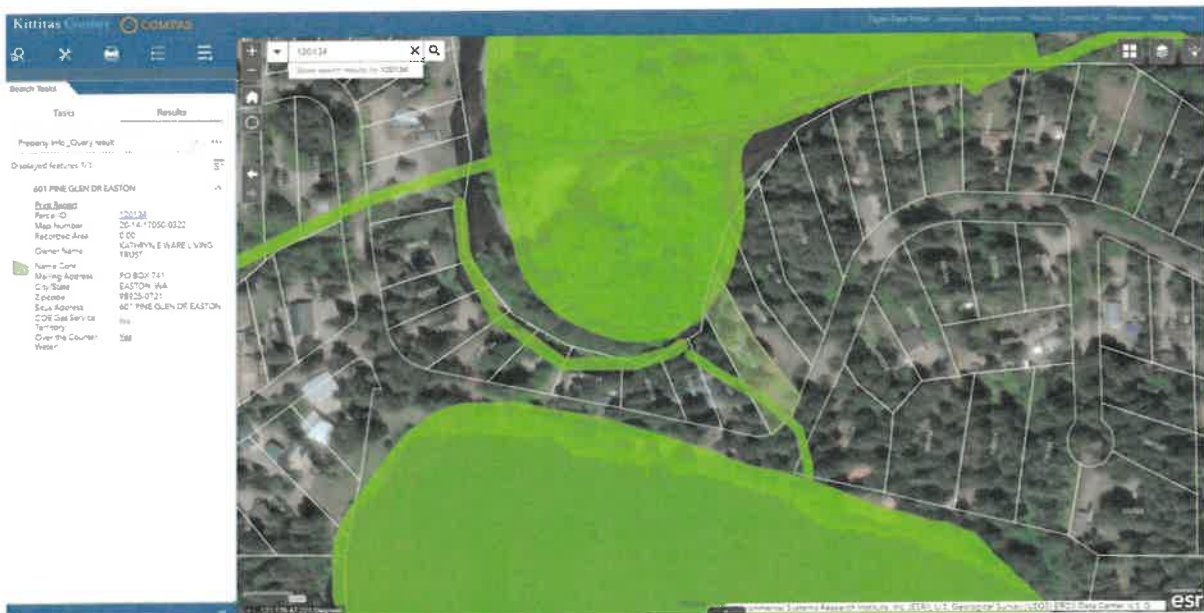


Figure 4. GIS mapped potential wetlands within the vicinity of the project site.

3 Conclusion

As detailed in this technical memo, the project area and a 250 ft radius around the site were investigated for the presence of surface hydrology and wetlands. The Yakima River, Lavender Lake, and an associated Category III Lake Fringe and Depressional wetland were identified within proximity to the project area. It was determined that the proposed project would not adversely impact these critical areas or their associated buffers. The project is located landward of the 100 ft Shoreline Residential buffer of the Yakima River and its 15 ft building setback. Pine Glen Drive interrupts the 100 ft Rural Conservancy buffer of Lavender Lake and the estimated 110 ft wetland buffer for a Category III wetland with moderate intensity land uses. No other surface hydrology or wetlands were observed within the vicinity of the site. The project is expected to result in no-net-loss of ecological value or function at the site.

4 Qualified Professional

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.

5 Photographs



Photograph 1. OHWM of the Yakima River; looking south. The OHWM was flagged with orange pin flags and recorded by submeter dGPS.



Photograph 2. Location of the potential mapped surface channel and building site; looking south. No channel is present.



Photograph 3. Location of the potential surface channel; looking north. No channel is present.



Photograph 4. Lavender Lake in proximity to the subject parcel; looking south.



Photograph 5. The island in the Yakima River located directly north of the subject parcel does not exhibit wetland conditions.



Photograph 6. The shoreline located on the neighboring parcels to the west is steep and rocky and does not exhibit wetland conditions.



Photograph 7. The Lake Fringe and Depressional wetland associated with the shoreline of Lavender Lake; looking north. Pine Glen Drive and the subject parcel are visible in the background. Pine Glen Drive interrupts the estimated wetland buffer.



Photograph 8. The depressional and lake fringe wetland located along the shoreline of Lavender Lake; looking east.

6 Estimated Wetland Rating Form and Figures

Wetland name or number Wade

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): 11242 Wade Offsite WL Date of site visit: 4/19/23
 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

OVERALL WETLAND CATEGORY III (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

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

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 type="checkbox"/> M <input checked="" 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 type="checkbox"/> L <input checked="" type="checkbox"/>	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L <input type="checkbox"/>	TOTAL
Score Based on Ratings	7	4	7	18

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 Wade

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	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	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 Wade

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.*

Wetland name or number Wade

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, unconstricted, 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 $> \frac{2}{3}$ of area <input checked="" type="checkbox"/> points = 5 Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area <input type="checkbox"/> points = 3 Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area <input type="checkbox"/> points = 1 Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area <input type="checkbox"/> points = 0	5	
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 $> \frac{1}{2}$ total area of wetland <input type="checkbox"/> points = 3 Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland <input type="checkbox"/> points = 1 Area seasonally ponded is $< \frac{1}{4}$ total area of wetland <input checked="" type="checkbox"/> points = 0	0	
Total for D 1	Add the points in the boxes above	8

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

D 2.0. Does the landscape have the potential to support the water quality function of the site?		
D 2.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	0
D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	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 _____	Yes = 1 No = 0	0
Total for D 2	Add the points in the boxes above	2

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	0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the 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	2

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

Wetland name or number Wade

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. <u>Characteristics of surface water outflows from the wetland:</u> 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 unconfined 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. <u>Depth of storage during wet periods:</u> 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		Add the points in the boxes above 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	0
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	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?	Yes = 1 No = 0	1
Total for D 5		Add the points in the boxes above 1




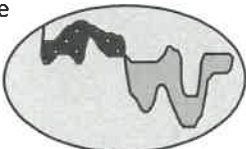

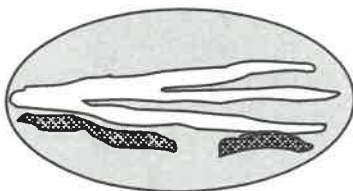
Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. <u>The wetland is in a landscape that has flooding problems.</u> 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 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 checked="" type="checkbox"/> points = 0		0
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
Total for D 6		Add the points in the boxes above 0

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

Record the rating on the first page

These questions apply to wetlands of all HGM classes.		(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 <input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover <input type="checkbox"/> Emergent plants $> 12-40$ in ($> 30-100$ cm) high are the highest layer with $> 30\%$ cover <input checked="" type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $> 30\%$ cover <input type="checkbox"/> Scrub-shrub (areas where shrubs have $> 30\%$ cover) <input checked="" 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
<p>H 1.3. <u>Surface water</u></p> <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> <input checked="" type="checkbox"/> Yes = 3 points & go to H 1.4 <input 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> <input type="checkbox"/> Yes = 3 <input checked="" type="checkbox"/> No = 0</p>		3
<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>		1
<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;">  None = 0 points <input type="checkbox"/> </div> <div style="text-align: center;">  Low = 1 point <input type="checkbox"/> </div> <div style="text-align: center;">  Moderate = 2 points <input checked="" type="checkbox"/> </div> </div> <p>All three diagrams in this row are High = 3 points <input type="checkbox"/></p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p style="text-align: right;">Riparian braided channels with 2 classes</p>		Figure__ 2

Wetland name or number Wade

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> ___ Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input checked="" type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. ___ Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input checked="" 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 ___ Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		3
Total for H 1	Add the points in the boxes above	10

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

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>54</u> + [(% moderate and low intensity land uses)/2] <u>3</u> = <u>57</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		3
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> % undisturbed habitat <u>61</u> + [(% moderate and low intensity land uses)/2] <u>13</u> = <u>74</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		3
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		0
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		0
Total for H 2	Add the points in the boxes above	6

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

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 ___ It has 3 or more priority habitats within 100 m (see Appendix B) ___ It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) ___ It is mapped as a location for an individual WDFW species ___ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources ___ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		1

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

Wetland name or number Wade

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>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

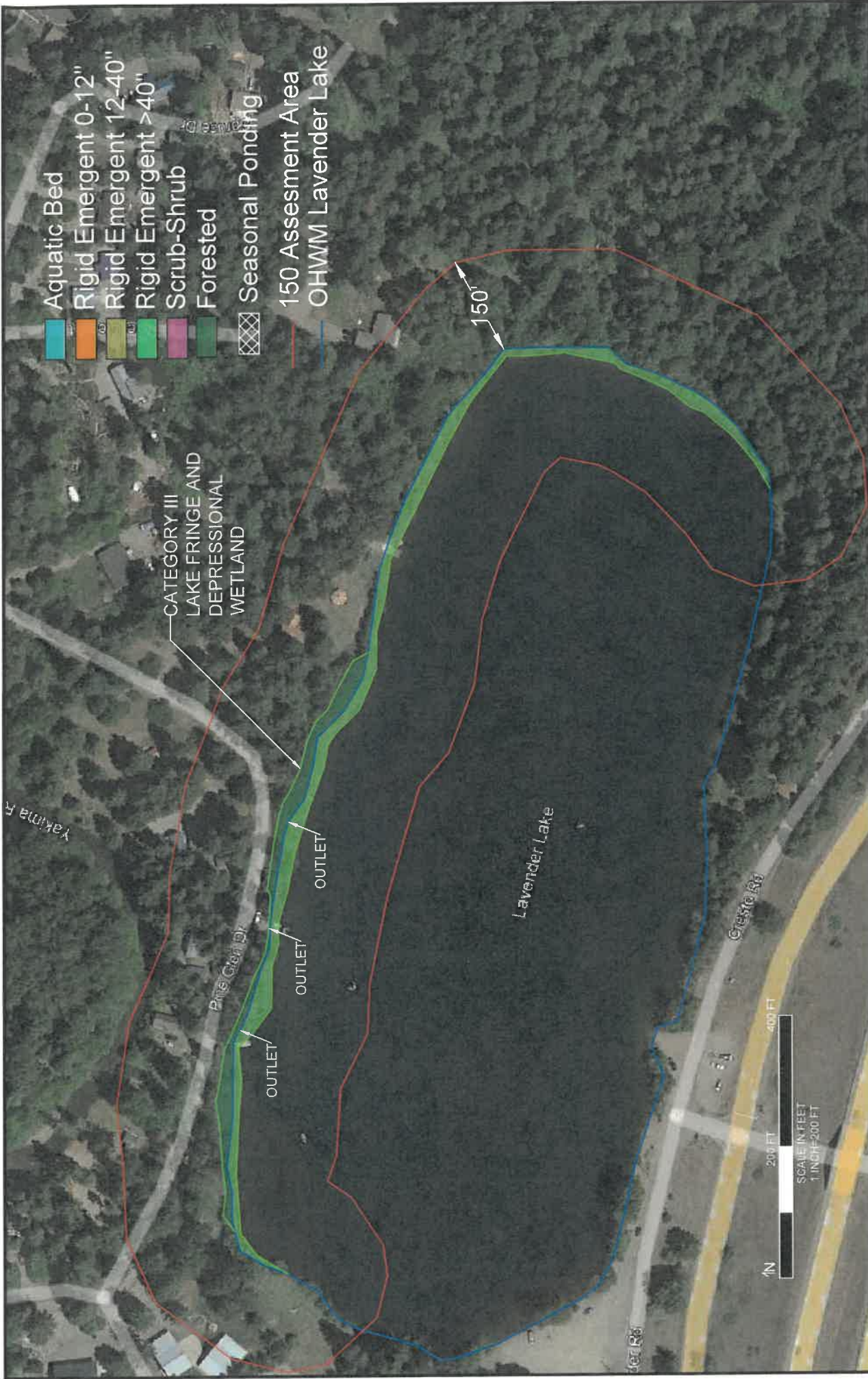
Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf>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

This page left blank intentionally



VEGETATION CLASSES, HYDROPERIODS, AND 150' ASSESSMENT AREA

WETLAND RATING FORM FIGURES

FOR: KAY WARE
 AT: 601 PINE GLEN DR.
 EASTON, WA 98925

COUNTY OF: KITTITAS
 STATE: WA

SHEET NO. 1 OF 4 DATE: 4/20/23



LAND USE INTENSITY

WETLAND RATING FORM FIGURES

FOR: KAY WARE
 AT: 601 PINE GLEN DR.
 EASTON, WA 98925
 COUNTY OF: KITTITAS
 STATE: WA
 SHEET NO. 2 OF 4 DATE: 4/20/23

Water Quality Atlas Map

[Home](#)
[Filter](#)
[Zoom](#)
[Tools](#)
[Add/Remove Map Data](#)
[My Maps](#)
[Print](#)
[Share](#)
[About](#)



WETLAND RATING FORM FIGURES
 FOR: KAY WARE
 AT: 601 PINE GLEN DR.
 EASTON, WA 98925
 COUNTY OF: KITTITAS
 STATE: WA
 SHEET NO. 3 OF 4 DATE: 4/20/23

303d



Kittitas County

Ecology messages • Water & Fisheries • Water Improvements • Total Maximum Daily Load process • Directory of projects • Kittitas County

Water quality improvement projects

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

Waterbody Name(s)	Pollutant(s)	Status	Project Lead(s)
Coyote Creek	Ammonia-N BOD (5-day) Chlorine Fecal Coliform	EPA approved	Jana Cressch 509-454-7860
Naches River	Temperature	EPA approved	Jana Cressch 509-575-2642
Tea-bushy River	Temperature	EPA approved and Has implementation plan	Jana Cressch 509-454-7860
Wilson Creek Sub-basin	Fecal Coliform	EPA approved Has an implementation plan Post-TMDL monitoring report	Jana Cressch 509-454-7860
Yakima River	Toxics	Under development	Jana Cressch 509-454-7860
Lower Yakima River	Dieldrin DDT Suspended sediments Turbidity	EPA approved and Has implementation plan	Jana Cressch 509-454-7860
Upper Yakima River	Temperature	Under development	Jana Cressch 509-454-7860

To request ADA accommodation, call Ecology at 360-407-7668, 711 (relay service), or 877-653-6531 (TTY). More about our accessibility services.

Copyright © Washington State Department of Ecology

TMDL

WETLAND RATING FORM FIGURES

FOR: KAY WARE
AT: 601 PINE GLEN DR.
EASTON, WA 98925

COUNTY OF: KITTITAS
STATE: WA

SHEET NO. 4 OF 4 DATE: 4/20/23



151 South Norman, Suite 101
Providence, RI 02901
(609) 653-6300 | www.gretteassociates.com