# Appendix A

# Walla Walla County Conservation District Suggested Native Plants by Precipitation and Riparian Zone

Walla Walla County Conservation District Suggested Native Plants by Precipitation and Riparian Zone			
County Area	Zone #1 – Generally 0'-35'	Zone #2 – Generally 35'-75'	
<b>Central Walla Walla County</b> : Lowden-Walla Walla-10"-15" precipitation zone	<ul> <li>Black Cottonwood – moist soils, silts, slightly alkaline soils (5'-20' from shoreline)</li> <li>Water Birch – moist soils, silts, pH neutral soils (3'-12' from shoreline)</li> <li>Thin-leaf Alder – moist soils- neutral-slightly acidic silts and loess (3'-15' off shoreline)</li> <li>White Alder – moist soils-ph neutral to slightly acidic silts, cobble (1'-15' off shoreline)</li> <li>Coyote Willow – moist soils-ph neutral silts and clays (3'-15' off shoreline)</li> <li>Peach-leaf Willow – moist soils- ph neutral-slightly alkaline (5'-25' off the shoreline)</li> <li>Red-osier Dogwood – moist-well drained soils, ph neutral to slightly alkaline (2'-25' off the shoreline)</li> <li>Antelope-brush (Bitterbrush) – well drained soils, pH neutral to slightly acidic</li> </ul>	<ul> <li>Black Hawthorn – pH neutral to slightly alkaline silts and soils (25'-40' off shoreline)</li> <li>Ponderosa Pine – well drained soils, dry sites (25'-50' from shoreline)</li> <li>Mock-orange – well drained soils, slightly acidic (15'-35' off shoreline)</li> <li>Choke Cherry – moist-dry well drained soils, pH neutral to slightly acidic soils (5'- 25' off shoreline)</li> <li>Peach-leaf Willow – moist soils, pH neutral-slightly alkaline (5'-25' off the shoreline)</li> <li>Smooth Sumac – well drained soils, silts &amp; loess, pH neutral to slightly alkaline (25'-100' off shoreline)</li> <li>Blue Elderberry – well drained soils, pH neutral-slightly alkaline (15'-50' off the shoreline)</li> <li>Buffalo Berry – well drained soils, slightly alkaline (25'-100'+ off the shoreline)</li> <li>Antelope-brush (Bitterbrush) – well drained soils, pH neutral to slightly alkaline)</li> </ul>	Smooth Su alkaline (25 Buffalo Ber shoreline) Antelope-b slightly acid

Planting Densities Trees: 1 tree/8 feet Shrubs: 1 plant/4 feet Grasses: 6 pounds/acre

### Zone #3 – Generally 75' and greater

umac – well drained soils, silts & loess pH neutral to slightly 5'-100' off shoreline)

rry - well drained soils, slightly alkaline (25'-100'+ off the

**brush (Bitterbrush)** – well drained soils, ph neutral to dic

Appendix B Wetland Rating Forms

### WETLAND RATING FORM – EASTERN WASHINGTON

Version 2 - Updated June 2006 to increase accuracy and reproducibility among users

Name of wetland (if known): <u>Doan Creek heladulate Multiple</u> Date of site visit: <u>5-7-08</u> Rated by <u>M.W.H./S. Edga</u> Trained by Ecology? Yes <u>No</u> Date of training <u>2005</u> SEC: <u>36</u> TWNSHP: <u>1N</u> RNGE: <u>36</u> Is S/T/R in Appendix D? Yes <u>No</u>

Map of wetland unit: Figure \_\_\_\_ Estimated size \_\_\_\_

### **SUMMARY OF RATING**

Category based on FUNCTIONS provided by wetland

III

III

I\_\_\_ II\_\_\_

IV\_\_\_\_

Category I = Score $\geq =70$
Category II = Score 51-69
Category III = Score $30-50$ K
Category $IV = Score < 30$

Score for "Water Quality" Functions Score for Hydrologic Functions Score for Habitat Functions **TOTAL score for functions** 

14
4
22
40

Category based on SPECIAL CHARACTERISTICS of wetland

I\_\_\_ II\_\_\_

Does not Apply\_\_\_\_

Final Category (choose the "highest" category from above)

### Summary of basic information about the wetland unit

Wetland Type	Wetland Class
Vernal Pool	Depressional
Alkali	Riverine
Natural Heritage Wetland	Lake-fringe
Bog	Slope
Forest	*
None of the above	Check if unit has multiple HGM classes present

Wetland name or number Doan Creek

### Does the wetland being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That Need Special Protection, and That Are Not Included in the Rating	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered <b>animal or plant</b> species (T/E species)?		_
For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		$\checkmark$
<ul> <li>SP2. Has the wetland unit been documented as habitat for any State listed</li> <li>Threatened or Endangered animal species?</li> <li>For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).</li> </ul>		$\checkmark$
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		/
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		

### <u>To complete the next part of the data sheet you will need to determine the</u> <u>Hydrogeomorphic Class of the wetland being rated.</u>

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 20 for more detailed instructions on classifying wetlands.

### **Classification of Vegetated Wetlands for Eastern Washington**

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 1-7 apply, and go to Question 8.

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

\_\_\_\_The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

At least 30% of the open water area is deeper than 3 m (10 ft)?

(NO)- go to Step 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?

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 <3ft diameter and less than a foot deep).

NO)- go to Step 3 YES – The wetland class is Slope

3. Is the entire wetland unit in a valley or stream channel where it gets inundated by overbank flooding from that stream or river? In general, the flooding should occur at least once every ten years to answer "yes." *The wetland can contain depressions that are filled with water when the river is not flooding*.

(NO) - go to Step 4 YES – The wetland class is Riverine

4. Is the entire wetland unit in a topographic depression, outside areas that are inundated by overbank flooding, in which water ponds, or is saturated to the surface, at some time of the year. *This means that any outlet, if present, is higher than the integior of the wetland.* 

NO – go to Step 5 (YES) The wetland class is Depressional

**5.** Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. 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 class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes Within One Delineated Wetland Boundary	Class to Use for Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine (riverine is within boundary of	Depressional
depression)	
Depressional + Lake-fringe	Depressional

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

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D	<b>Depressional Wetlands</b> WATER QUALITY FUNCTIONS - Indicators that the wetland functions to improve	Points (only 1 score per box)
D	D 1.0 Does the wetland unit have the <u>potential</u> to improve water quality?	(see p. 38)
	D 1.1 Characteristics of surface water flows out of the wetland unit: Wetland has no surface water outlet - points = 5	
D	Wetland has an intermittently flowing outletpoints = 3Wetland has a highly constricted permanently flowing outletpoints = 3	/
	Wetland has a permanently flowing surface outlet       points = 1         D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS	1
D	definitions of soil types) YES points = 3	0
	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class) Wetland has persistent ungrazed vegetation for $> 2/3$ of area points = 5	Figure
D	We than this persistent, ungrazed, vegetation from $1/3$ to $2/3$ of area points = 3 We than this persistent, ungrazed vegetation from $1/10$ to $< 1/3$ of area points = 1	5
	Wetland has persistent, ungrazed vegetation <1/10 of area points = 0 Map of Cowardin vegetation classes	Plana
D	D 1.4 Characteristics of seasonal ponding or inundation. This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.	Figure
	Area seasonally ponded is > $\frac{1}{2}$ total area of wetlandpoints = 3Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetlandpoints = 1Area seasonally ponded is $\leq \frac{1}{4}$ total area of wetlandpoints = 0	(
	NOTE: See text for indicators of seasonal and permanent inundation/flooding. Map of Hydroperiods	
D	Total for D 1Add the points in the boxes above	7
D	<ul> <li>D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</li></ul>	
	<ul> <li>A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging</li> <li>Residential, urban areas, golf courses are within 150 ft of wetland</li> <li>Wetland is fed by groundwater high in phosphorus or nitrogen</li> <li>Other</li> <li>YES multiplier is 2</li> <li>NO multiplier is 1</li> </ul>	multiplier
D	TOTAL - Water Quality Functions       Multiply the score from D1 by the multiplier in D2         Record score on p. 1 of field form	14

D	Depressional Wetlands HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion	Points (only 1 score per box)
D	D 3.0 Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?	(see p. 39)
D D	D 3.1 Characteristics of surface water flows out of the wetland unit:         Wetland has no surface water outlet       points = 8         Wetland has an intermittently flowing outlet       points = 4         Wetland has a highly constricted permanently flowing outlet       points = 4         Wetland has a permanently flowing surface outlet       points = 4         D 3.2 Depth of storage during wet periods:       Estimate the height of ponding above the surface of the wetland (see text for description of measuring height). In wetlands with permanent ponding, the surface is the lowest elevation of "permanent" water)         Marks of ponding are at least 3 ft above the surface       points = 8	0
D	The wetland is a "headwater" wetland" (see p. 39)points = 6Marks are 2 ft to < 3 ft from surfacepoints = 6Marks are 1 ft to < 2 ft from surfacepoints = 4Marks are 6 in to < 1 ft from surfacepoints = 2No marks above 6 in. or wetland has only saturated soilspoints = 0Total for D 3	2,
D	<ul> <li>D 4.0 Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion?</li> <li>Answer NO if the major source of water is groundwater, irrigation return flow, or wate levels in the wetland are controlled by a reservoir.</li> <li>Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Note which of the following conditions apply.</li> <li>Wetland is in a headwater of a river or stream that has flooding problems</li> </ul>	(see p. 42) r
	<ul> <li>Wetland drains to a fiver of stream that has flooding problems</li> <li>Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems</li> <li>Other</li></ul>	multiplier
D	<b>TOTAL - Hydrologic Functions</b> Multiply the score from D3 by the multiplie in D4 <i>Record score on p. 1 of field form</i>	r 4 4

Comments

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<i>These questions apply to wetlands of all HGM classes.</i> HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat	Points (only 1 score per box)
H 1. Does the wetland unit have the potential to provide habitat for many species?	
H 1.1 Categories of vegetation structure (see p.62) Check the vegetation classes (as defined by Cowardin) and heights of emergents present. Size threshold for each class or height category is ¼ acre or more than 10% of the area if unit is < 2.5 acres. ✓ Aquatic bed ✓ Emergent plants 0-12 in. (0 – 30 cm) high are the highest layer and have > 30% cover	Figure
Emergent plants >12 - 40 in.(>30 - 100cm) high are the highest layer with >30% cover Emergent plants > 40 in.(> 100cm) high are the highest layer with >30% cover Scrub/shrub (areas where shrubs have >30% cover) Forested (areas where trees have >30% cover) Add the number of vegetation types that qualify. If you have: 4-6 types points = 3	3
$\begin{array}{ccc} 3 & types & points = 2 \\ 2 & types & points = 1 \\ 1 & type & points = 0 \end{array}$ Map of Cowardin vegetation classes and areas with different heights of emergents	
H 1.2. Is one of the vegetation types "aquatic bed?" (see p .64)	1
$\frac{\text{YES} = 1 \text{ point}}{\text{NO} = 0 \text{ points}}$	Figure
H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) over at least $\frac{1}{4}$ acre or 10% of its area during the spring (March – early June) OR in early fall (August – end of September)? Note: answer YES for Lake-fringe wetlands YES = 3 points & go to H 1.4 NO = go to H 1.3.2 H 1.3.2 Does the unit have an intermittent or permanent stream within its boundaries, or along one side, over at least $\frac{1}{4}$ acre or 10% of its area, AND that has an unvegetated bottom (answer yes only if H 1.3.1 is NO)? YES = 3 points NO = 0 points Map showing areas of open water	3
H 1.4. <u>Richness of Plant Species</u> (see p. 66) Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> . (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasean Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Phragmites, Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk) If you counted: > 9 species points = 2 4-9 species points = 1 # of species < 4 species points = 0 points List species below if you wish	2



H 2.0 Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 71)         Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." Relatively undisturbed also means no grazing, no landscaping, no daily human use, and no structures or paving within undisturbed part of buffer.         — 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference         Points = 5         — 330 ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference.         Points = 4         — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95%	Figure
<ul> <li>330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water &gt; 25% circumference, .</li> <li>Points = 3</li> <li>170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water for &gt; 50% circumference.</li> <li>Points = 3</li> <li>If buffer does not meet any of the criteria above</li> <li>No paved areas (except paved trails) or buildings within 80ft (25 m) of wetland &gt; 95% circumference. Light to moderate grazing, or lawns are OK.</li> <li>Points = 2</li> <li>No paved areas or buildings within 170ft (50m) of wetland for &gt;50% circumference. Light to moderate grazing, or lawns are OK.</li> <li>Points = 2</li> <li>Heavy grazing in buffer.</li> <li>Heavy grazing in buffer.</li> <li>Vegetated buffers are &lt;6.6ft wide (2m) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland).</li> <li>Points = 0</li> <li>Buffer does not meet any of the criteria above.</li> </ul>	. (
<ul> <li>H 2.2 Wet Corridors (see p. 72)</li> <li>H 2.2.1 Is the wetland unit part of a relatively undisturbed and unbroken, &gt; 30 ft wide, vegetated corridor at least ¼ mile long with surface water or flowing water throughout most of the year (&gt; 9 months/yr)? (dams, heavily used gravel roads, paved roads, fields tilled to edge of stream, or pasture to edge of stream are considered breaks in the corridor).</li> <li>YES = 4 points (go to H 2.3) NO = go to H 2.2.2</li> <li>H 2.2.2 Is the unit part of a relatively undisturbed and unbroken, &gt; 30 ft wide, vegetated corridor, at least ¼ mile long with water flowing seasonally, OR a lake-fringe wetland without a "wet" corridor, OR a riverine wetland without a surface channel connecting to the stream?</li> <li>YES = 2 points (go to H 2.3) NO go to H 2.2.3</li> <li>H 2.2.3 Is the wetland within a 1/2 mile of any permanent stream, seasonal stream, or lake (do not include man-made ditches)?</li> <li>YES = 1 point NO = 0 points</li> </ul>	2

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see p. 74)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit?	
<i>NOTE: the connections do not have to be relatively undisturbed. These are DFW definitions.</i>	
Check with your local DFW biologist if there are any questions.	
$\mathbf{V}$ <b>Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of	
both aquatic and terrestrial ecosystems which mutually influence each other.	
Aspen Stands: Pure or mixed stands of aspen greater than 2 acres.	
Cliffs: Greater than 25 ft high and occurring below 5000 ft.	
Old-growth forests: (east of Cascade crest): In general, stands will be >150 years of age,	
with 10 trees/acre that are $> 21$ in dbh, and 1 - 3 snags/acre $> 12-14$ in diameter.	
Mature forests: Stands with average diameters exceeding 21 in dbh; crown cover may be	
less that 100%; decay, 80 - 160 years old east of the Cascade crest.	
<b>Prairies and Steppe:</b> Relatively undisturbed areas (as indicated by dominance of native	
plants) where grasses and/or forbs form the natural climax plant community.	
Shrub-steppe: Tracts of land consisting of plant communities with one or more layers of	
perennial grasses and a conspicuous but discontinuous layer of shrubs.	
Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft, composed of	
basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be	
associated with cliffs.	
<b>Caves:</b> A naturally occurring cavity, recess, void, or system of interconnected passages	
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where	
canopy coverage of the oak component of the stand is 25%.	
Urban Natural Open Space: A priority species resides within or is adjacent to the open	
space and uses it for breeding and/or regular feeding; and/or the open space functions as a	
corridor connecting other <i>priority habitats</i> , especially those that would otherwise be	
isolated; and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10	
acres) and is surrounded by urban development.	
Aspen Stands: Pure or mixed stands of aspen greater than 0.8 ha (2 acres).	
	2
If wetland has <b>2 or more</b> Priority Habitats = <b>4 points</b>	
If wetland has 1 Priority Habitat = 2 points	
No Priority habitats = 0 points	
ote: All vegetated wetlands are by definition a priority habitat but are not included in this list.	
Nearby wetlands are addressed in question H 2.4)	

H 2.4 Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 76)	
<ul> <li>The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures. (<i>Generally, this means outside boundaries of reclamation areas, irrigation district, or reservoirs</i>) points = 5</li> <li>There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing in the connection or an open water connection along a lake shore without heavy boat traffic are OK, but connections should NOT be bisected by paved roads, fill, fields, heavy boat traffic or other development) points = 5</li> <li>There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed?</li> <li>There is at least 1 wetland within ½ mile.</li> <li>Does not meet any of the four criteria above</li> </ul>	2
<b>H 2.</b> TOTAL Score - opportunity for providing habitat	22
Add the scores in the column above	
H 3.0 Does the wettand unit have indicators that its ability to provide habitat is reduced?	D
H 3.1 Indicator of reduced nabitat functions (see p. 75)	Points will
bo the areas of open water in the wettand unit have a resident population of carp (see text for indicators of the presence of carp)? ( $NOTE$ : This question does not apply to reservoirs	De subtracted
with water levels controlled by dams, such as the reservoirs on the Columbia and Snake	subtractea
Rivers)	
YES = - 5 points NO = 0 points	
<b>Total Score for Habitat Functions</b> – add the points for H 1, H 2, and H 3 and record the result	
on p. 1	72

Comments

Wetland name or number barrison Crech

#### WETLAND RATING FORM – EASTERN WASHINGTON

Version 2 - Updated June 2006 to increase accuracy and reproducibility among users

Name of wetland (if known):  $G_{AMSM}$  Could Wetland Date of site visit: 5 - 7 - 0.8Rated by M With 5. Cligar Trained by Ecology? Yes No\_ Date of training 2005 SEC: 31 TWNSHP:  $\frac{3}{2}N$  RNGE:  $\frac{366}{5}$  Is S/T/R in Appendix D? Yes No  $\frac{1}{2}$ 

Map of wetland unit: Figure \_\_\_\_ Estimated size \_\_\_\_

IV

### **SUMMARY OF RATING**

Category based on FUNCTIONS provided by wetland

I\_\_\_\_ II\_X

III\_\_\_

Category I = Score >=70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30 Score for "Water Quality" Functions Score for Hydrologic Functions Score for Habitat Functions **TOTAL score for functions** 

22	
16	
23 E	
61 =	

Alt 1 - 2001 Alt 2 - 100, 150, 200

Alt 3 - 150 - 110 Alt 3A - 140 - 105

Category based on SPECIAL CHARACTERISTICS of wetland

III

I\_\_\_\_I

Does not Apply\_\_\_\_

Final Category (choose the "highest" category from above)

#### Summary of basic information about the wetland unit

Wetland Type	Wetland Class	
Vernal Pool	Depressional	V
Alkali	Riverine	
Natural Heritage Wetland	Lake-fringe	
Bog	Slope	
Forest		
None of the above	Check if unit has multiple	
	HGM classes present	

Wetland name or number Garrison Creek

### Does the wetland being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That Need Special Protection, and That Are Not Included in the Rating	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		$\checkmark$
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		, L
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		

### <u>To complete the next part of the data sheet you will need to determine the</u> <u>Hydrogeomorphic Class of the wetland being rated.</u>

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 20 for more detailed instructions on classifying wetlands. Wetland name or number Garisa Creek

### **Classification of Vegetated Wetlands for Eastern Washington**

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 1-7 apply, and go to Question 8.

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

\_The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

\_\_\_\_At least 30% of the open water area is deeper than 3 m (10 ft)?

(NO) – go to Step 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?

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 <3ft diameter and less than a foot deep).

(NO) - go to Step 3 YES – The wetland class is Slope

**3**. Is the entire wetland unit in a valley or stream channel where it gets inundated by overbank flooding from that stream or river? In general, the flooding should occur at least once every ten years to answer "yes." *The wetland can contain depressions that are filled with water when the river is not flooding*.

- NO go to Step 4
- **YES** The wetland class is **Riverine**

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

NO – go to Step 5  $YES \rightarrow$  The wetland class is **Depressional** 

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. 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 class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

Wetland name or number Garrison Cruch

HGM Classes Within One Delineated Wetland Boundary	Class to Use for Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine (riverine is within boundary of	Depressional
depression)	· .
Depressional + Lake-fringe	Depressional

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

Wetland name or number Garrison Creek

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D	<b>Depressional Wetlands</b> WATER QUALITY FUNCTIONS - Indicators that the wetland functions to improve water quality	Points (only 1 score per box)
D	D 1.0 Does the wetland unit have the <u>potential</u> to improve water quality?	(see p. 38)
D	D 1.1 Characteristics of surface water flows out of the wetland unit: Wetland has no surface water outlet - Wetland has an intermittently flowing outlet Wetland has a highly constricted permanently flowing outlet D 1.1 Characteristics of surface water flows out of the wetland unit: points = 5 points = 3 points = 3	3
П	Wetland has a permanently flowing surface outlet       points = 1         D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions of soil types)         VES	(7)
	NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class) Wetland has persistent, ungrazed, vegetation for > 2/3 of area points = 5 Wetland has persistent, ungrazed, vegetation from 1/3 to 2/3 of area points = 3 Wetland has persistent, ungrazed vegetation from 1/10 to < 1/3 of area points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area points = 0 Map of Cowardin vegetation classes	5
D	Integration of constraint vegetation	Figure
D	Map of Hydroperiods           Total for D 1         Add the points in the boxes above	( ]
	D 2 Does the wotland unit have the appartunity to improve water quality?	
D	<ul> <li>Does the wethand unit have the <u>opportunity</u> to improve water quality:</li> <li>Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</li> <li>Grazing in the wetland or within 150 ft</li> <li>✓ Untreated stormwater discharges to wetland</li> <li>Tilled fields or orchards within 150 ft of wetland</li> <li>A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging</li> </ul>	
	<ul> <li>Wetland is fed by groundwater high in phosphorus or nitrogen</li> <li>Other</li> <li>YES multiplier is 2 NO multiplier is 1</li> </ul>	multiplier
D	TOTAL - Water Quality FunctionsMultiply the score from D1 by the multiplierin D2Record score on p. 1 of field form	22

D	<b>Depressional Wetlands</b> HYDROLOGIC FUNCTIONS - Indicators that wetland fun flooding and stream erosion	ctions to reduce	Points (only 1 score per box)
D	D 3.0 Does the wetland unit have the <u>potential</u> to reduce fle erosion?	ooding and stream	(see p. 39)
П	D 3.1 Characteristics of surface water flows out of the wetland un	it:	
	Wetland has no surface water outlet	points = 8	
	Wetland has an intermittently flowing outlet	points = 4	4
	Wetland has a highly constricted permanently flowing outlet	points = 4	T
	Wetland has a permanently flowing surface outlet	points = 0	
D	D 3.2 Depth of storage during wet periods:		
	Estimate the height of ponding above the surface of the wetlan	nd (see text for	
	description of measuring height). In wetlands with permanent	ponding, the surface is	
	the lowest elevation of "permanent" water)		
	Marks of ponding are at least 3 ft above the surface	points = 8	
	The wetland is a "headwater" wetland" (see p. 39)	points = 6	
	Marks are 2 ft to $< 3$ ft from surface	points = 6	4
	Marks are 1 ft to $< 2$ ft from surface	points = 4	1
	Marks are 6 in to $< 1$ it from surface	points = 2	
	No marks above 6 in. or wetland has only saturated soils	points – 0	
D	Total for D 3Add the points in	the boxes above	8
D	D 4.0 Does the wetland unit have the opportunity to reduc	e flooding and	(see p. 42)
	erosion?		
	Answer NO if the major source of water is groundwater, irriga	tion return flow, or water	
	levels in the wetland are controlled by a reservoir.		
	Answer YES if the wetland is in a location in the watershed whether the second	here the flood storage, or	
	reduction in water velocity, it provides helps protect downstrea	m property and aquatic	
	resources from flooding or excessive and/or erosive flows. No	te which of the following	
	conditions apply.		
	— Wetland is in a headwater of a river or stream that has f	looding problems	
	$\checkmark$ Wetland drains to a river or stream that has flooding provide the stream	oblems	
	<ul> <li>Wetland has no outlet and impounds surface runoff wat</li> </ul>	er that might otherwise	multiplier
	flow into a river or stream that has flooding problems		
	— Other		
	YES multiplier is 2 NO multip	lier is 1	
D	TOTAL - Hydrologic Functions Multiply the score from	om D3 by the multiplier	
		in D4	16
	Record sco	re on p. 1 of field form	/~

Comments

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Wetland name or number Garrison Creek

These questions apply to wetlands of all HGM classes.	Points
HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat	per box)
H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?	
H 1.1 Categories of vegetation structure (see p.62) Check the vegetation classes (as defined by Cowardin) and heights of emergents present. Size threshold for each class or height category is <sup>1</sup> / <sub>4</sub> acre or more than 10% of the area if unit is < 2.5 acres. Aquatic bed Emergent plants 0-12 in. (0 – 30 cm) high are the highest layer and have > 30% cover Emergent plants >12 – 40 in.(>30 – 100cm) high are the highest layer with >30% cover Emergent plants > 40 in.(> 100cm) high are the highest layer with >30% cover Forested (areas where shrubs have >30% cover) Forested (areas where trees have >30% cover) Add the number of vegetation types that qualify. If you have:	Figure
$\begin{array}{ccc} 4-6 \text{ types} & \text{points} = 3 \\ 3 \text{ types} & \text{points} = 2 \\ 2 \text{ types} & \text{points} = 1 \\ 1 \text{ type} & \text{points} = 0 \end{array}$	1
Map of Cowardin vegetation classes and areas with different heights of emergents H 1.2. Is one of the vegetation types "aquatic bed?" <i>(see p.64)</i>	
$YES = 1 \text{ point} \qquad NO = 0 \text{ points}$	()
H 1.3. <u>Surface water</u> ( <i>see p.05)</i> H 1.3. <u>Surface water</u> ( <i>see p.05)</i> H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) over at least ¼ acre or 10% of its area during the spring (March – early June) OR in early fall (August – end of September)? <i>Note: answer YES for Lake-fringe wetlands</i> YES = 3 points & go to H 1.4 H 1.3.2 Does the unit have an intermittent or permanent stream within its boundaries, or along one side, over at least ¼ acre or 10% of its area, AND that has an unvegetated bottom ( <i>answer yes only if H 1.3.1 is NO</i> )? YES = 3 points NO = 0 points Map showing areas of open water	3
<ul> <li>H 1.4. <u>Kichness of Plant Species</u> (see p. 00)</li> <li>Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. (different patches of the same species can be combined to meet the size threshold)</li> <li>You do not have to name the species.</li> <li>Do not include Eurasean Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Phragmites, Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk)</li> <li>If you counted: &gt; 9 species points = 2</li> <li>4-9 species points = 1</li> <li># of species &lt; 4 species points = 0 points</li> <li>List species below if you wish</li> <li>KO dogword</li> <li>Bud cottment</li> </ul>	Z



Wetland name or number <u>Garrism Creek</u>

H 2.0 Does the wetland have the opportunity to provide habitat for many species?	
H 2.0 Does the wetland have the opportunity to provide habitat for many species?         H 2.1 Buffers (see p. 71)         Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." Relatively undisturbed also means no grazing, no landscaping, no daily human use, and no structures or paving within undisturbed part of buffer.         — 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference       Points = 5         — 330 ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference.       Points = 4         — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference, .       Points = 3         — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference, .       Points = 3         — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, .       Points = 3         — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, .       Points = 3         — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, .       Points = 3         — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water set > 50% circumference.       Points = 3         — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. </td <td>Figure</td>	Figure
Light to moderate grazing, or lawns are OK.       Points = 2         — Heavy grazing in buffer.       Points = 1         — Vegetated buffers are <6.6ft wide (2m) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland).	
<ul> <li>H 2.2 Wet Corridors (see p. 72)</li> <li>H 2.2.1 Is the wetland unit part of a relatively undisturbed and unbroken, &gt; 30 ft wide, vegetated corridor at least ¼ mile long with surface water or flowing water throughout most of the year (&gt; 9 months/yr)? (dams, heavily used gravel roads, paved roads, fields tilled to edge of stream, or pasture to edge of stream are considered breaks in the corridor). (YES = 4 points (go to H 2.3) NO = go to H 2.2.2</li> <li>H 2.2.2 Is the unit part of a relatively undisturbed and unbroken, &gt; 30 ft wide, vegetated corridor, at least ¼ mile long with water flowing seasonally, OR a lake-fringe wetland without a "wet" corridor, OR a riverine wetland without a surface channel connecting to the stream?</li> </ul>	Ч
YES = 2 points (go to H 2.3)NO go to H 2.2.3H 2.2.3 Is the wetland within a 1/2 mile of any permanent stream, seasonal stream, or lake (do not include man-made ditches)? YES = 1 pointNO = 0 points	

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Wetland name or number Garrisa Cruch

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see p. 74)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit?	
NOTE: the connections do not have to be relatively undisturbed. These are DFW definitions.	
Check with your local DFW biologist if there are any questions.	
<b>Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of	
both aquatic and terrestrial ecosystems which mutually influence each other.	
Aspen Stands: Pure or mixed stands of aspen greater than 2 acres.	
Cliffs: Greater than 25 ft high and occurring below 5000 ft.	
Old-growth forests: (east of Cascade crest): In general, stands will be >150 years of age,	
with 10 trees/acre that are $> 21$ in dbh, and 1 - 3 snags/acre $> 12-14$ in diameter.	
Mature forests: Stands with average diameters exceeding 21 in dbh; crown cover may be	
less that 100%; decay, 80 - 160 years old east of the Cascade crest.	
Prairies and Steppe: Relatively undisturbed areas (as indicated by dominance of native	
plants) where grasses and/or forbs form the natural climax plant community.	
Shrub-steppe: Tracts of land consisting of plant communities with one or more layers of	
perennial grasses and a conspicuous but discontinuous layer of shrubs.	
Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft, composed of	
basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be	
associated with cliffs.	
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages	
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where	
canopy coverage of the oak component of the stand is 25%.	
Urban Natural Open Space: A priority species resides within or is adjacent to the open	
space and uses it for breeding and/or regular feeding; and/or the open space functions as a	
corridor connecting other <i>priority habitats</i> , especially those that would otherwise be	
isolated; and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10	
acres) and is surrounded by urban development.	
Aspen Stands: Pure or mixed stands of aspen greater than 0.8 ha (2 acres).	
If we tland has 2 or more Priority Habitats = $4$ noints	(1
If wetland has 1 Priority Habitat = 2 noints	T
No Priority habitats = <b>0 noints</b>	/
lote: All vegetated wetlands are by definition a priority habitat but are not included in this list	
Nearby wetlands are addressed in question H 2 4)	
reality relations are addressed in question 11 2.17	1

Comments

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H 2.4 <u>Landscape (choose the one description of the landscape around the wetland that best fits</u> ) (see p. 76)	
<ul> <li>The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures. (<i>Generally, this means outside boundaries of reclamation areas, irrigation district, or reservoirs</i>) points = 5</li> <li>There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing in the connection or an open water connection along a lake shore without heavy boat traffic are OK, but connections should NOT be bisected by paved roads, fill, fields, heavy boat traffic or other development) points = 5</li> <li>There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed? points = 2</li> <li>There is at least 1 wetland within ½ mile.</li> <li>Does not meet any of the four criteria above points = 0</li> </ul>	Ζ_
<b>H 2.</b> TOTAL Score - opportunity for providing habitat Add the scores in the column above	23
H 3.0 Does the wetland unit have indicators that its ability to provide habitat is reduced?	
H 3.1 Indicator of reduced habitat functions (see p. 75)	Points will
Do the areas of open water in the wetland unit have a resident population of carp (see text	be
for indicators of the presence of carp)? (NOTE: This question does not apply to reservoirs	subtracted
with water levels controlled by dams, such as the reservoirs on the Columbia and Snake Rivers)	
(ivers)	
YES = - 5 points (NO = 0 points	
<b>Total Score for Habitat Functions</b> $-$ add the points for $H$ 1, $H$ 2, and $H$ 3 and record the result	
on p. 1	

Wetland name or number Walla Walla Rive

### WETLAND RATING FORM – EASTERN WASHINGTON

Version 2 - Updated June 2006 to increase accuracy and reproducibility among users Name of wetland (if known): Wallaw Wallaw Magaa Chance Date of site visit: 5-7-08Rated by  $M_W Har Stellager Trained by Ecology? Yes No Date of training 2005$ SEC: <math>4 TWNSHP: M RNGE:  $35 \in$  Is S/T/R in Appendix D? Yes No 4Map of wetland unit: Figure Estimated size SUMMARY OF RATING Category based on FUNCTIONS provided by wetland  $I \neq II \neq II = IV$ 

Category I = Score >=70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30 Score for "Water Quality" Functions Score for Hydrologic Functions Score for Habitat Functions **TOTAL score for functions** 



Category based on SPECIAL CHARACTERISTICS of wetland

III

I\_\_\_I

Does not Apply\_\_\_\_

**Final Category** (choose the "highest" category from above)

# Summary of basic information about the wetland unit

Wetland Type	Wetland Class	
Vernal Pool	Depressional	
Alkali	Riverine	X
Natural Heritage Wetland	Lake-fringe	
Bog	Slope	
Forest		
None of the above	Check if unit has multiple HGM classes present	

Wetland name or number Walla Walla River

### Does the wetland being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That Need Special Protection, and That Are Not Included in the Rating	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered <b>animal or plant</b> species (T/E species)? For the purposes of this rating system "documented" means the wetland is on the	$\checkmark$	i.
appropriate state or federal database.		
<ul> <li>SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?</li> <li>For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).</li> </ul>	$\checkmark$	
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		
Walle Walle Pive support list	Steel	red

### <u>To complete the next part of the data sheet you will need to determine the</u> <u>Hydrogeomorphic Class of the wetland being rated.</u>

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 20 for more detailed instructions on classifying wetlands.

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Wetland name or number Walla Wella River

### **Classification of Vegetated Wetlands for Eastern Washington**

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 1-7 apply, and go to Question 8.

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

The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

At least 30% of the open water area is deeper than 3 m (10 ft)?

(NO)- go to Step 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?

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 <3ft diameter and less than a foot deep).

NO) - go to Step 3 YES – The wetland class is Slope

3. Is the entire wetland unit in a valley or stream channel where it gets inundated by overbank flooding from that stream or river? In general, the flooding should occur at least once every ten years to answer "yes." *The wetland can contain depressions that are filled with water when the river is not flooding*.

- NO go to Step 4
- **YES** The wetland class is **Riverine**

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

NO – go to Step 5 **YES** – The wetland class is **Depressional** 

**5.** Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. 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 class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

Wetland name or number Welle Walle River

HGM Classes Within One Delineated Wetland Boundary	Class to Use for Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine (riverine is within boundary of	Depressional
depression)	
Depressional + Lake-fringe	Depressional

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

Wetland name or number Walle Walle River

R	<b>Riverine Wetlands</b> WATER QUALITY FUNCTIONS - Indicators that the wetland functions to improve water quality	Points (only 1 score per box)
R	<b>R 1.0 Does the wetland unit have the <u>potential</u> to improve water quality?</b>	(see p. 45)
R	R 1.1 Area of surface depressions within the riverine unit that can trap sediments during a flooding event:	Figure
	Depressions cover >1/3 area of wetlandpoints = 6Depressions cover > 1/10 area of wetlandpoints = 3If depressions > 1/10th of area of unit draw polygons on aerial photo or mapDepressions present but cover < 1/10 area of wetlandDepressions present but cover < 1/10 area of wetlandpoints = 1	6
	No depressions present $points = 0$	
R	R 1.2 Characteristics (cover) of the vegetation in the unit (area of polygons with >90% cover         at person height. This is not Cowardin vegetation classes):         Forest or shrub > 2/3 the area of the wetland         Forest or shrub 1/3 - 2/3 area of the wetland         Ungrazed, herbaceous plants > 2/3 area of wetland         Ungrazed herbaceous plants 1/3 - 2/3 area of wetland         Forest, shrub, and ungrazed herbaceous < 1/3 area of wetland         Aerial photo or map showing polygons of different vegetation cover	r Figure
R	Total for R1     Add the points in the boxes above	11
R	<b>R 2.0 Does the wetland have the <u>opportunity</u> to improve water quality?</b> Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. <i>Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</i>	(see p.46)
	<ul> <li>Grazing in the wetland or within 150ft</li> <li>Wetland intercepts groundwater within the Reclamation Area</li> <li>Untreated stormwater flows into wetland</li> <li>Tilled fields or orchards within 150 feet of wetland</li> </ul>	
	residential areas, farmed fields, roads, or clear-cut logging	
	<ul> <li>Residential or urban areas are within 150 ft of wetland</li> <li>The river or stream that floods the wetland has a contributing basin where human activities have raised the levels of sediment, toxic compounds or nutrients in the river water above water quality standards</li> <li>Other</li> </ul>	multiplier
	YES multiplier is 2 NO multiplier is 1	
R	TOTAL - Water Quality Functions       Multiply the score from R1 by the multiplier in R2         Record score on p. 1 of field form	22

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Wetland name or number Walle Walle River

R	<b>Riverine Wetlands</b> HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation	Points (only 1 score per box)		
R	R 3.0 Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 47)		
R	R 3.1 Amount overbank storage the wetland provides:Estimate the average width of the wetland perpendicular to the direction of the flow ofwater and the width of the stream or river channel (distance between banks).Calculate the ratio: width of wetland/ width of stream.If the ratio is 2 or moreIf the ratio is between 1 and < 2If the ratio is $\frac{1}{2}$ to < 1If the ratio is $\frac{1}{4}$ to < $\frac{1}{2}$ If the ratio is $\frac{1}{4}$ to < $\frac{1}{2}$ If the ratio is < $\frac{1}{4}$ Aerial photo or map showing average widths	Figure		
R	R 3.2 Characteristics of vegetation that slow down water velocities during floods: Treat large woody debris as "forest or shrub" (area of polygons with >90% cover at person height. This is not Cowardin vegetation classes):         Forest or shrub for more than 2/3 the area of the wetland.       points = 6         Forest or shrub for >1/3 area OR herbaceous plants > 2/3 area       points = 4         Forest or shrub for > 1/10 area OR herbaceous plants > 1/3 area       points = 2         Vegetation does not meet above criteria       points = 0         Aerial photo or map showing polygons of different vegetation types			
R	<b>Total for R3</b> Add the points in the boxes above			
R	<ul> <li>R 4.0 Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?         Answer NO if the major source of water is irrigation return flow or water levels are controlled by a reservoir.         Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Note which of the following conditions apply.         — There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding.         — There are natural resources downstream (e.g. salmon redds) than can be damaged by flooding         — Other         YES multiplier is 2         NO multiplier is 1      </li> </ul>			
R	TOTAL - Hydrologic FunctionsMultiply the score from R3 by the multiplier in R4Record score on p. 1 of field form	24		

Wetland name or number Malle Walle Rive

These questions apply to wetlands of all HGM classes.	Points (only 1 score
HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat	per box)
H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?	
H 1.1 Categories of vegetation structure (see p.62) Check the vegetation classes (as defined by Cowardin) and heights of emergents present. Size threshold for each class or height category is <sup>1</sup> / <sub>4</sub> acre or more than 10% of the area if unit is < 2.5 acres. Aquatic bed Emergent plants 0-12 in. (0 – 30 cm) high are the highest layer and have > 30% cover Emergent plants >12 – 40 in.(>30 – 100cm) high are the highest layer with >30% cover Emergent plants > 40 in.(> 100cm) high are the highest layer with >30% cover Scrub/shrub (areas where shrubs have >30% cover) Forested (areas where trees have >30% cover) Add the number of vegetation types that qualify. If you have:	Figure
$4-6 \text{ types} \qquad \text{points} = 3$	1
3  types  points = 2 $2  types  points = 1$ $1  type  points = 0$	
H 1.2. Is one of the vegetation types "aquatic bed?" (see p.64)	~
$YES = 1 \text{ point} \qquad NO = 0 \text{ points}$	0
H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) over at least ¼ acre or 10% of its area during the spring (March – early June) OR in early fall (August – end of September)? Note: answer YES for Lake-fringe wetlands YES = 3 points & go to H 1.4 NO = go to H 1.3.2 H 1.3.2 Does the unit have an intermittent or permanent stream within its boundaries, or along one side, over at least ¼ acre or 10% of its area, AND that has an unvegetated bottom (answer yes only if H 1.3.1 is NO)? YES = 3 points NO = 0 points Map showing areas of open water	3
Find 1.4. <u>Kichness of Plant species (see p. 00)</u> Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> . (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasean Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Phragmites, Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk) If you counted: > 9 species points = 2 4-9 species points = 1 # of species < 4 species points = 0 points List species below if you wish	2



H 2.0 Does the wetland have the opportunity to provide habitat for many species?		
H 2.1 Buffers <i>(see p. 71)</i>		
H 2.1 Buffers (see p. 71) Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." Relatively undisturbed also means no grazing, no landscaping, no daily human use, and no structures or paving within undisturbed part of buffer. — 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference Points = 5 — 330 ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. Points = 4 — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, Points = 4 — 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, Points = 3 — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, Points = 3 — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Light to moderate grazing, or lawns are OK. Points = 2 — No paved areas or buildings within 170ft (50m) of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. Points = 2 — Heavy grazing in buffer. Points are <6.6ft wide (2m) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland). Points = 0 — Buffer does not meet any of the criteria above. Points = 1	Figure 3 2	
Aerial photo showing buffers		
<ul> <li>H 2.2 Wet Corridors (see p. 72)</li> <li>H 2.2.1 Is the wetland unit part of a relatively undisturbed and unbroken, &gt; 30 ft wide, vegetated corridor at least ¼ mile long with surface water or flowing water throughout most of the year (&gt; 9 months/yr)? (dams, heavily used gravel roads, paved roads, fields tilled to edge of stream, or pasture to edge of stream are considered breaks in the corridor).</li> <li>YES = 4 points (go to H 2.3) NO = go to H 2.2.2</li> <li>H 2.2.2 Is the unit part of a relatively undisturbed and unbroken, &gt; 30 ft wide, vegetated corridor, at least ¼ mile long with water flowing seasonally, OR a lake-fringe wetland without a "wet" corridor, OR a riverine wetland without a surface channel connecting to the stream?</li> </ul>	4	
YES = 2 points (go to H 2.3)NO go to H 2.2.3H 2.2.3 Is the wetland within a 1/2 mile of any permanent stream, seasonal stream, or lake (do not include man-made ditches)?VES = 1 pointVES = 1 point		

Wetland name or number Malle Walle River

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see p. 74)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit?	
NOTE: the connections do not have to be relatively undisturbed. These are DFW definitions.	
Check with your local DFW biologist if there are any questions.	
<b>Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of	
both aquatic and terrestrial ecosystems which mutually influence each other.	
Aspen Stands: Pure or mixed stands of aspen greater than 2 acres.	
Cliffs: Greater than 25 ft high and occurring below 5000 ft.	
Old-growth forests: (east of Cascade crest): In general, stands will be >150 years of age,	
with 10 trees/acre that are $> 21$ in dbh, and 1 - 3 snags/acre $> 12-14$ in diameter.	
Mature forests: Stands with average diameters exceeding 21 in dbh; crown cover may be	
less that 100%; decay, 80 - 160 years old east of the Cascade crest.	
Prairies and Steppe: Relatively undisturbed areas (as indicated by dominance of native	
plants) where grasses and/or forbs form the natural climax plant community.	
Shrub-steppe: Tracts of land consisting of plant communities with one or more layers of	
perennial grasses and a conspicuous but discontinuous layer of shrubs.	
Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft, composed of	
basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be	
associated with cliffs.	
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages	
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where	
canopy coverage of the oak component of the stand is 25%.	
Urban Natural Open Space: A priority species resides within or is adjacent to the open	
space and uses it for breeding and/or regular feeding; and/or the open space functions as a	
corridor connecting other priority habitats, especially those that would otherwise be	
isolated; and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10	
acres) and is surrounded by urban development.	
Aspen Stands: Pure or mixed stands of aspen greater than 0.8 ha (2 acres).	11
	4
If wetland has <b>2 or more</b> Priority Habitats = <b>4 points</b>	(
If wetland has 1 Priority Habitat = 2 points	
No Priority habitats = <b>0 points</b>	
ote: All vegetated wetlands are by definition a priority habitat but are not included in this list.	
Nearby wetlands are addressed in question H 2.4)	

Wetland name or number Walle Walle Rive

H 2.4 Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 76)	
<ul> <li>The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures. (<i>Generally, this means outside boundaries of reclamation areas, irrigation district, or reservoirs</i>) points = 5</li> <li>There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing in the connection or an open water connection along a lake shore without heavy boat traffic are OK, but connections should NOT be bisected by paved roads, fill, fields, heavy boat traffic or other development)</li> <li>There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed?</li> <li>There is at least 1 wetland within ½ mile.</li> <li>Does not meet any of the four criteria above</li> </ul>	. 5
H 2. TOTAL Score - opportunity for providing habitat Add the scores in the column above	25
H 3.0 Does the wetland unit have indicators that its ability to provide habitat is reduced?	
H 3.1 Indicator of reduced habitat functions (see p. 75)	Points will
Do the areas of open water in the wetland unit have a resident population of carp (see text	be
for indicators of the presence of carp)? (NOTE: This question does not apply to reservoirs	subtracted
with water levels controlled by dams, such as the reservoirs on the Columbia and Snake	
<i>Rivers)</i>	
$YES = -5 points \qquad (NO \neq 0 points$	
<b>Total Score for Habitat Functions</b> $-$ add the points for H1, H2, and H3 and record the result on p. 1	25

# Appendix C

# Slopes and Erosion Potential of NRCS (USCS) Soil Associations

### City of College Place and

# City of Walla Walla Geologic Hazards Best Available Sciences

### Slopes and Erosion Potential of NRCS (USCS) Soil Associations

	Soil Association		Erosion Ratings	
Мар		Slope Range		
Symbol	Name	(percent)	Water	Wind
AmA	Ahtanum silt loam	0 to 3	v. high	high
An	Alluvial land	0 to 4	mod	high
AtB	Athena silt loam	0 to 8	high	mod
AtD	Athena silt loam	8 to 30	high	mod
AtD2	Athena silt loam, eroded	8 to 30	high	mod
AtE	Athena silt loam	30 to 45	high	mod
AtE2	Athena silt loam, eroded	30 to 45	high	mod
BcF	Basalt rock land, steep	30 to 60	sl	sl-ns
BcG	Basalt rock land, very steep	60 to 70	ns	sl-ns
Вр	Borrow pits	0 to 10	ns	sl-ns
CaA	Catherine silt loam	0 to 3	high	mod
EfB	Ellisforde silt loam	3 to 8	hiah	mod
EfC	Ellisforde silt loam	8 to 15	hiah	mod
EfD	Ellisforde silt loam	15 to 30	hiah	mod
EfE2	Ellisforde silt loam, eroded	30 to 45	v. hiah	hiah
EhB	Ellisforde silt loam, hardpan variant	3 to 8	mod	mod
EvA	Esquatzel very fine sandy loam	0 to 3	high	hiah
HmA	Hermiston silt loam	0 to 3	high	mod
HnA	Hermiston very fine sandy loam	0 to 3	high	high
OnA	Onvx silt loam	0 to 3	high	mod
PkA	Patit Creek cobbly silt loam	0 to 3	mod	mod
PmA	Pedigo silt loam	0 to 3	high	high
PoA	Pedigo silt loam, overwashed	0 to 3	high	high
RID	Ritzville silt loam	8 to 30	v. hiah	mod
RID2	Ritzville silt loam, eroded	8 to 30	v high	high
RIE2	Ritzville silt loam, eroded	30 to 45	v high	high
RvB	Ritzville verv fine sandv loam, volcanic-ash variant	0 to 8	v high	v hiah
Rw	Riverwash	0 to 3	ns	sl-ns
SoA	Snow silt loam	0 to 3	high	mod
SrA	Stanfield silt loam	0 to 3	high	high
SsA	Stanfield silt loam, leached surface	0 to 3	high	hiah
StA	Stanfield verv fine sandy loam	0 to 3	hiah	hiah
SvA	Stanfield very fine sandy loam, leached surface	0 to 3	hiah	hiah
Tc	Terrace escarpments	45 to 80	mod	mod
ТоА	Touchet gravelly silt loam	0 to 3	mod	mod
TsA	Touchet silt loam	0 to 3	high	mod
UmA	Umapine silt loam	0 to 3	high	high
UnA	Umapine silt loam leached surface		high	hiah
11wA	Umapine very fine sandy laom leached surface	0 to 3	high	high
VaC	Volcanic-ash land undulating to hilly	0 to 30	v biab	v bigh
w	Water		NA	
WaR	Walla Malla silt Ioam		hich	INA
11au	Ivvalia vvalia Sili Ivalii		nign	mod

### City of College Place and

## City of Walla Walla Geologic Hazards Best Available Sciences

Soil Association			Erosion Ratings	
Map Symbol	Name	Slope Range (percent)	Water	Wind
WaD	Walla Walla silt loam	8 to 30	high	mod
WaD2	Walla Walla silt loam, eroded	8 to 30	high	mod
WaE	Walla Walla silt loam	30 to 45	high	mod
WaE2	Walla Walla silt loam, eroded	30 to 45	high	mod
WaF	Walla Walla silt loam	45 to 60	high	mod
WhB	Walla Walla silt loam, hardpan variant	0 to 8	high	mod
WIB	Walla Walla silt loam, lacustrine substratum	0 to 8	high	mod
WID	Walla Walla silt loam, lacustrine substratum	8 to 30	high	mod
WID2	Walla Walla silt loam, lacustrine substratum, eroded	8 to 30	high	mod
WvB	Walvan very fine sandy loam	0 to 8	v. high	v. high
WvD2	Walvan very fine sandy loam, eroded	8 to 30	v. high	v. high
WvF2	Walvan very fine sandy loam, eroded	30 to 60	v. high	v. high
YaA	Yakima cobbly loam	0 to 3	sl	high
YkA	Yakima gravelly silt loam	0 to 3	sl	high
YmA	Yakima silt loam	0 to 3	mod	mod

### Slopes and Erosion Potential of NRCS (USCS) Soil Associations

Notes: ns = non-susceptible, sl = slight, mod = moderate, high, v. high = very high

# Appendix D

Recommended Best Management Practices in Critical Aquifer Recharge Areas (Source: City of San Diego's Think Blue Program)

Justification for BMP

1	Use drip pans, etc. to collect leaks/spills	Repair vehicle leaks promptly. Use drip pans or other means (e.g. sealable containers) to capture spills or leaks of oil and other fluids from vehicles during maintenance; dispose of captured fluids per BMP #4 where applicable.	Prevents pollutants from potentially entering the storm drain system by keeping them onsite
2	Wash vehicles in designated areas and implement practices to minimize water from entering the storm drain	Minimize runoff from vehicle washing. Where feasible, drain wash water (which contains pollutants such as detergents, brake dust, oil, etc.) onto pervious areas, such as a lawn or landscaping, or wash on suitable pervious area, to minimize pollutants from entering the storm drain system. Use a control nozzle or similar method to minimize unnecessary amounts of runoff.	Prevents pollutants from potentially entering the storm drain system by keeping them onsite
3	Properly store and dispose of green waste	Do not dump or leave green matter from landscaping maintenance where it could enter the storm drain system. Take to green waste section of landfill or use appropriately on site.	Prevents pollutants from potentially entering the storm drain system
4	Properly store and dispose of hazardous materials	Store household hazardous materials (paints, solvents, oils, pesticides) such that they will not come into contact with storm water if leaks or spills occur. Dispose of household hazardous materials at household hazardous collection center and/or auto parts stores.	Prevents pollutants from potentially entering the storm drain system
5	When there is flexibility, schedule during dry weather any outdoor activities that could release pollutants	When there is flexibility, schedule outdoor activities such as vehicle washing and maintenance, handling of hazardous materials, mobile cleaning operations, etc. for non-rainy days. Or, move activities indoors.	Reduces potential for washing pollutants into storm drain system
6	Drain and properly dispose of fluids from inoperable vehicles	Drain oil, antifreeze, and other fluids from vehicle stored outside for storage or salvage. Dispose of waste per BMP #4 where applicable.	Prevents pollutants from potentially entering the storm drain system
7	Properly manage pesticide/fertilizer use	Apply pesticides and fertilizers in strict accordance with manufacturer's guidance. Safely store chemicals in closed/covered areas. Dispose of waste products per BMP #4. When feasible, use integrated pest management principles (plant selection, biological controls, habitat manipulation) to reduce use of chemicals.	Reduces introduction of pollutants to areas that generate runoff
8	Protect landscaped areas from erosion by maintaining vegetative cover	Plant and maintain healthy ground cover on exposed soils to reduce runoff and erosion of soils that may contain or transport pollutants	Reduces erosion and associated pollutants

Justification	for	BMP

9	Eliminate irrigation runoff to the storm drain system	The goal of this BMP is to eliminate irrigation runoff to the storm drain system through proper landscape maintenance and watering practices, though it is recognized that some irrigation runoff may occur due to broken sprinklers, irrigation system failures, etc. Adopt proper watering and site design practices, properly maintain irrigation systems by abating runoff from broken sprinklers and other system components, control overspray, and abide by local watering restrictions.	Reduces potential for non- storm water to enter storm drain system
10	Protect trash storage areas from contact with storm water	Trash areas should be either: (1) paved with an impervious surface, designed not to allow run-on from adjoining areas, and screened to prevent off-site transport of trash; (2) contain attached lids that exclude rain; and/or (3) covered to minimize direct precipitation. Locate trash areas downstream of drain inlets where applicable. Keep area free of trash.	Reduces contact of rain water with potential pollutants, and reduces runoff of potentially contaminated storm water
11	Properly dispose of swimming pool, spa, fountain, and filter backwash water	Discharge swimming pool, spa, and fountain water only if the water is dechlorinated, has a pH in 7-8 range, is within ambient temperature, and has no algae or suspended solids. If any of the above standards are not met, dispose of swimming pool, spa, and fountain water either by (1) discharging water to the sanitary sewer system; and/or (2) draining water to landscaped areas. Dispose of filter backwash water only to a landscaped area or the sanitary sewer system.	Prevents contaminated discharge water from entering storm drain system
12	Clean trash disposal areas	Keep trash in dumpsters and other receptacles; prevent trash from blowing offsite; sweep trash storage areas frequently; check dumpsters for leaks; never place liquid waste in dumpsters; use dry cleanup methods in trash disposal areas.	Prevents contact of rain water with pollutants
13	Pick up and dispose of pet waste in yards and right of ways	Pick up and properly dispose of pet waste (toilet or trash).	Prevents pollutants from potentially entering the storm drain system