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AOA

Environmental
Planning &
Landscape
Architecture



November 21, 2018

AOA-5820

Blake Hoefer
15024 – 66th Ct. NE
Kenmore, WA 98028

SUBJECT: Critical Areas Designation (CADS18-0398)
Parcel 342107-9044, King County, WA

Dear Blake:

On November 6, 2018 AOA conducted a wetland and stream reconnaissance on the undeveloped and mostly forested subject property utilizing the methodology outlined in the May 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*.

One stream (Stream 1) and one wetland mosaic (Wetland A) were identified in the northeastern portion of the property during the field investigation. Wetland A consists of a Slope Hydrogeomorphic (HGM) class wetland that drains down from east to west into Stream 1, which drains from south to north in a small channel located along the east side of an old logging road that provided historic access to the site. The western side of the ordinary high water (OHW) of Stream 1 was delineated during the field investigation with pink flagging labelled OHW 1-1 through OHW 1-15 (**Attachment A**).

Hydrologic support to Wetland A and Stream 1 is from groundwater seepage on the hillside. Runoff within the stream drains north under East Lake Walker Dr. SE and eventually enters Lake Walker. Vegetation within the Wetland A mosaic consisted of a forested and scrub-shrub plant community that was dominated by red alder (*Alnus rubra*) and salmonberry (*Rubus spectabilis*). Vegetation within the remainder of the site consisted primarily of a mixed upland forest that included western red cedar (*Thuja plicata*), big-leaf maple (*Acer macrophyllum*), red alder, western hemlock (*Tsuga heterophylla*), salmonberry, vine maple (*Acer circinatum*), devil's club (*Oplopanax horridus*), red elderberry (*Sambucus racemosa*), and sword fern (*Polystichum munitum*).

Blake Hoefer
November 21, 2018
Page 2

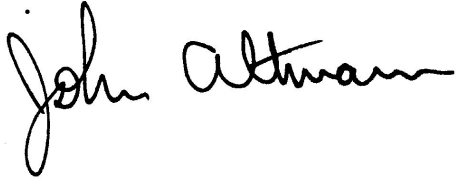
Stream 1 meets the criteria for a Type N Aquatic Area and requires a standard 65-foot buffer plus 15-foot building setback from the OHW of the stream. Wetland A meets the criteria for a Category III wetland with 19 Habitat Points (**Attachment B**). Category III wetlands with 19 Habitat Points require a standard 60-foot buffer plus 15-foot building setback from the wetland edge. Since the wetland is located entirely to the east of the stream in the vicinity of the existing old access road, the stream buffer would be more restrictive in this area.

The approximate location of the delineated OHW of Stream 1 and the undelineated Wetland A mosaic is depicted on the attached sketch for the Critical Areas Designation (CAD). It is my recommendation that as part of any permit submittal to the King County Department of Permitting and Environmental Review (DPER) that the wetland boundary be delineated if necessary and the wetland and stream be surveyed.

If you have any questions regarding the CAD, please give me a call.

Sincerely,

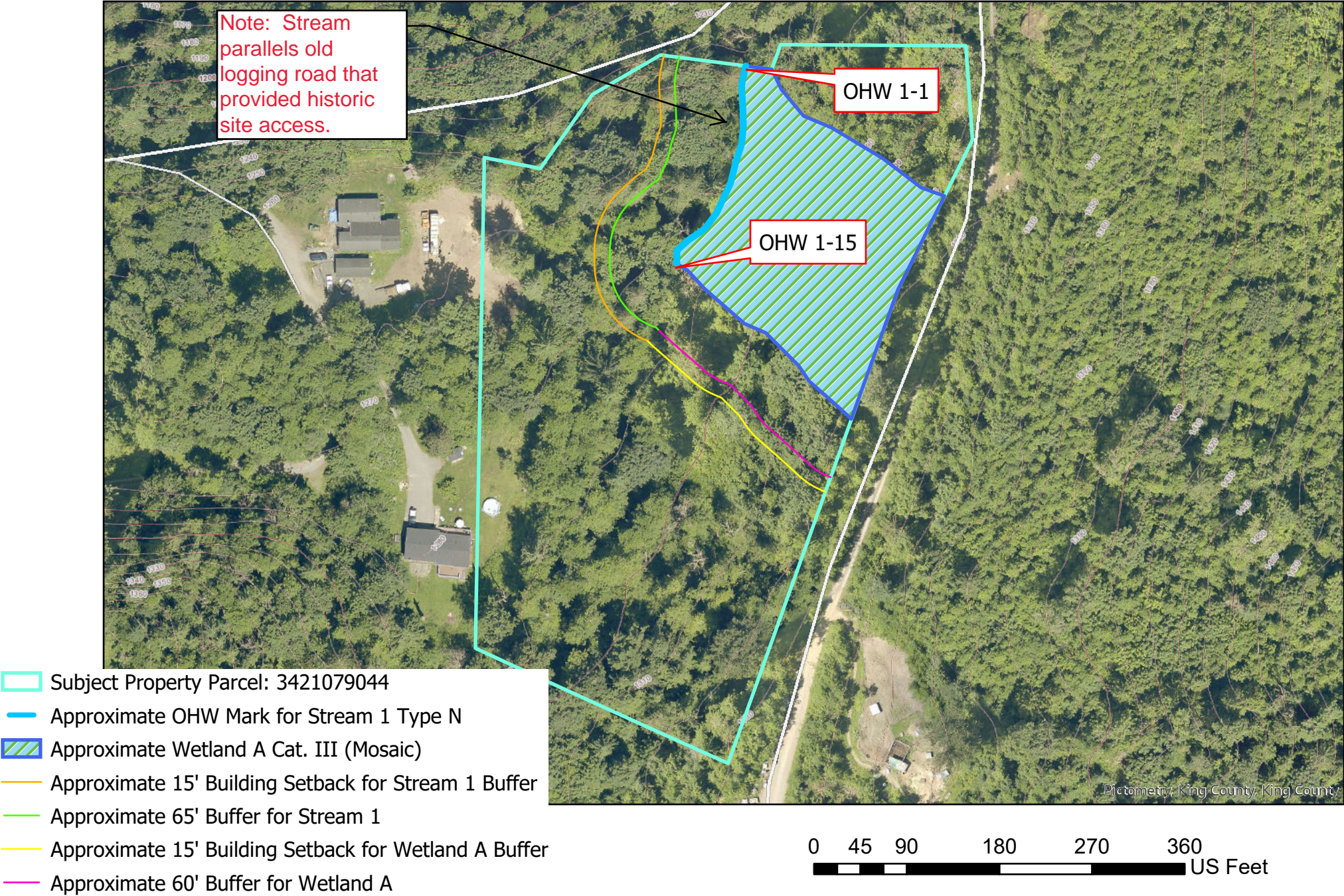
ALTMANN OLIVER ASSOCIATES, LLC

A handwritten signature in black ink that reads "John Altmann". The signature is written in a cursive, flowing style.

John Altmann
Ecologist

Attachments

Critical Areas Map



ATTACHMENT B

WETLAND RATING

Wetland name or number A

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 - Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): PARCEL 342107-9044 Date of site visit: 11/6/18

Rated by ALTMANN Trained by Ecology? Yes ☒ No ☐ Date of training 03/08 + 03/15

SEC: 34 TOWNSHIP: 21N RANGE: 7E Is S/T/R in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure Estimated size

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☒ IV ☐

Category I = Score ≥ 70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions

3

Score for Hydrologic Functions

10

Score for Habitat Functions

19

TOTAL score for Functions

32

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

Final Category (choose the “highest” category from above)

III

Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics		Wetland HGM Class used for Rating	
Estuarine		Depressional	
Natural Heritage Wetland		Riverine	
Bog		Lake-fringe	
Mature Forest		Slope	<input checked="" type="checkbox"/>
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above	<input checked="" type="checkbox"/>	Check if unit has multiple HGM classes present	<input type="checkbox"/>

S Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality		Points (only 1 score per box)
S	S 1. Does the wetland unit have the <u>potential</u> to improve water quality?	(see p.64)
S	S 1.1 Characteristics of average slope of unit: Slope is 1% or less (<i>a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance</i>) points = 3 Slope is 1% - 2% points = 2 Slope is 2% - 5% points = 1 Slope is greater than 5% points = 0	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>) YES = 3 points NO = 0 points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: <i>Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches.</i> Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 6 Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 Dense, woody, vegetation > 1/2 of area points = 2 Dense, uncut, herbaceous vegetation > 1/4 of area points = 1 Does not meet any of the criteria above for vegetation points = 0 Aerial photo or map with vegetation polygons	Figure <u>3</u>
S	Total for S 1 <i>Add the points in the boxes above</i>	3
S	S 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. <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> — Grazing in the wetland or within 150ft — Untreated stormwater discharges to wetland — Tilled fields, logging, or orchards within 150 feet of wetland — Residential, urban areas, or golf courses are within 150 ft upslope of wetland — Other _____ YES multiplier is 2 NO multiplier is 1	(see p.67) multiplier <u>1</u>
S	TOTAL - Water Quality Functions Multiply the score from S1 by S2 <i>Add score to table on p. 1</i>	3

Comments

Wetland name or number A

S Slope Wetlands		Points
HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream erosion		(only 1 score per box)
	S 3. Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)
S	<p>S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows)</p> <p>Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. points = 6</p> <p>Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3</p> <p>Dense, uncut, rigid vegetation > 1/4 area points = 1</p> <p>More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0</p>	3
S	<p>S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows:</p> <p>The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2</p> <p>NO points = 0</p>	2
S	Add the points in the boxes above	5
S	<p>S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?</p> <p>Is the wetland in a landscape position where the 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.</p> <p><input checked="" type="checkbox"/> Wetland has surface runoff that drains to a river or stream that has flooding problems</p> <p>— Other _____</p> <p>(Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam)</p> <p>YES multiplier (s 2) NO multiplier is 1</p>	(see p. 70)
S	<p>TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4</p> <p>Add score to table on p. 1</p>	10

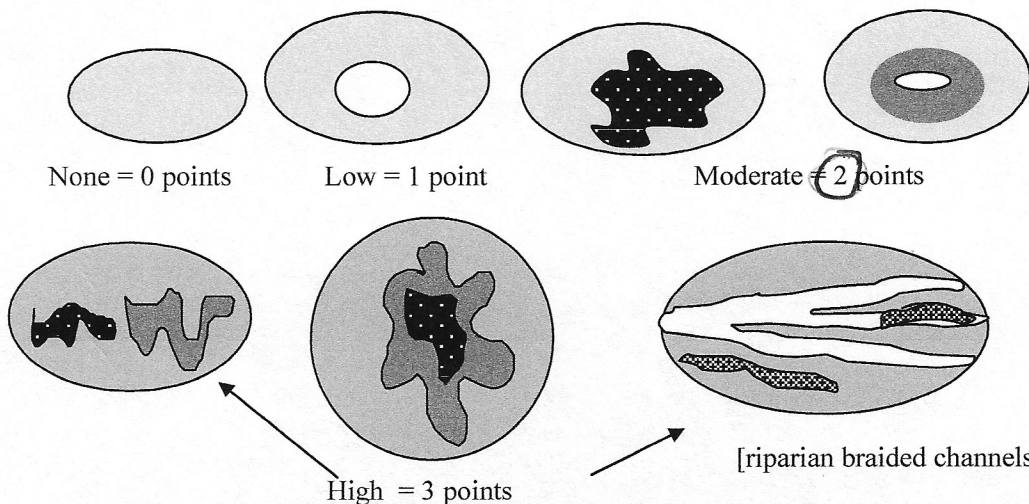
Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that unit functions to provide important habitat		Points (only 1 score per box)
H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?		
H 1.1 <u>Vegetation structure</u> (see p. 72) <i>Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is ¼ acre or more than 10% of the area if unit is smaller than 2.5 acres.</i> <input type="checkbox"/> Aquatic bed <input type="checkbox"/> Emergent plants <input checked="" type="checkbox"/> Scrub/shrub (areas where shrubs have >30% cover) <input checked="" type="checkbox"/> Forested (areas where trees have >30% cover) <i>If the unit has a forested class check if:</i> <input checked="" type="checkbox"/> The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon <i>Add the number of vegetation structures that qualify. If you have:</i> <div style="display: flex; justify-content: space-between;"> <div> Map of Cowardin vegetation classes </div> <div> 4 structures or more points = 4 3 structures points = 2 2 structures points = 1 1 structure points = 0 </div> </div>		Figure <u>2</u>
H 1.2. <u>Hydroperiods</u> (see p. 73) <i>Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ acre to count. (see text for descriptions of hydroperiods)</i> <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Permanently flooded or inundated <input type="checkbox"/> Seasonally flooded or inundated <input type="checkbox"/> Occasionally flooded or inundated <input checked="" type="checkbox"/> Saturated only <input checked="" type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland <input checked="" type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland <input type="checkbox"/> Lake-fringe wetland = 2 points <input type="checkbox"/> Freshwater tidal wetland = 2 points </div> <div> 4 or more types present points = 3 3 types present points = 2 2 types present point = 1 1 type present points = 0 </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div></div> <div>Map of hydroperiods</div> </div>		Figure <u>1</u>
H 1.3. <u>Richness of Plant Species</u> (see p. 75) <i>Count the number of plant species in the wetland that cover at least 10 ft². (different patches of the same species can be combined to meet the size threshold)</i> <i>You do not have to name the species.</i> <i>Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle</i> <div style="display: flex; justify-content: space-between;"> <div> If you counted: List species below if you want to: </div> <div> > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0 </div> </div>		<u>1</u>

Total for page 4

H 1.4. Interspersion of habitats (see p. 76)

Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.



NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes

Figure 2**H 1.5. Special Habitat Features: (see p. 77)**

Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.

- ☒ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
- ☒ Standing snags (diameter at the bottom > 4 inches) in the wetland
- ☐ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)
- ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown)
- ☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians)
- ☒ Invasive plants cover less than 25% of the wetland area in each stratum of plants

NOTE: The 20% stated in early printings of the manual on page 78 is an error.

3

H 1. TOTAL Score - potential for providing habitat
Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5

9

Comments

H 2. Does the wetland unit have the opportunity to provide habitat for many species?	Figure <u> </u>
<p>H 2.1 <u>Buffers</u> (see p. 80) 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."</p> <ul style="list-style-type: none"> — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5 — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. Points = 4 — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. Points = 4 — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. Points = 3 — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 <p style="text-align: center;">If buffer does not meet any of the criteria above</p> <ul style="list-style-type: none"> — No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. Points = 2 — No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. Points = 2 — Heavy grazing in buffer. Points = 1 — Vegetated buffers are <2m wide (6.6ft) 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 <p style="text-align: right;">Aerial photo showing buffers</p>	<p style="text-align: center; font-size: 2em;">2</p>
<p>H 2.2 <u>Corridors and Connections</u> (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (<i>dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor</i>)</p> <p>YES = 4 points (go to H 2.3) NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?</p> <p>YES = 2 points (go to H 2.3) NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland:</p> <ul style="list-style-type: none"> within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? <p>YES = 1 point NO = 0 points</p>	<p style="text-align: center; font-size: 2em;">2</p>

Total for page 4

H 2.3 Near or adjacent to other priority habitats listed by WDFW (*see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <http://wdfw.wa.gov/hab/phslist.htm>*)

Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.*

☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).

☐ **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 p. 152*).

☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

☐ **Old-growth/Mature forests:** (*Old-growth west of Cascade crest*) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (*Mature forests*) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; 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 of the Cascade crest.

☐ **Oregon white Oak:** Woodlands 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*).

☒ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161*).

☐ **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.

☐ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A*).

☐ **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 7.6 m (25 ft) high and occurring below 5000 ft.

☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), 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 > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

If wetland has **3 or more** priority habitats = **4 points**

If wetland has **2** priority habitats = **3 points**

If wetland has **1** priority habitat = **1 point**

No habitats = 0 points

Note: 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)

3

Wetland name or number A

<p>H 2.4 <u>Wetland Landscape</u> (choose the one description of the landscape around the wetland that best fits) (see p. 84)</p> <p>There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5</p> <p>The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5</p> <p>There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3</p> <p>The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3</p> <p>There is at least 1 wetland within ½ mile. points = 2</p> <p>There are no wetlands within ½ mile. points = 0</p>	<p>3</p>
<p>H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4</p>	<p>10</p>
<p>TOTAL for H 1 from page 14</p>	<p>9</p>
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	<p>19</p>