Appendix B

Routine On site Wetland Determination Data Forms

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

Project/Site: Tdt 08 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2009
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP 1
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1, T 12N, R 2W, W.M
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.33' 27" N Long: 122.52' 47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐
Wetland Hydrology Present? Yes ☒ No ☐

Is the Sampled Area within a Wetland? Yes☒ No☐

Remarks: TP-1 is located within Wetland J near the NE property corner. All wetland criteria met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1	%		
2	%		
3	%		
4	%		
Total Cover:	%		
Sapling/Shrub Stratum			
1 *Populus tremuloides (quaking aspen)*	10%	yes	FAC
2	%		
3	%		
4	%		
5	%		
Total Cover:	10%		
Herb Stratum			
1 *Holcus lanatus (velvet grass)*	30%	yes	FAC
2 *Juncus effusus (soft rush)*	20%	yes	FACW
3 *Agrostis capillaris (bentgrass)*	20%	yes	FAC
4 *Carex obnupta (slough sedge)*	20%	yes	OBL
5	%		
6	%		
7	%		
8	%		
Total Cover:	90%		
Woody Vine Stratum			
1	%		
2	%		
Total Cover:	%		

% Bare Ground in Herb Stratum ____ %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1=	1
FACW species	1	x 2=	2
FAC species	3	x 3=	9
FACU species		x 4=	
UPL species		x 5=	
Column Totals:	5 (A)		12 (B)

Prevalence Index = B/A = 2.40

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks: Traces of crabapple, hawthorn and cottonwood saplings present.

SOIL

Sampling Point: [illegible]

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 3/2	70%	10YR 4/6	30%	C	M	silt loam	
9-15	10YR 2/2	70%	5YR 5/8	30%	C	M	silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1 and 2)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: All three wetland criteria met.

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

Project/Site: Exit 38 - Proposed Lewis County Facility | City/County: Lewis County | Sampling Date: 10/27/2005
Applicant/Owner: Ritchie Brothers Auctioneers | State: WA | Sampling Point: TP-2
Investigator(s): Andrea Aberle | Section, Township, Range: Sec 1, T 12N, R 2W, W.M
Landform (hillslope, terrace, etc.): terrace | Local relief: None | Slope (%): 0-3%
Subregion (LRR): A | Lat: 46 33' 27" N | Long: 122 52' 47" W | Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam | NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? | Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? | (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒
Hydric Soils Present?	Yes ☐	No ☒	
Wetland Hydrology Present?	Yes ☐	No ☒	

Remarks: TP-2 is located north of Wetland J near the NE property corner

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum			
1. *Poa pratensis (K. Muenzeisa)*	20%	yes	FAC
2. *Schedonorus phoenix (T. fescue)*	20%	yes	FAC
3. *Agrostis gigantea (redtop)*	20%	yes	FAC
4. *Cirsium arvense (C. thistle)*	10%	no	FACU
5. *Taraxacum officinale (dandelion)*	10%	no	FACU
6. *Trifolium repens (w. clover)*	10%	no	FAC
7.	%		
8.	%		
Total Cover:	90%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum: % | Remarks: Dominant hydrophytic vegetation are marginal and FAC

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet

Total % Cover of		Multiply by	
OBL species		x 1=	
FACW species		x 2=	
FAC species	4	x 3=	12
FACU species	2	x 4	8
UPL species		x 5=	
Column Totals:	6 (A)		20 (B)

Prevalence Index = B/A= 3.33

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

SOIL

Sampling Point: TP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 2/2	100%		%			silt loam	
6-18	10YR 4/2	100%		%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

[1]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: All three criteria were not met to classify plot as wetland

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

Project/Site: Exit 58 - Proposed Lewis County Facility | City/County: Lewis County | Sampling Date: 10/27/2009
Applicant/Owner: Ritchie Brothers Auctioneers | State: WA | Sampling Point: TP-3
Investigator(s): Andrea Abedo | Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace | Local relief: None | Slope (%): 0-3%
Subregion (LRR): A | Lat: 43°00'27" N | Long: 122°52'47" W | Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam | NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? | Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? | (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐
Hydric Soils Present?	Yes ☒	No ☐
Wetland Hydrology Present?	Yes ☒	No ☐

Is the Sampled Area within a Wetland? Yes ☒ No ☐

Remarks: TP-3 is located within Wetland Q near the NW property corner.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1	%		
2	%		
3	%		
4	%		
Total Cover:	%		

Sapling/Shrub Stratum			
1 *Populus tremuloides (quaspen)*	10%	yes	FAC
2	%		
3	%		
4	%		
5	%		
Total Cover:	10%		

Herb Stratum			
1 *Holcus lanatus (velvet grass)*	30%	yes	FAC
2 *Juncus effusus (soft rush)*	20%	yes	FACW
3 *Agrostis capillaris (bentgrass)*	20%	yes	FAC
4 *Carex bonaplea (slough sedge)*	20%	yes	FAC
5	%		
6	%		
7	%		
8	%		
Total Cover:	90%		

Woody Vine Stratum			
1	%		
2	%		
Total Cover:	%		

% Bare Ground in Herb Stratum: ____%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet

Total % Cover of:			Multiply by:
OBL species	1	x 1=	1
FACW species	1	x 2=	2
FAC species	3	x 3=	9
FACU species		x 4=	
UPL species		x 5=	
Column Totals:	5	(A)	12 (B)

Prevalence Index = B/A = 2.50

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Providing supporting data in Remarks or on a separate sheet.)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: traces of crabapple, hawthorn and cottonwood saplings present.

SOIL

Sampling Point: TP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-9"	10YR 3/2	70%	10YR 4/6	30%	C	M	silt loam	
9-16"	10YR 2/2	70%	5YR 5/6	30%	C	M	silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- [ ] Histosol
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [ ] Hydrogen Sulfide (A4)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Sandy Mucky Mineral (S1)
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Loamy Mucky Mineral (F1) (except MLRA 1)
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [x] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]

- [ ] 2 cm Muck (A10)
- [ ] Red Parent Material
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches):

Hydric Soil Present? Yes [x] No [ ]

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Surface Soil Cracks (B6)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- [ ] Salt Crust (B11)
- [ ] Aquatic Invertebrates (B13)
- [ ] Hydrogen Sulfide Odor (C1)
- [x] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Stunted or Stressed Plants (D1) (LRR A)
- [ ] Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- [ ] Water Stained Leaves
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Dry-Season Water Table (C2)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Frost-Heave Hummocks (D7)
- [ ] FAC-Neutral Test (D5)
- [ ] Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes [ ] No [x] Depth (inches): _____

Water Table Present? Yes [ ] No [x] Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes [ ] No [x] Depth (inches):

Wetland Hydrology Present? Yes [x] No [ ]

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

Remarks: All three wetland criteria met.

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

Project/Site: Exit 63 Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2005
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-4
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.55'27" N Long: 122.52.47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐
Hydric Soils Present? Yes ☒ No ☐
Wetland Hydrology Present? Yes ☒ No ☐

Is the Sampled Area within a Wetland? Yes ☒ No ☐

Remarks: TP-4 is located within Wetland R near the NW property corner

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover	%		
Herb Stratum			
1. *Agrostis capillaris (bentgrass)*	30%	yes	FAC
2. *Juncus effusus (soft rush)*	60%	yes	FACW
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover	90%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover	%		

% Bare Ground in Herb Stratum ____ %

Remarks:

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species	1	x 2=	2
FAC species	1	x 3=	3
FACU species		x 4=	
UPL species		x 5=	
Column Totals:	2	(A)	5 (B)

Prevalence Index = B/A = 2.50

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

SOIL

Sampling Point: TP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Color (moist)	Matrix %	Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 4/2	80%	2.5YR 3/2	20%	C	M	silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☒ Other (Explain in Remarks)

Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches):

Hydric Soil Present? Yes ☒ No ☐

Remarks: Presence of redox concentrations and oxydized roots indicate water is moving through solid profile, therefore we determine the soil to be hydric. Nearly meets indicator F6

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except NW coast)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: All three wetland criteria met.

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

Project/Site: Exit 68 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2009
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-5
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0-5%
Subregion (LRR): A Lat: 46.33.27° N Long: 123.52.47° W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PFM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐
Hydric Soils Present? Yes ☐ No ☒
Wetland Hydrology Present? Yes ☐ No ☒

Is the Sampled Area within a Wetland? Yes ☐ No ☒

Remarks: TP-5 is located south of Wetland B near the NW property corner

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1	%		
2	%		
3	%		
4	%		
Total Cover:	%		
Sapling/Shrub Stratum			
1	%		
2	%		
3	%		
4	%		
5	%		
Total Cover:	%		
Herb Stratum			
1 *Agrostis gigantea (redtop)*	20%	no	FAC
2 *Schedonorus phoenix (T.fescue)*	20%	no	FAC
3 *Trifolium repens (W. clover)*	20%	no	FAC
4 *Cirsium arvense (C.thistle)*	10%	no	FACU
5 *Taraxacum officinale (dandelion)*	10%	no	FACU
6	%		
7	%		
8	%		
Total Cover:	80%		
Woody Vine Stratum			
1	%		
2	%		
Total Cover:	%		

% Bare Ground in Herb Stratum ____ %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ % (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species		x 2=	
FAC species	3	x 3=	9
FACU species	2	x 4=	8
UPL species		x 5=	
Column Totals:	5 (A)		17 (B)

Prevalence Index = B/A = 3.40

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: Dominant hyrophytic vegetation are marginal and FAC. prevalence index indicates hydric vegetation is present.

SOIL

Sampling Point: TP 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-11"	10YR 4/3	100%		%			silt loam	
11-19"	10YR 4/4	100%		%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Minerals (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present

Restrictive Layer (if present):

Type: _____

Depth (inches)

Hydric Soil Present? Yes ☐ No ☒

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches) _____
Water Table Present?	Yes ☐	No ☒	Depth (inches) _____
Saturation Present? (includes capillary fringe)	Yes ☐	No ☒	Depth (inches)

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: All three criteria were not met to classify plot as wetland

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

Project/Site: Exit 68 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2009
Applicant/Owner: Rilcrie Brothers Auctioneers State: WA Sampling Point: TP 6
Investigator(s): Andrea Abarle Section, Township, Range: Sec. 1, T 12N, R 2W, WM
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.33.27" N Long: 122.52.47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?** Yes☒ No☐
Hydric Soils Present?	Yes ☒	No ☐	
Wetland Hydrology Present?	Yes ☒	No ☐	

Remarks: TP-6 is located within Wetland G near the NW property corner

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover	%		
Herb Stratum			
1. *Agrostis capillaris (bentgrass)*	30%	yes	FAC
2. *Juncus effusus (soft rush)*	60%	yes	FACW
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover	90%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover	%		

% Bare Ground in Herb Stratum: %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet

Total % Cover of		Multiply by:	
OBL species		x 1=	
FACW species	1	x 2=	2
FAC species	1	x 3=	3
FACU species		x 4=	
UPL species		x 5=	
Column Totals:	2 (A)		5 (B)

Prevalence Index = B/A = 5/2 = 2.5

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks:

SOIL

Sampling Point: TP-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type*	Loc*	Texture	Remarks
0-9"	10YR 2/1	90%	10YR 5/3	10%	C	M	silt loam	
9-16"	10YR 4/2	90%	10YR 4/4	10%	C	M	silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, **Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D7)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: All three wetland criteria met.

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

Project/Site: Exit 68 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2004
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP 7
Investigator(s): Andrea Aburto Section, Township, Range: Sec 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.33.27° N Long: 122.52.47° W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soils Present?	Yes ☐	No ☒	
Wetland Hydrology Present?	Yes ☐	No ☒	

Remarks: TP-7 is located south of Wetland R near the NW property corner.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum			
1. *Agrostis gigantea (redtop)*	30%	yes	FAC
2. *Scheuchzeria phasmic (T fescue)*	30%	yes	FAC
3. *Trifolium repens (w. clover)*	10%	no	FAC
4. *Circium arvense (C. thistle)*	10%	no	FACU
5. *Taraxacum officinale (dandelion)*	10%	no	FACU
6. *Poa pratensis (K.bluegrass)*	10%	no	FAC
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum: ____ %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC	2	(A)
Total Number of Dominant Species Across All Strata	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC	100%	(A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species		x 2=	
FAC species	4	x 3=	12
FACU species	2	x 4=	8
UPL species		x 5=	
Column Totals:	6 (A)		20 (B)

Prevalence Index = B/A = 3.33

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: Dominant hyrrophytic vegetation are marginal and FAC

SOIL

Sampling Point: TF-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-11"	10YR 3/3	100%		%			silt loam	
11-16	10YR 5/4	100%		%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

[1]Indicators of hydrophytic vegetation and wetland hydrology must be present

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): ____

Water Table Present? Yes ☐ No ☒ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): ____

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: All three criteria were not met to classify plot as wetland.

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

Project/Site: Exit 68 - Proposed Lewis County Facility | City/County: Lewis County | Sampling Date: 10/27/2009
Applicant/Owner: Ribbic Brothers Auctioneers | State: WA | Sampling Point: TP-8
Investigator(s): Andrea Aberle | Section, Township, Range: Sec. 1, T 12N, R 2W, W.M
Landform (hillslope, terrace, etc.): terrace | Local relief: None | Slope (%): 0-3%
Subregion (LRR): A | Lat: 46.33° 27" N | Long: 122.52° 47" W | Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam | NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? | Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? | (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	Is the **Sampled Area** within a **Wetland**? Yes ☒ No ☐
Hydric Soils Present?	Yes ☒	No ☐	
Wetland Hydrology Present?	Yes ☒	No ☐	

Remarks: TP-8 is located within Wetland N in the NE portion of the property

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover	%		
Herb Stratum			
1. Carex obnupta (s.sedge)	100%	yes	OBL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover	%		

% Bare Ground in Herb Stratum: % %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC.	1	(A)
Total Number of Dominant Species Across All Strata.	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC	100%	(A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	1	x 1=	1
FACW species		x 2=	
FAC species		x 3=	
FACU species		x 4=	
UPL species		x 5=	
Column Totals	1 (A)		1 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[2] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

SOIL

Sampling Point: TP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type	Loc[2]	Texture	Remarks
0-0	10YR 2/2	100%		%			silt loam	
8-18"	10YR 2/2	100%	10YR 4/4	20%	C	M	silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☒ Other (Explain in Remarks)

[2]Indicators of hydrophytic vegetation and wetland hydrology must be present

Restrictive Layer (if present):

Type:

Depth (inches): ____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Presence of redox concentrations and oxydized roots indicate water is moving through soil profile, therefore we determine the soil to be hydric. Nearly meets indicator F6

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient):

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required):

- ☐ Water Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): ____

Water Table Present? Yes ☐ No ☒ Depth (inches): ____

Saturation Present? Yes ☐ No ☒ Depth (inches): ____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks

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

Project/Site: Exit 68 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2005
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-9
Investigator(s): Andrea Abarca Section, Township, Range: Sec. 1, T12N, R 2W W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.33.27" N Long: 122.52'47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?** Yes☐ No☒
Hydric Soils Present?	Yes ☐	No ☒	
Wetland Hydrology Present?	Yes ☐	No ☒	

Remarks: TP-9 is located west of Wetland N near the NE property corner

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover	%		
Herb Stratum			
1. *Schedonorus pratensis (T. fescue)*	30%	yes	FAC
2. *Rumex crispus (c.dock)*	20%	yes	FAC
3. *Symphoricarpos albus (s.berry)*	10%	no	FACU
4. *Cirsium arvense (C.thistle)*	10%	no	FACU
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover:	70%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover	%		

% Bare Ground in Herb Stratum: %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50%	(A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species		x 2=	
FAC species	3	x 3=	6
FACU species	2	x 4=	8
UPL species		x 5=	
Column Totals:	4	(A)	14 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks: Dominant hydrophytic vegetation are marginal and FAC.

SOIL

Sampling Point: P-9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 4/2	100%		%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: All three criteria were not met to classify plot as wetland.

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

Project/Site: Exit 68 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2009
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-10
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1, T 12N, R 2W, W.M
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.53 2.4° N Long: 122.52 47° W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain Remarks.)
Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐
Hydric Soils Present?	Yes ☒	No ☐
Wetland Hydrology Present?	Yes ☒	No ☐

Is the Sampled Area within a Wetland? Yes ☒ No ☐

Remarks: TP-10 is located within Wetland T in the NE portion of the property

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum			
1. *Carex obnupta (sawdge)*	100%	yes	OBL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum ____ %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet

Total % Cover of		Multiply by	
OBL species	1	x 1=	1
FACW species		x 2=	
FAC species		x 3=	
FACU species		x 4=	
UPL species		x 5=	
Column Totals:	1 (A)		1 (B)

Prevalence Index = B/A= 1.00

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Providing supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

SOIL

Sampling Point: TP-10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 2/2	100%		%			silt loam	
8-10	10YR 2/2	80%	10YR 4/4	20%	C	M	silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☒ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Presence of redox concentrations and oxidized roots indicate water is moving through soil profile, therefore we determine the soil to be hydric. Nearly meets indicator F6

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except NW coast)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ☐	No ☒	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks

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

Project/Site: Exit 68 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2009
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: P-11
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1, T 12N, R 2W, W M
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46 33' 27" N Long: 122 52' 47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒
Hydric Soils Present?	Yes ☐	No ☒	
Wetland Hydrology Present?	Yes ☐	No ☒	

Remarks: TP-11 is located east of Wetland T near the NE property corner

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum			
1. *Symphoricarpus albus (s.berry)*	80%	yes	FACU
2. *Schedonorus phoenix (T.fescue)*	20%	yes	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum ____ %

Remarks:

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50%	(A/B)

Prevalence Index worksheet

Total % Cover of			Multiply by:	
OBL species		x 1=		
FACW species		x 2=		
FAC species	1	x 3=	3	
FACU species	1	x 4=	4	
UPL species		x 5=		
Column Totals:	2	(A)	7	(B)

Prevalence Index = B/A= 3.50

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is <3.0[1]
- ☐ Morphological Adaptations[1] (Providing supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☐ No ☒

SOIL

Sampling Point: TP-11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Color (moist)	Matrix %	Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 4/2	100%		%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

* Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches): ____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): ____

Water Table Present? Yes ☐ No ☒ Depth (inches): ____

Saturation Present? Yes ☐ No ☒ Depth (inches): ____

(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: All three criteria were not met to classify plot as wetland.

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

Project/Site: Exit 39 – Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2009
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-12
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1, T.12N., R.2W., W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.33.27" N Long: 122.52.47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soils Present?	Yes ☒	No ☐	
Wetland Hydrology Present?	Yes ☒	No ☐	

Remarks: TP-12 is located within Wetland C in the NE portion of the property

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover	%		
Sapling/Shrub Stratum			
1. *Symphoricarpos albus (s.bcmy)*	10%	yes	FACU
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	10%		
Herb Stratum			
1. *Carex obnupta (s.sedge)*	70%	yes	OBL
2. *Juncus effusus (s.rush)*	20%	yes	FACW
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover:	90%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum: % %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC.	2	(A)
Total Number of Dominant Species Across All Strata	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC	66%	(A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	1	x 1=	1
FACW species	1	x 2=	2
FAC species		x 3=	
FACU species	1	x 4=	4
UPL species		x 5=	
Column Totals	3 (A)		7 (B)

Prevalence Index = B/A = 2.33

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: snowberry located along transition buffer area (hummocks) of small wetland pocket

SOIL

Sampling Point: TP-12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 2/2	100%		%			silt loam	
8-16"	10YR 3/2	80%	10YR 4/4	20%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (explain in Remarks)

[1]Indicators of hydrophytic vegetation and wetland hydrology must be present

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks

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

Project/Site: Exit 68 - Proposed Lewis County Facility | City/County: Lewis County | Sampling Date: 10/27/2009
Applicant/Owner: Ritchie Brothers Auctioneers | State: WA | Sampling Point: TP-13
Investigator(s): Andrea Alberts | Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace | Local relief: None | Slope (%): 0-3%
Subregion (LRR): A | Lat: 46.53.2.2" N | Long: 122.52.47" W | Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam | NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? | Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? | (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒
Hydric Soils Present?	Yes ☐	No ☒	
Wetland Hydrology Present?	Yes ☐	No ☒	

Remarks: TP-13 is located east of Wetland K near the NE property corner

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover	%		
Herb Stratum			
1. *Arrhenatherum elatius (T. fescue)*	20%	yes	FAC
2. *Agrostis capillaris (bentgrass)*	20%	yes	FAC
3. *Poa pratensis (K. bluegrass)*	20%	yes	FAC
4. *Trifolium repens (w. clover)*	10%	no	FAC
5. *Cirsium arvense (C. thistle)*	10%	no	FACU
6. *Hypochaeris radicata (Hairs ear)*	10%	no	FACU
7.	%		
8.	%		
Total Cover	90%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover	%		

% Bare Ground in Herb Stratum: %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species		x 2=	
FAC species	4	x 3=	12
FACU species	2	x 4=	8
UPL species		x 5=	
Column Totals:	6 (A)		20 (B)

Prevalence Index = B/A = 3.33

Hydrophytic Vegetation Indicators:
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Providing supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: Dominant hydrophytic species are marginal and FAC

SOIL

Sampling Point: TP-13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Color (moist)	Matrix %	Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18"	10YR 3/2	100%		%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

[1]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches): ____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): ____
Water Table Present?	Yes ☐	No ☒	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ☐	No ☒	Depth (inches): ____

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: All three criteria were not met to classify plot as wetland

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

Project/Site: * FORMTEXT Exit 63 - Proposed Lewis County City/County: Lewis County Sampling Date: 11/18/2009
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-14
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46 33' 27" N Long: 122 52' 47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NW classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soils Present?	Yes ☒	No ☐	
Wetland Hydrology Present?	Yes ☒	No ☐	

Remarks: TP-14 is located within Wetland T

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus latifolia (Glash)*	10%	yes	FACW
2.	%		
3.	%		
4.	%		
Total Cover	10%		
Sapling/Shrub Stratum			
1. *Spirea douglasii*	30%	yes	FAC
2. *Rosa nutkana (n rose)*	30%	yes	FAC
3. *Cornus sericea (RCD)*	30%	yes	FACW
4. *Pyrus fusca (crabapple)*	10%	no	FAC
5.	%		
Total Cover	100%		
Herb Stratum			
1. *Agrostis capillaris (bentgrass)*	30%	yes	FAC
2. *Juncus effusus (soft rush)*	30%	yes	FACW
3. *Ranunculus repens (buttercup)*	30%	yes	FACW
4. *Holcus lanatus (v.grass)*	10%	no	FAC
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover	%		

% Bare Ground in Herb Stratum ___%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species	4	x 2=	8
FAC species	5	x 3=	15
FACU species		x 4=	
UPL species		x 5=	
Column Totals:	9 (A)		23 (B)

Prevalence Index = B/A= 23/9 = 2.55

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Providing supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: This test plot for Wetland T is near the fenceline where the Cowardin vegetation classes within Wetland T transitions from SS in the south to EM in the north

SOIL

Sampling Point: TP-14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Color (moist)	Matrix %	Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 4/1	80%	7.5YR 4/6	20%	C	M	silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches):

Hydric Soil Present? Yes ☒ No ☐

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (inches): at surface
Water Table Present?	Yes ☒	No ☐	Depth (inches): at surface
Saturation Present? (includes capillary fringe)	Yes ☒	No ☐	Depth (inches): at surface

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: High rainfall in days prior to data collection

Remarks: All three wetland criteria met.

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

Project/Site: Exit 68 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2000
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-15
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0.3%
Subregion (LRR): A Lat: 46 33' 27" N Long: 122 52' 47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐
Hydric Soils Present? Yes ☐ No ☒
Wetland Hydrology Present? Yes ☐ No ☒

Is the Sampled Area within a Wetland? Yes ☐ No ☒

Remarks: TP-15 is located east of Wetland T

VEGETATION

Tree Stratum (use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		

Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		

Herb Stratum			
1 *Lolium perenne (p.ryegrass)*	20%	yes	FACU
2 *Schedocorus phoenix (T.fescue)*	20%	yes	FAC
3 *Chrysanthemum leucanthemum(daisy)*	20%	yes	FACU
4 *Cirsium arvense (C.thistle)*	10%	no	FACU
5 *Rumex crispis (c.dock)*	10%	no	FAC
6 *Plantago lanceolata (E.plantain)*	10%	no	FAC
7 *Achillea millefolium (yarrow)*	10%	no	FACU
8	%		
Total Cover:	100%		

Woody Vine Stratum			
1	%		
2	%		
Total Cover:	%		

% Bare Ground in Herb Stratum: %

Remarks:

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC	1	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC	33%	(A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species		x 2=	
FAC species	3	x 3=	9
FACU species	4	x 4=	16
UPL species		x 5=	
Column Totals:	7 (A)		25 (B)

Prevalence Index = B/A= 3.57

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Providing supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☐ No ☒

SOIL

Sampling Point: TP 16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-11"	10YR 4/2	100%		%			silt loam	
11-16"	10YR 4/3	100%		%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (explain in Remarks)

[1]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ☐	No ☒	Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: Wetland criteria were not met.

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

Project/Site: Exit 56 - Proposed Lewis County Facility | City/County: Lewis County | Sampling Date: 11/18/2009
Applicant/Owner: Ritchie Brothers Auctioneers | State: WA | Sampling Point: TP-18
Investigator(s): Andrea Abone | Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace | Local relief: None | Slope (%): 0-3%
Subregion (LRR): A | Lat: 46 03' 27" N | Long: 122 52' 47" W | Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam | NW classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? | Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? | (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐
Hydric Soils Present?	Yes ☒	No ☐
Wetland Hydrology Present?	Yes ☒	No ☐

Is the Sampled Area within a Wetland? Yes ☒ No ☐

Remarks: TP-18 is located within the southern portion of Wetland I.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1	%		
2	%		
3	%		
4	%		
Total Cover:	%		

Sapling/Shrub Stratum			
1 *Spiraea douglasii*	40%	yes	FAC
2 *Rosa nutkana (Nurose)*	20%	yes	FAC
3 *Prunus emarginata (bitcherry)*	30%	yes	FACU
4	%		
5	%		
Total Cover:	90%		

Herb Stratum			
1 *Phalaris arundinacea (RCG)*	10%	yes	FACW
2	%		
3	%		
4	%		
5	%		
6	%		
7	%		
8	%		
Total Cover:	10%		

Woody Vine Stratum			
1	%		
2	%		
Total Cover:	%		

% Bare Ground in Herb Stratum ____ %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species	1	x 2=	2
FAC species	2	x 3=	6
FACU species	1	x 4=	4
UPL species		x 5=	
Column Totals:	4	(A)	12 (B)

Prevalence Index = B/A= 3.00

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Providing supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

SOIL

Sampling Point: [illegible]

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 2/1	100%		%			silt loam	
8-18"	10YR 4/2	70%	10YR 5/8	30%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ____

Depth (inches): ____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (**except NW coast**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (D8)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (inches):	at surface
Water Table Present?	Yes ☒	No ☐	Depth (inches):	at surface
Saturation Present? (Includes capillary fringe)	Yes ☒	No ☐	Depth (inches):	at surface

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: High rainfall in days prior to data collection

Remarks: All three wetland criteria met.

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

Project/Site: Jet 06 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 11/15/2008
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TF-17
Investigator(s): Andrea Abolio Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-2%
Subregion (LRR): A Lat: 46.32.27" N Long: 122.52.47" W Datum: NCVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☐ No ☒
Hydric Soils Present? Yes ☐ No ☒
Wetland Hydrology Present? Yes ☐ No ☒

Is the Sampled Area within a Wetland? Yes☐ No☒

Remarks: TF-17 is located east of Wetland H - between Wetland H and I near the fenceline and split between SS and EM vegetation

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pseudotsuga menziesii (Dfir)*	30%	yes	FACU
2.	%		
3.	%		
4.	%		
Total Cover:	30%		
Sapling/Shrub Stratum			
1. *Cornus cornuta (f.dogwood)*	20%	yes	FACU
2. *Symphoricarpos albus (s.berry)*	20%	yes	FACU
3. *Rhamnus purshiana (Cascara)*	10%	no	FAC
4. *Rosa nutkana (N.rose)*	10%	no	FACU
5. *Cytisus scoparius (S.broom)*	10%	no	FACU
Total Cover:	70%		
Herb Stratum			
1. *Lolium perenne (p.ryegrass)*	30%	yes	FACU
2. *Hypochaeris radicata (R.ear)*	20%	yes	FACU
3. *Conyza canadensis (c.daisy)*	20%	yes	UPL
4. *Trifolium repens (w.clover)*	10%	no	FAC
5. *Agrostis capillaris (c.bentgrass)*	10%	no	FACU
6. *Rumex crispus (c.dock)*	10%	no	UPL
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum ___ %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by:	
OBL species		x 1=	
FACW species		x 2=	
FAC species	3	x 3=	9
FACU species	8	x 4=	32
UPL species	1	x 5=	5
Column Totals:	12 (A)		46 (B)

Prevalence Index = B/A = 3.83

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☐ No☒

Remarks: TF-17 is located near the fenceline, the split between SS and EM vegetation

SOIL

Sampling Point: TP 17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 4/4	100%		%			si l loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks: No hydrology indicators present - soils dry

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient):

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required):

- ☐ Water Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: High rainfall in days prior to data collection

Remarks: Criteria not met to classify plot as wetland

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

Project/Site: Exit 68 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 11/18/2009
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-18
Investigator(s): Andrea Aburia Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.23' 2/" N Long: 122.52' 47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes☐	No☒	**Is the Sampled Area within a Wetland?** Yes☐ No☒
Hydric Soils Present?	Yes☐	No☒	
Wetland Hydrology Present?	Yes☐	No☒	

Remarks: TP-18 is located east of Wetland H

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pseudotsuga menziesii (Dfl)*	20%	yes	FACU
2.	%		
3.	%		
4.	%		
Total Cover:	20%		
Sapling/Shrub Stratum			
1. *Prunus emarginata (B.cherry)*	30%	yes	FACU
2. *Corylus cornuta (h.hazelnut)*	20%	yes	FACU
3. *Rhamnus purshiana (Cascara)*	10%	no	FAC
4. *Symphoricarpos albus (s.berry)*	10%	no	FACU
5. *Quercus garryana (O.w.oak sap.)*	10%	no	UPL
Total Cover:	80%		
Herb Stratum			
1. *Achillea millefolium (yarrow)*	10%	yes	FACU
2. *Pteridium aquilinum (b.fern)*	10%	yes	FACU
3. *Rubus armeniacus (Hbl)*	10%	yes	FACU
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum: %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0%	(A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species		x 2=	
FAC species	1	x 3=	3
FACU species	7	x 4=	28
UPL species	1	x 5=	5
Column Totals	9 (A)		36 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☐ No☒

Remarks:

SOIL

Sampling Point: TP-18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 2/1	100%		%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks: No hydrology indicators present - soils dry

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except NW coast)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost-Heave Hummocks (D4)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): ____

Water Table Present? Yes ☐ No ☒ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): ____

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: High rainfall in days prior to data collection

Remarks: Other is not met to classify plot as wetland

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

Project/Site: Exit 68 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 11/18/2009
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TF-19
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.23.27 N Long: 122.52.47 W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soils Present?	Yes ☒	No ☐	
Wetland Hydrology Present?	Yes ☒	No ☐	

Remarks: TF-19 is located within Wetland H

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus latifolia (Oregon ash)*	10%	yes	FACW
2.	%		
3.	%		
4.	%		
Total Cover:	10%		
Sapling/Shrub Stratum			
1. *Salix lucida*	30%	yes	FAC
2. *Rosa nutkana (nootka)*	30%	yes	FAC
3. *Salix scouleriana (Scouler willow)*	10%	no	FAC
4. *Pyrus fusca (crabapple)*	10%	no	FAC
5. *Rhamnus purshiana (Cascara)*	10%	no	FAC
Total Cover:	90%		
Herb Stratum			
1. *Agrostis capillaris (bentgrass)*	50%	yes	FAC
2. *Agrostis gigantea (Redtop bentgrass)*	20%	yes	FAC
3. *Holcus lanatus (velvet grass)*	20%	yes	FAC
4. *Hypochaeris radicata (hairy cat's ear)*	10%	no	FACU
5. *Juncus effusus (soft rush)*	10%	no	FACW
6.	%		
7.	%		
8.	%		
Total Cover:	90%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum: %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC	6	(A)
Total Number of Dominant Species Across All Strata	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC	100%	(A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species	2	x 2=	4
FAC species	8	x 3=	24
FACU species	1	x 4	4
UPL species		x 5=	
Column Totals:	11 (A)		32 (B)

Prevalence Index = B/A = 2.91

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: This test plot for Wetland H is near the fenceline where the Cowardin vegetation classes transition from SS in the north to EM in the south.

SOIL

Sampling Point: TP-19

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5"	10YR 4/2	100%		%				Inundated soil pit
5-10"	10YR 5/2	80%	7.5YR 5/8	20%				
10-16"	10YR 6/4	70%	10YR 5/8	30%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

* Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (inches): 5-3"
Water Table Present?	Yes ☒	No ☐	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ☒	No ☐	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: High rainfall in days prior to data collection.

Remarks: All three wetland criteria met.

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

Project/Site: Exit 68 - Proposed Lewis County Facility | City/County: Lewis County | Sampling Date: 11/10/2009
Applicant/Owner: Ritchie Brothers Auctioneers | State: WA | Sampling Point: TP-20
Investigator(s): Andrea Ahlers | Section, Township, Range: Sec. 1 T 12N, R 2W W.M.
Landform (hillslope, terrace, etc.): terrace | Local relief: None | Slope (%): 0-3%
Subregion (LRR): A | Lat: 46.33.27 N | Long: 122.52.47" W | Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam | NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? | Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? | (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐
Hydric Soils Present? Yes ☒ No ☐
Wetland Hydrology Present? Yes ☒ No ☐

Is the Sampled Area within a Wetland? Yes☒ No☐

Remarks: TP-20 is located within Wetland G

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum			
1. *Carex obnupta (slough sedge)*	70%	yes	OBL
2. *Hypochaeris radicata (flatweed)*	10%	no	FACU
3. *Agrostis capillaris (bentgrass)*	10%	no	FAC
4. *Ranunculus repens (buttercup)*	10%	no	FACW
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum: ___ %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	1
FACW species	1	x 2 =	2
FAC species	1	x 3 =	3
FACU species	1	x 4 =	2
UPL species		x 5 =	
Column Totals	4 (A)		10 (B)

Prevalence Index = B/A = 2.50

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks:

SOIL

Sampling Point: TF-20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Color (moist)	Matrix %	Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 4/1	100%		%			clay	
8-16"	10YR 5/2	60%	10YR 5/8	40%	C	M	clay	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Minerals (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water Stained Leaves (B9) (except NW coast)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (inches): surface
Water Table Present?	Yes ☐	No ☐	Depth (inches): _____
Saturation Present? (Includes capillary fringe)	Yes ☐	No ☐	Depth (inches):

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available. High rainfall in days prior to data collection

Remarks: All three wetland criteria met

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

Project/Site: Exit 68 – Proposed Lewis County Facility City/County: Lewis County Sampling Date: LEGRMTEXT
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP 21
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1 T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.33'27" N Long: 122.52'47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☐ No ☒
Hydric Soils Present? Yes ☐ No ☒
Wetland Hydrology Present? Yes ☐ No ☒

Is the Sampled Area within a Wetland? Yes☐ No☒

Remarks: TP 21 is located north of Wetland G

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1	%		
2	%		
3	%		
4	%		
Total Cover	%		
Sapling/Shrub Stratum			
1	%		
2	%		
3	%		
4	%		
5	%		
Total Cover	%		
Herb Stratum			
1 *Lolium perenne (perennial ryegrass)*	30%	yes	FACU
2 *Agrostis capillaris (colonial bentgrass)*	20%	yes	FAC
3 *Hypochaeris radicata (hairy cat's ear)*	20%	yes	FACU
4 *Trifolium repens (white clover)*	10%	no	FAC
5 *Chrysanthemum leucanthemum (oxeye daisy)*	10%	no	FACU
6	%		
7	%		
8	%		
Total Cover	90%		
Woody Vine Stratum			
1	%		
2	%		
Total Cover	%		

% Bare Ground in Herb Stratum ____ %
Remarks: (Include photo numbers here or on a separate sheet.)

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC	1	(A)
Total Number of Dominant Species Across All Strata	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC	33%	(A/B)

Prevalence Index worksheet

Total % Cover of		Multiply by	
OBL species		x 1=	
FACW species		x 2=	
FAC species	2	x 3=	6
FACU species	3	x 4=	12
UPL species		x 5=	
Column Totals:	5 (A)		18 (B)

Prevalence Index = B/A = 3.60

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☐ No☒

SOIL

Sampling Point: DP-21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 4/4	100%		%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

[1]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks: No hydrology indicators present - soils dry

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: High rainfall days prior to data collection, some oxid. rhizospheres present below 12"

Remarks: Criteria not met to classify plot as wetland

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

Project/Site: Exit 88 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2009
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-22
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46 33' 27" N Long: 122 52' 47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil☐, or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil☐, or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ☒	Is the Sampled Area within a Wetland? Yes☐ No☒
Hydric Soils Present?	Yes ☐	No ☒	
Wetland Hydrology Present?	Yes ☒	No ☐	

Remarks: TP-22 is located south of Wetland E

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		

Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		

Herb Stratum			
1. *Lolium perenne (p.ryegrass)*	40%	yes	FACU
2. *Festuca arundinacea (T.fescue)*	30%	yes	FAC
3. *Matricaria matricarioides(n.weed)*	10%	no	FACU
4. *Hypochaeris radicata (H.c.ear)*	10%	no	FACU
5. *Rumex crispus (c.dock)*	10%	no	FACU
6.	%		
7.	%		
8.	%		
Total Cover:	100%		

Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum ____ %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC	1	(A)
Total Number of Dominant Species Across All Strata	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC	50%	(A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species		x 2=	
FAC species	1	x 3=	3
FACU species	4	x 4=	16
UPL species		x 5=	
Column Totals:	5 (A)		19 (B)

Prevalence Index = B/A= 3.80

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Providing supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☐ No☒

Remarks: traces of tansy and sheep some

SOIL

Sampling Point: TP 22

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5"	10YR 3/2	100%		%			silt loam	
5-16"	10YR 4/2	100%		%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches):	
Water Table Present?	Yes ☐	No ☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ☒	No ☐	Depth (inches): 14"	

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: All three criteria not met to classify pit as wetland. Saturation in pit below 12" = consistent with standard water table

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

Project/Site: Ex 138 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 11/18/2009
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-23
Investigator(s): Andrea Abeele Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.33' 27" N Long: 122.52' 47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐
Hydric Soils Present? Yes ☒ No ☐
Wetland Hydrology Present? Yes ☒ No ☐

Is the Sampled Area within a Wetland? Yes☒ No☐

Remarks: TP 23 is located within Wetland C

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Populus tremuloides (quaking aspen)*	10%	yes	FAC
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	10%		
Herb Stratum			
1.	%		
2. *Juncus effusus (soft rush)*	30%	yes	FACW
3. *Agrostis capillaris (bentgrass)*	30%	yes	FAC
4. *Ranunculus repens (buttercup)*	30%	yes	FACW
5. *Carex obnupta (slough sedge)*	10%	no	OBL
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum ____ %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1=	1
FACW species	2	x 2=	4
FAC species	2	x 3=	6
FACU species		x 4=	
UPL species		x 5=	
Column Totals:	5 (A)		11 (B)

Prevalence Index = B/A = 2.20

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks: Traces of waterpepper - Polygonum hydropiper

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

Project/Site: Exit 68 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 11/18/2008
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-23
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46 33' 27" N Long: 122 52' 47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil☐ or Hydrology☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil☐ or Hydrology☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐
Hydric Soils Present?	Yes ☒	No ☐
Wetland Hydrology Present?	Yes ☒	No ☐

Is the Sampled Area within a Wetland? Yes☒ No☐

Remarks: TP-23 is located within Wetland 0

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Populus tremuloides (quaspen)*	10%	yes	FAC
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	10%		
Herb Stratum			
1.	%		
2. *Juncus effusus (soft rush)*	30%	yes	FACW
3. *Agrostis capillaris (bentgrass)*	30%	yes	FAC
4. *Ranunculus repens (buttercup)*	30%	yes	FACW
5. *Carex obnupta (slough sedge)*	10%	no	OBL
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum ____%

Remarks: traces of waterpepper Polygonum hydropiper

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	1	x 1=	1
FACW species	2	x 2=	4
FAC species	2	x 3=	6
FACU species		x 4=	
UPL species		x 5=	
Column Totals:	5 (A)		11 (B)

Prevalence Index = B/A = 2.20

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is <3.0[1]
- ☐ Morphological Adaptations[1] (Providing supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non Vascular Plants
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☒ No☐

SOIL

Sampling Point: TP-23

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 2/2	70%	5YR 4/4	30%	C	M	silt loam	inundated soil plot
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present

Restrictive Layer (if present):

Type:

Depth (inches) ____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except NW coast)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (inches): 2"
Water Table Present?	Yes ☒	No ☐	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☒	No ☐	Depth (inches): ____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available. Highlighted in days prior to data collection

Remarks: All three wetland criteria met

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

Project/Site: Exit 65 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2009
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-24
Investigator(s): Andrea Aborle Section, Township, Range: Sec. 1 T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): Terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.33.27 N Long: 122.52.47 W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	Is the Sampled Area within a Wetland? Yes☐ No☒
Hydric Soils Present?	Yes ☐	No ☒	
Wetland Hydrology Present?	Yes ☒	No ☐	

Remarks: TP-24 is located south of Wetland C. Two out of three wetland criteria present. Hydric soils are required to classify plot as wetland

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum			
1. *Holcus lanatus (v.grass)*	20%	yes	FAC
2. *Festuca arundinacea (T.fescue)*	20%	yes	FAC
3. *Agrostis capillaris (bentgrass)*	20%	yes	FAC
4. *Hypochaeris radicata (H.c.ear)*	20%	yes	FACU
5. *Rumex crispus (c.dock)*	10%	no	FACU
6. *Trifolium repens (w. clover)*	10%	no	FAC
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum: ____%

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	75%	(A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species		x 2=	
FAC species	3	x 3=	9
FACU species	1	x 4=	4
UPL species		x 5=	
Column Totals:	4 (A)		13 (B)

Prevalence Index = B/A= 3.25

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks: Dominant hyrophytic vegetation are marginal and FAC

SOIL

Sampling Point: TP-24

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 3/2	100%		%			silt loam	charcoal present
8-15"	10YR 5/3	100%		%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Minerals (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

[1]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water Stained Leaves (B9) (except NW coast)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches):	_____
Water Table Present?	Yes ☒	No ☒	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes ☐	No ☒	Depth (inches):	6"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

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

Project/Site: Exit 68 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 11/18/2009
Applicant/Owner: Kitchis Brothers Auctioneers State: WA Sampling Point: TP-25
Investigator(s): Andrea Abarle Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.33.27 N Long: 122.53.47 W Datum: NGVD 29
Soil Map Unit Name: Cocamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	Is the Sampled Area within a Wetland? Yes☒ No☐
Hydric Soils Present?	Yes ☒	No ☐	
Wetland Hydrology Present?	Yes ☒	No ☐	

Remarks: TP 25 is located within Wetland A

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum			
1. *Carex obnupta (slough sedge)*	30%	yes	OBL
2. *Juncus effusus (soft rush)*	20%	yes	FACW
3. *Ranunculus repens (creeping buttercup)*	20%	yes	FACW
4. *Lotus corniculatus (birdsfoot trefoil)*	20%	yes	FACU
5. *Agrostis capillaris (bentgrass)*	10%	no	FAC
6.	%		
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum: %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC:	4	(A)
Total Number of Dominant Species Across All Strata:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by:	
OBL species	1	x 1=	1
FACW species	2	x 2=	4
FAC species	2	x 3=	6
FACU species		x 4=	
UPL species		x 5=	
Column Totals:	5 (A)		11 (B)

Prevalence Index = B/A = 2.20

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks: traces of reed canarygrass

SOIL

Sampling Point: TP-20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 4/2	80%	7.5YR 3/4	20%	C	M	silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☒ Other (explain in Remarks)

[1]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Presence of redox concentrations and oxydized roots indicate water is moving through soil profile, therefore we determine the soild to be hydric. Nearby meets indicator F8

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except NW coast)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (inches):	at surface
Water Table Present?	Yes ☒	No ☐	Depth (inches):	_____
Saturation Present? (includes capillary fringe)	Yes ☒	No ☐	Depth (inches):	_____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections) [1]available: High rainfall in days prior to data collection

Remarks: All three wetland criteria met

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

Project/Site: Exit 68 Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2005
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-26
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46.33.27.7 N Long: 122.52.4.7 W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☐ No ☒
Hydric Soils Present? Yes ☐ No ☒
Wetland Hydrology Present? Yes ☐ No ☒

Is the Sampled Area within a Wetland? Yes☐ No☒

Remarks: TP-26 is located south of Wetland A

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover	%		
Herb Stratum			
1. *Schedonorus phoenix (T.fescue)*	70%	yes	FACU
2. *Chrysanthemum leucanthemum(daisy)*	10%	no	FACU
3. *Plantago lanceolata (English)*	10%	no	FAC
4. *Trifolium repens (w clover)*	10%	no	FAC
5.	%		
6.	%		
7.	%		
8.	%		
Total Cover	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover	%		

% Bare Ground in Herb Stratum ___ %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet

	Total % Cover of:	Multiply by:	
OBL species		x 1=	
FACW species		x 2=	
FAC species	2	x 3=	6
FACU species	2	x 4=	8
UPL species		x 5=	
Column Totals:	4 (A)		14 (B)

Prevalence Index = B/A= 3.50

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☐ No☒

Remarks:

SOIL

Sampling Point: TF-28

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 4/3	100%		%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient):

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required):

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 10"

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: Wetland criteria were not met.

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

Project/Site: Exit 65 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 10/27/2009
Applicant/Owner: Ritchie Brothers Auctioneers State: WA Sampling Point: TP-27
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1, T 12N, R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0-3%
Subregion (LRR): A Lat: 46 33' 27" N Long: 122 52' 47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ☒
Hydric Soils Present?	Yes ☐	No ☒
Wetland Hydrology Present?	Yes ☐	No ☒

Is the Sampled Area within a Wetland? Yes ☐ No ☒

Remarks: TP-27 is located near southwestern property corner

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	%		
Herb Stratum			
1. *Schedonorus phoenix (T.fescue)*	30%	yes	FAC
2. *Lolium perenne (p.ryegrass)*	20%	yes	FACU
3. *Chrysanthemum leucanthemum (daisy)*	10%	no	FACU
4. *Cirsium arvense (C.thistle)*	10%	no	FACU
5. *Rumex crispis (c.dock)*	10%	no	FAC
6. *Plantago lanceolata (E.plantain)*	10%	no	FAC
7. *Achillea millefolium (yarrow)*	10%	no	FACU
8.	%		
Total Cover:	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum ____ %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50%	(A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by	
OBL species		x 1=	
FACW species		x 2=	
FAC species	3	x 3=	9
FACU species	4	x 4=	16
UPL species		x 5=	
Column Totals:	7 (A)		25 (B)

Prevalence Index = B/A = 3.60

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Providing supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

Indicators of hydric soil and wetland hydrology must be present

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks

SOIL

Sampling Point: TP-27

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type	Loc	Texture	Remarks
0-11"	10YR 4/2	100%		%			silt loam	
11-16"	10YR 4/3	100%		%			silt loam	
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains; Loc: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☐ Other (Explain in Remarks)

Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches):

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Frost-Heave Hummocks (D4)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ☐	No ☒	Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: Wetland criteria were not met.

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

Project/Site: Exit 66 - Proposed Lewis County Facility City/County: Lewis County Sampling Date: 11/18/2009
Applicant/Owner: Ruthie Brothers Architecture State: WA Sampling Point: TP-28
Investigator(s): Andrea Aberle Section, Township, Range: Sec. 1 T 12N R 2W, W.M.
Landform (hillslope, terrace, etc.): terrace Local relief: None Slope (%): 0.3%
Subregion (LRR): A Lat. 46°53'27" N Long: 122°52'47" W Datum: NGVD 29
Soil Map Unit Name: Lacamas silt loam NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes☒ No☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes☒ No☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐
Hydric Soils Present? Yes ☒ No ☐
Wetland Hydrology Present? Yes ☒ No ☐

Is the Sampled Area within a Wetland? Yes☒ No☐

Remarks: TP-28 is located within Wetland E

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Populus tremuloides (quaking aspen)*	10%	yes	FAC
2.	%		
3.	%		
4.	%		
5.	%		
Total Cover:	10%		
Herb Stratum			
1. *Carex obnupta (slough sedge)*	30%	yes	OBL
2. *Ranunculus repens (buttercup)*	30%	yes	FACW
3. *Agrostis capillaris (bentgrass)*	10%	no	FAC
4. *Juncus effusus (soft rush)*	10%	no	FACW
5. *Hypochaeris radicata (H c ear)*	10%	no	FACU
6. *Trifolium repens (w.clover)*	10%	no	FAC
7.	%		
8.	%		
Total Cover:	100%		
Woody Vine Stratum			
1.	%		
2.	%		
Total Cover:	%		

% Bare Ground in Herb Stratum ____ %

Dominance Test Worksheet

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet

Total % Cover of:		Multiply by	
OBL species	1	x 1=	1
FACW species	2	x 2=	4
FAC species	2	x 3=	6
FACU species	1	x 4=	4
UPL species		x 5=	
Column Totals:	6 (A)		15 (B)

Prevalence Index = B/A = 2.50

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes☒ No☐

Remarks: Inches of reed canarygrass

SOIL

Sampling Point: TP-28

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
		%		%				inundated soil pit
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				
		%		%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material
- ☒ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Inundated soil pit

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7)
- ☐ Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (inches): 0'
Water Table Present?	Yes ☒	No ☐	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☒	No ☐	Depth (inches):

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: High rainfall in days prior to data collection

Remarks: All three wetland criteria met

Appendix C

Western Washington Wetland Rating Forms

Wetland Rating Form – Western Washington
version 2

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2004 to reflect current science and improve ability to categorize

Name of wetland (if known): Wetland "A" Date of site visit: 12/21/2009

Rated by: T. Dugaly Trained by Ecology? Yes ☒ No ☐ Date of Training: 11/2008

SECTION: 1 TOWNSHIP: 12N RANGE: 23W Is WTWR in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure _____ Estimated size: 15,950sf (counted)

DRAFT 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	10
Score for Hydrologic Functions	5
Score for Habitat Functions	16
TOTAL Score for functions	31

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☐

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☐
Natural Heritage Wetland	☐	Riverine	☐
Bog	☐	Lake-fringe	☐
Mature Forest	☐	Slope	☒
Old Growth Forest	☐	Flats	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above	☐	Check if unit has multiple HGM classes present	☐

Comments

Wetland name or number: ____

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 Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Does the wetland have documented or 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 in the appropriate state or federal database.	☐	☒
SP2. *Does the wetland contain habitat for any State listed Threatened or Endangered animal species?* For the purposes of this rating system, "documented" means the wetland is in 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).	☐	☒
SP3. *Does the wetland contain individuals of Priority species listed by the WDFW for the state?*	☐	☒
SP4. *Does the wetland have a local significance in addition to its functions?* 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.	☐	☒

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Comments

Classification of Wetland Units in Western Washington

[illegible]

1. Are the water levels in the wetland usually controlled by tides (i.e. *except during floods*)?

☒ NO – go to 2 ☐ YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of normal low flow below 0.5 ppt (parts per thousand)? ☐ YES – Freshwater Tidal Fringe ☐ NO – Saltwater Tidal Fringe (estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the form for Riverine wetlands. If it is Saltwater Tidal Fringe it is called an Estuarine wetland. Wetlands can move or be moved from one class to another as the rating system evolves. Note: Salt Water Tidal Fringe in the Hydrogeomorphic Classification assumes wetlands were categorized separately in the earlier editions, and this separation is being kept in this version. To maintain consistency between editions, the term "Estuarine" wetland is used. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed over the years.

2. The entire wetland unit is flat and precipitation is the only source (>99%) of water to it. Water does not flow into the unit from surface water or groundwater, and surface water runoff does NOT exit the wetland as surface water.

☒ NO – go to 3 ☐ YES – The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.

3. Does the wetland 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 10% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ YES – The wetland class is **Lake-fringe (Littoral or Fringe)**

4. Does the wetland 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 underground, or through a channel, but water does not pool before it leaves the wetland.

☒ The water leaves the wetland without being impounded.

NOTE: *Surface water does not move in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).*

☐ NO – go to 5 ☒ YES – The wetland class is **Slope**

Comments

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

☐ The unit is in a valley, or a stream channel, where it gets inundated by overbank flooding from the stream or river

☐ The wetland unit flooding is not to a level more than a few inches

NOTE: *This wetland may be in the floodplain of a river or stream, but water does not pool to a level greater than a few inches.*

☐ NO – go to 6 ☐ YES – The wetland class is **Riverine**

6. Is the wetland in a topographic depression in which water ponds or is saturated to the surface at some time of the year. *This may not be any point if you are in the middle or lower elevations of the wetland.*

☐ NO – go to 7 ☐ YES – The wetland class is **Depressional**

7. Is the wetland located in a very flat area with no obvious depressions and no evidence of flooding. This unit does not pond surface water more than a few inches. The soil seems to be maintained by high ground water in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ YES – The wetland class is **Depressional**

8. If the wetland seems to be difficult to classify and probably contains several different HGM classes. For example, suppose the lower third of a property was a relatively flat alluvial plain with a small stream within a depressional wetland that has a zone of flooding along its sides. CHECK 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 classes to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the entire unit is 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 unit area.

HGM Classes within the wetland unit being rated	HGM Classes to use for rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE wetlands with special forms/criteria

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

Comments

Wetland name or number ___

	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that wetland and functions to improve water quality	Points (circle one or fill in blank)
S	S 1. Does the wetland have the potential to improve water quality?	(Max pts 6)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (i.e. flat or almost flat; water stays in place for long periods of time, or water flows in several directions) Slope is 2% - 5% Slope is 6% - 9% Slope is greater than 9%	points = 3 points = 2 points = 1 points = 0	2
S	S 1.2 The soil is underlain below the surface (or soil layer) is clay, organic muck, peat, or other impermeable material (NRCS definition) YES = 2 points NO = 0 points	0
S	S 1.3 Characteristics of the vegetation in the wetland for trapping sediments and pollutants. Choose the one most appropriate description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and that means for grass or grass-like plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of wetland area Dense, ungrazed, herbaceous vegetation > 50% of area Dense, woody vegetation > 50% of area Dense, ungrazed, herbaceous vegetation > 25% of area Does not meet any of the criteria above for vegetation Apply points of most-valuable vegetation polygon	points = 5 points = 3 points = 2 points = 1 points = 0	Points ___ 3
S	Total for S 1 Add the points to the score above	5
S	S 2. Does the wetland have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in ground water or surface water coming in to 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 (i.e. runoff from pollutants storage, farm animals, septic systems, lawns, etc. are origin of water that could improve water quality as opportunity). ☐ Discharge to the wetland is within 150 ft ☐ Direct stormwater discharges to wetland ☒ Tilled fields 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)	(Max pts 6) multiplier 2
S	TOTAL - Water Quality Functions: Multiply the score from S1 by S2. Add score to table on p. 7	10

Comments

Wetland name or number ___

	Slope Wetlands HYDROLOGIC FUNCTIONS - Indicators that wetland and functions to reduce flooding and stream erosion	Points (circle one or fill in blank)
S	S 3. Does the wetland have the potential to reduce flooding and erosion?	(Max pts 6)
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the most appropriate description that best fits vegetation in the wetland. Woody plants should be dense enough to slow water flow, or dense enough to cover the soil during surface flows. Dense, ungrazed, rigid vegetation covers >90% of area of the wetland. Dense, ungrazed, rigid vegetation >1/2 area of wetland Dense, ungrazed, rigid vegetation >1/4 area of wetland More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid	points = 5 points = 3 points = 1 points = 0	3
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can pond water over at least 10% of its area YES points = 2 NO points = 0	2
S	Add the points to the score above	5
S	S 4. Does the wetland have the opportunity to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream properties and public resources from flooding or excessive erosion (see S 3.0)? Note which of the following conditions apply: ☐ Wetland has surface runoff that drains to a river or stream that has flooding problems ☐ Other Comment: (If the slope wetland is controlled by a stormwater flow control facility, wetland is 'Depressional' for your site, do not score slope wetland.) ☐ YES (multiplier = 2) ☐ NO (multiplier = 1)	(Max pts 2) multiplier 1
S	TOTAL - Hydrologic Functions: Multiply the score from S 3 by S 4. Add score to table on p. 7	5

Comments

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS – indicators that wetland functions to provide important habitat | **Points** (circle one per box)

H 1. Does the wetland have the potential to provide habitat for many species?

H 1.1 Vegetation structure *(see p. 74)*

Check the types of vegetation classes present in the wetland. Must be mapped for each class to be scored as more than 1/10 of the area if your is smaller than 1/2 acre.

- [ ] Aquatic bed
- [x] Emergent plants
- [x] Scrub/shrub (areas where shrubs have >30% cover)
- [x] Forested (areas where trees have >30% cover)

If the wetland has a potential score check if:

- [ ] Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, nonvascular or vine) that each cover 20% within the forested polygon

Add the number of vegetation types that qualify. If you have:

Map of Cowardin vegetation classes	4 types or more	points = 3
	3 types	points = 2
	2 types	points = 1
	1 type	points = 0

Figure 2

H 1.2 Hydroperiods *(see p. 75)*

Check the types of water regimes (hydroperiods) observed within the wetland. The water regime has to cover more than 1/10 of the total wetland or ½ acre to count. (See list for descriptions of hydroperiods.)

[ ] Permanently flooded or inundated	4 or more types present	points = 3
[x] Seasonally flooded or inundated	3 types present	points = 2
[x] Occasionally flooded or inundated	2 types present	points = 1
[x] Saturated only		
[ ] Permanently flowing stream or river in, or adjacent to, the wetland		
[ ] Seasonally flowing stream or river in, or near, the wetland		
[ ] *Lake/pond wetland = 2 points*		
[ ] *Freshwater tidal wetland = 2 points*		

Figure ___

H 1.3 Richness of Plant Species *(see p. 75)*

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.

You do not have to name the species.

Do not include Reed canarygrass, purple loosestrife, Common Frogbit.

If you count:	> 19 species	points = 2
	5 - 19 species	points = 1
Lots of species but don't want to count	< 5 species	points = 0

1

Total for page 5

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

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

Figure 2

None = 0 points Low = 1 point Moderate = 2 points

High = 3 points (interspersion is added character)

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**

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 (no more than the total possible).

- [x] Large, fallen, woody debris within the wetland (>4 in diameter and 6 ft long).
- [x] Standing snags/diameter at bottom >24 in (dbh) in the wetland
- [ ] Hardwood trees present for at least 50 ft (20 m) and/or overhanging vegetation extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with, the wetland for a total of 33 ft (10 m)
- [ ] Stable stump banks of fine material that might be used by beaver or muskrat for denning (not rip-rap, stumps, HR stumps) and signs of recent beaver activity are present (not "old" or "very old" based on lack of cut wood, peeled wood)
- [ ] At least 2 acres of the wetland is part of a wildlife corridor connecting it to other habitat areas that are permanently or seasonally inundated (streams/rivers, lagoons, lakes)
- [ ] Interspersion/juxtaposition of vegetation classes covers at least 25% of the wetland area in each category of class

Note: The 25% stated in each percentage of the wetland on page 78 is an error.

2

H 1. TOTAL Score – potential for providing habitat
Add the scoring from H 1.1, H 1.2, H 1.3, H 1.4, H 1.5

9

Comments:

II 2. Does the wetland have the opportunity to provide habitat for many species?

Figure__

II 2.1 Habitat (See p. 80)
Refer to the description that best represents conditions of buffer of wetland. The original narrative criterion that applies to the rating system is used as a reference. See text for definition of "relatively undisturbed."

- ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >75% of circumference. No structures are within the undisturbed part of buffer. Relatively undisturbed also means no grazing, no landscaping, no debris in main body. Points = 5
- ☐ 100 m (330 ft) of relatively undisturbed vegetated cover, rocky areas, or open water >50% circumference. Points = 4
- ☐ 50 m (150 ft) of relatively undisturbed vegetated cover, rocky areas, or open water >75% circumference. Points = 4
- ☒ 100 m (330 ft) of relatively undisturbed vegetated cover, rocky areas, or open water >25% circumference. Points = 3 — 3
- ☐ 50 m (150 ft) of relatively undisturbed vegetated cover, rocky areas, or open water >50% circumference. Points = 3

If buffer does not meet any of the three criteria above

- ☐ No paved areas (except paved trails) or buildings within 25 m (80 ft) of wetland and >50% circumference. Light, moderate grazing, or lawns are OK. Points = 2
- ☐ No paved areas or buildings within 50 m (150 ft) of wetland for >75% of its circumference. Light to moderate grazing or lawns are OK. Points = 2
- ☐ Heavy grazing in buffer. Points = 1
- ☐ Vegetated buffer are <2 m wide (6.6 ft) for more than 25% of the circumference (e.g. tilled fields, pasture, bare ground to edge of wetland). Points = 0
- ☐ Buffer does not meet any of the criteria above. Points = 1

Aerial photo showing buffer

II 2.2 Corridors and Connections (See p. 81)
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, have at least 50% cover of shrubs or forest, and connects to a stream, other wetlands or undisturbed uplands that are at least 250 acres in size? (Have to separate corridors from simply wooded roads, utility roads, or corridors for buildings in the corridor).

☐ YES = 4 points (go to H 2.3) ☒ NO = go to H 2.2.2

H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50 ft wide, has at least 50% cover of shrubs or forest, and connects to a stream, 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? — 1

☐ YES = 2 points (go to H 2.3) ☒ NO = H 2.2.3

H 2.2.3 Is the wetland
within 5 mi (8 km) of a freshwater or salt water estuary OR
within 5 mi of a large lake or reservoir (>40 acres) OR
within 1 mi of a lake greater than 20 acres?

☒ YES = 1 point ☐ NO = 0 points

Total for page: 4

H 2.3 Nearshore and local/regional priority habitats listed in WDFW *(See text and complete description of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://www.wa.gov/wdfw/hab/phsmain.htm)*

Watch for the following priority habitats: [illegible]

- ☐ 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 rock.
- ☐ Old-growth/Mature Forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a closed canopy with a minimum of small openings, with at least 120 live trees (> 6 in dbh) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with a variety of tree sizes, averaging 53 cm (21 in) dbh; crown cover may be less than 100%; snags, down woody material, 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 mixed oak and conifer associations where canopy coverage of the oak component is important. (WDFW priority habitat p. 152)
- ☐ 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 on the form of a dry prairie or a wet prairie. (WDFW priority habitat p. 161)
- ☐ Instream: The aquatic habitat, physical, biological, and chemical processes and conditions that exist to provide functional life history requirements for fish and wildlife resources. — 0
- ☐ Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (For descriptions of habitats within the definition of nearshore, see pp. 165-166 and glossary in Appendix A)
- ☐ Caves: Naturally occurring cavity, cave, void, or system of interconnected passages under the earth in soil, 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 1700 m.
- ☐ Talus: Homogeneous areas of rock rubble ranging in average size 0.15 - 2.5 m (5 - 8.5 ft), composed of basaltic andesite, and/or sedimentary rock, including scree, the talus slope, and talus fan. May be associated with cliffs.
- ☐ Snags and Large Trees (considered snags if they are dead or dying and have over several decades characteristics that develop through decay or wildlife): Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and > 9 m (8.5 ft) tall. Priority trees > 40 cm (17.5 in) in diameter at the larger end, and > 6 m (20 ft) tall.
  - If wetland has 3 or more priority habitats = 4 points
  - If wetland has 2 priority habitats = 2 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 the list. Wetlands with rare plants are addressed in question H 3.4.

Wetland Rating Form____

II.2.1 Wetland Landscape *(choose the one description of the landscape around the wetland that best fits (see p. 84)* ☐ There are at least 3 other wetlands within ½ mile, but the corridors between them are relatively undisturbed (light grazing between wetlands OK, no is lake shore with some boating, but corridors could NOT be bisected by paved roads, fill, fields, or other development. points = 5 ☐ The wetland is lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5 ☑ There are at least 3 other wetlands within ½ mile, BUT the corridors between them are disturbed points = 3 ☐ The wetland is lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 3 ☐ There is at least 1 wetland within ½ mile. points = 2 ☐ There are no wetlands within ½ mile. points = 0	3
II.2. TOTAL Score opportunity for providing habitat *Add the scores in the criteria above*	7
TOTAL Pt. II.1 from page 15	9
Total Score for Habitat Functions Add the points for II.1, II.2 and record the result on p. 3	16

Comments

Wetland name or number: ____

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Ecology Pub. 04-06-025 (revised August 2004 to incorporate scoring changes for Hydro Functions in Appendix D)

Name of wetland (if known): Wetlands "B, E, F, V, N, O, P and T" Date of site visit: 6/21-26/07

Rated by: A. Aberle Trained by Ecology? Yes ☒ No ☐ Date of Training: 1/02/05

SECTION: 1 TOWNSHIP: 12N RANGE: 2W Is S/T/R in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure ____ Estimated size <1,000 sf

DRAFT 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	10
	Score for Hydrologic Functions	5
	Score for Habitat Functions	7
	TOTAL Score for functions	22

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ III ☐ Does not Apply ☐

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☒
Natural Heritage Wetland	☐	Riverine	☐
Bog	☐	Lake fringe	☐
Mature Forest	☐	Slope	☐
Old Growth Forest	☐	Flat	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above	☐	Check that has multiple HGM classes present	☐

Comments

Wetland name or number: ____

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 Ecology's guidelines regarding the special characteristics found in the wetland.

Check List for Wetlands That Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland been documented as habitat for an Federally listed Threatened or Endangered animal or plant species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is in the appropriate state or local database.	☐	☒
SP2. *Has the wetland 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 in 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).	☐	☒
SP3. *Does the wetland contain populations of Priority species listed by the WDFW for the state?*	☐	☒
SP4. *Does the wetland have a local significance in addition to its functions?* 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 design features.	☐	☒

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of the wetland can be determined using the key below. See p. 44 for more detailed instructions on classifying wetlands.

Comments

Wetland name or number____

Classification of Wetland Units in Western Washington

1. Does the water ever in the wetland mostly contained by sides (i.e. except running floods)?

☒NO – go to 2 ☐YES – the wetland class is Tidal Fringe

If yes, is the salinity of the water during periods of normal low flow below 0.5 ppt (parts per thousand)? ☐YES – Freshwater Tidal Fringe ☐NO – Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is called an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were in the rating system in the earlier editions, and this separation is being kept in this version. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed from p. 1

2. Does entire wetland unit lie fore and aft (upstream and downstream) of a tidally source (>95%) of water to it? Or, in the case of the surface water flow, is NOT sources of water to the unit?

☒NO – go to 3 ☐YES – the wetland class is Flats

If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands

3. Does the wetland meet both of the following criteria?

☐ The vegetated part of the wetland is on the shore 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 6.6 ft (2 m)?

☒NO – go to 4 ☐YES – The wetland class is Lake Fringe (Lacustrine Fringe)

4. Does the wetland meet all of the following criteria?

☐ The wetland is in a topographic depression (water can be very deep).

☐ The water flows through the wetland in one direction (unidirectional) and has a permanent inlet and outlet. It may flow year-round, seasonally, or in a single episode of short duration.

☐ The water leaves the wetland without being impounded?

NOTE: *Slope wetlands do not usually have this type of hydrology, except in cases where small or intermittent depressions or related hummocky topography are severely affected by ditches and tiles that drain them.*

☒NO – go to 5 ☐YES – The wetland class is Slope

Comments

Wetland name or number____

5. Does the wetland meet all of the following criteria?

☐ It is in a valley, or a depressional area in a valley, or in a stream channel, where it gets inundated by overbank flooding from that stream or river.

☐ The overbank flooding occurs at least once every two years.

NOTE: *Do not count backwater or backwater flooding as overbank flooding.*

☒NO – go to 6 ☐YES – The wetland class is Riverine

6. Is the wetland in a topographic depression in which water ponds or accumulates at some time of the year? *This means that topographic elevation is higher along the perimeter of the wetland.*

☐NO – go to 7 ☒YES – The wetland class is Depressional

7. Is the wetland located in a very flat area with no discernible depression and no overbank flooding? The wetland should pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be diked, but it is not a farmed wetland.

☐NO – go to 8 ☐YES – The wetland class is Depressional

8. Your wetland seems to be difficult to classify and probably contains several different HGM classes. For example, except in the case of a slope, may grade into a riverine floodplain, or may contain within a depressional wetland have areas of flooding along its sides. GO BACK AND RATE THE WETLAND ON THE EVALUATION QUESTIONS DESCRIBED IN QUESTIONS D1 AND D2 ON DIFFERENT AREAS IN THE UNIT (you may wish to keep you decisions). Use the following table to identify the appropriate class to use for rating, if you have several HGM classes present within your wetland. NOTE: Use this table only if the class to be recommended in the second column represents more than 30% 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 30% of the total area.

Hydro Type that the wetland may have several	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along small non-tidal stream	Depressional
Depressional + Lake Fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

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.

Comments

	Depressional and Flats Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland is functioning to improve water quality	Points (circle one or write in)
D	**D 1. Does the wetland have the potential to improve water quality?**	(see p.50)
D	D 1.1 Characteristics of surface water flows out of the wetland Outlet is a depression or flat area (no surface water leaving it (or only by pipe)) points = 3 Outlet is a constricted, slightly flowing, OR, if you cannot tell, permanently flowing outlet points = 2 Outlet is unconstricted, or slightly constricted, but water is permanently flowing points = 1 There is no "outlet" (no depression OR, if a lake, it is the flat lake bed, with no surface outlet, and no distinguishable inlet, or a lake with no inlet and no outlet) (If there is no permanently flowing outlet or "outlet" is only flowing) Provide sketch or drawing	Figure 3
D	D 1.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet. (If a pipe with a water surface from the system of permanent water is designed to pond, use that as the outlet.) Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The wetland is a "depressional" wetland with no outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 1 ft to < 2 ft from surface or bottom of outlet points = 3 Wetland is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1 Marks of ponding less than 1 ft points = 0	Figure 0
D	D 1.3 Characteristics of persistent vegetation (one or more: shrubs and/or forest cover) Wetland has persistent, ungrazed, vegetation >= 90% of area points = 5 Wetland has persistent, ungrazed, vegetation >= 1/2 of area points = 3 Wetland has persistent, ungrazed vegetation >= 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0 Map of Cowardin vegetation classes	Figure 0
D	D 1.4 Characteristics of seasonal ponding or inundation *This is the area that is ponded for at least 2 months, but does not normally stay ponded. Do not count the area that is permanently ponded. Describe area as it is in average condition (see p.13)>>>* Area seasonally ponded is > 1/2 total area of wetland points = 4 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland points = 0 Map of Hydroperiods	Figure 3
D	**Total for D 1** *Add the points in the boxes above*	5
D	**D 2. Does the wetland have the opportunity to improve water quality?**	(see p.49)
	Answer YES if you know or believe there are pollutants (e.g. 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 source of pollutants. (Answer only have pollutants coming from several sources, for only single source would qualify as opportunity.) ☒ Grazing in the wetland or within 150 ft ☐ Dairy farm or other intensive livestock operation within 1 mile upstream or within 1/2 mile downstream ☐ Intensive row crop agriculture within 150 ft of wetland ☐ A stream or ditch carrying water into the wetland that receives runoff from pastures, farms, farm roads, or agriculture ☐ Residential, urban areas, or commercial areas within 150 ft of wetland ☐ Septic systems or other sewage treatment facilities within 1 mile upstream or within 1/2 mile downstream ☐ Other _____ ☒ YES multiplier is 2 ☐ NO multiplier is 1	multiplier 2
D	TOTAL Water Quality Functions Multiply the score from D1 by 1/2 *Add score to table on p. 1*	10

	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and erosion	Points (circle one or write in)
	D 3. Does the wetland have the potential to reduce flooding and erosion?	(see p.46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit Outlet is a depression or flat area (no surface water leaving it (or only by pipe)) points = 7 Outlet is an intermittently flowing, OR, highly constricted permanently flowing outlet points = 2 Outlet is unconstricted, or slightly constricted, but water is permanently flowing points = 1 There is no "outlet" (no depression OR, if a lake, wetland is a flat lake bed, with no surface outlet, and no distinguishable inlet, or a lake with no inlet and no outlet) (If there is not permanently flowing outlet or "outlet" is only flowing) Outlet is unconstricted, or slightly constricted, but water is permanently flowing points = 0	Figure 4
D	D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet. (If a pipe with a water surface from the system of permanent water is designed to pond, use that as the outlet.) Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The wetland is a "depressional" wetland with no outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 1 ft to < 2 ft from surface or bottom of outlet points = 3 Wetland is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1 Marks of ponding less than 1 ft points = 0	Figure 1
D	D 3.3 Contribution of wetland to storage in the watershed *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland itself.* The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire unit is in the FLATS class points = 5	Figure 0
D	**Total for D 3** *Add the points in the boxes above*	5
D	**D 4. Does the wetland have the opportunity to reduce flooding and erosion?** Answer YES if the wetland is in a location in the watershed where the flood storage or retention or water velocity reduction helps protect critical or valuable property and aquatic resources from flooding or excessive water flows. Answer NO if the water coming into the wetland is caused all by a structure such as flood gate, tide gate, flow valve, manmade dam. OR, you estimate that more than 50% of the water in the wetland is from groundwater and is not where damaging groundwater flooding does not occur. Note which of the following conditions of opportunity apply. ☐ Wetland is in headwaters of a river or stream that has flooding problems ☐ Wetland drains to a river or stream that has flooding problems ☐ Wetland is in a basin and can intercept water that might otherwise flow into a river or stream that has flooding problems ☐ Other _____ ☐ YES multiplier is 2 ☒ NO multiplier is 1	See p.46 multiplier 1
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 *Add score to table on p. 1*	5

Comments

Wetland name or number

S	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that wetland will function to improve water quality	Points
S	S 1. Does the wetland have the potential to improve water quality?	(page 66)
S	S 1.1 Characteristics of average slope of wetland: Slope > 15% (i.e. rise in 15% slope has a 15 foot vertical drop in elevation for every 100 ft horizontal distance) ..... points = 3 Slopes 11% - 15% points = 2 Slopes 5% - 10% points = 1 Slope is greater than 5% points = 0	
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (USDA definitions) YES = 3 points NO = 0 points	
S	S 1.3 Characteristics of the vegetation in the wetland that impede sediment and pollutants: *Choose the points appropriate for the dominant class that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% ground cover), and there is very little open water or exposed soil. Plants are alive when they are in leaf.* Dense, ungrazed, herbaceous vegetation > 90% of wetland area points = 6 Dense, ungrazed, herbaceous vegetation > 50% of area points = 5 Dense, mowed vegetation > 50% of area points = 3 Dense, ungrazed, herbaceous vegetation > 50% of area points = 1 Does not meet any of the criteria above for vegetation points = 0 Add points if site is treated with herbicides or pesticides	Points___
S	Total for S 1 *Add the points in the boxes above*	
S	S 2. Does the wetland have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water entering the wetland that would otherwise reduce water quality in streams, lakes or estuaries downgradient from the wetland? *Your answer of "yes" to any of the following conditions provide the sources of pollutants (which may have contributed over time) from several sources, but any single source would qualify as opportunity.* ☐ Grazing in the riparian or within 50 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 ft of wetland ☐ Residential, urban areas, or golf courses within 150 ft upslope of wetland ☐ Other ___ ☐ YES - multiplier = 2 ☐ NO - multiplier = 1	(page 67) multiplier
S	TOTAL - Water Quality Functions - Multiply the score from S1 by S2 *Add score to table on p. 1*	

Comments

Wetland name or number

S	Slope Wetlands HYDROLOGIC FUNCTIONS - Indicators that wetland will function to reduce flooding and stream erosion	Points
S	S 3. Does the wetland have the potential to reduce flooding and erosion?	(page 68)
S	S 3.1 Characteristics of vegetation that slows the velocity of surface flows during storms. *Choose the point appropriate for the description that best fit conditions in the wetland. Score of zero should be rare, a high point (>20 %) or more should be rarely seen during storm flows.* Dense, mown, rigid vegetation covers >90% of area of the wetland points = 6 Dense, mown, rigid vegetation > 1/2 area of wetland points = 3 Dense, mown, rigid vegetation > 1/4 area of wetland points = 1 More than 1/4 of area is mown, mowed, flattened vegetation is not rigid points = 0	
S	S 3.2 Characteristics of surrounding and downslope soils and geomorphic units of Cowlitz Type: The slope wetland has one landform or geomorphic unit that can retain water over at least 10% of its area. YES points = 4 NO points = 0	
S	*Add the points in the boxes above*	
S	S 3.4. Does the wetland have the opportunity to reduce flooding and erosion? If the wetland is a flat, depressional site where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive sediment loads? *Mark one of the following conditions as yes.* ☐ Wetland has outlet that drains to a river or stream that has flooding problems ☐ Other *Answer YES if the major source of water is controlled by a structure (e.g. weirs in a stop log) to the downstream side of the slope.* ☐ YES - multiplier = 2 ☐ NO - multiplier = 1	(page 70) multiplier
S	TOTAL - Hydrologic Functions - Multiply the score from S 3 by S 4 *Add score to table on p. 1*	

Comments

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTION – questions for wetlands in Western Washington to provide habitat for many species

Points (circle one per box)

H 1 Does the wetland have the potential to provide habitat for many species?

H 1.1 Vegetation structure *(see p. 22)*

Check the types of vegetation classes present in the wetland. Consider the classes for which there is 5 acres or more (1/4 of the area if the wetland is smaller than 20 acres).

- ☐ Aquatic bed
- ☒ Emergent plants
- ☐ Scrub/shrub (persistent or non-persistent; > 30% cover)
- ☐ Forested (trees where mature have >30% cover)

If the wetland is forested then check if:

- ☐ Forested (trees have 5 or more different sizes or heights, shrubs, herbaceous or mosses/ferns/lichens covering at least 20% of the forested polygon)

Add the number of vegetation types that qualify. If you have:

Map of Cowardin vegetation classes	4 types or more	score = 4
	3 types	score = 2
	2 types	score = 1
	1 type	score = 0

Figure__ 0

H 1.2 Hydroperiods *(see p. 75)*

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 2 acres to count. (See text for descriptions of hydroperiods.)

- ☐ Permanently flooded or impounded
- ☑ Seasonally flooded or inundated
- ☐ Occasionally flooded or inundated
- ☒ Saturated only
- ☐ Permanently flowing stream or river in, or adjacent to, the wetland
- ☐ Seasonally flowing stream or river in, or adjacent to, the wetland
- ☐ Lake/pond adjacent to wetland – 2 points
- ☐ Freshwater tidal wetland – 2 points

4 or more types present:	points = 3
3 types present:	points = 2
2 types present:	points = 1

Figure__ 1

H 1.3 Richness of Plant Species *(see p. 75)*

Count the number of plant species in the wetland that cover at least 10 ft². (Different species of trees and shrubs can be combined to meet the 10 ft² threshold.)

You do not have to name the species.

Do not include species in the aquatic area, noxious weeds, purple loosestrife, Canadian thistle.

If you counted:	> 19 species	points = 2
	5 - 19 species	points = 1
Categories below if you want to	< 5 species	points = 0

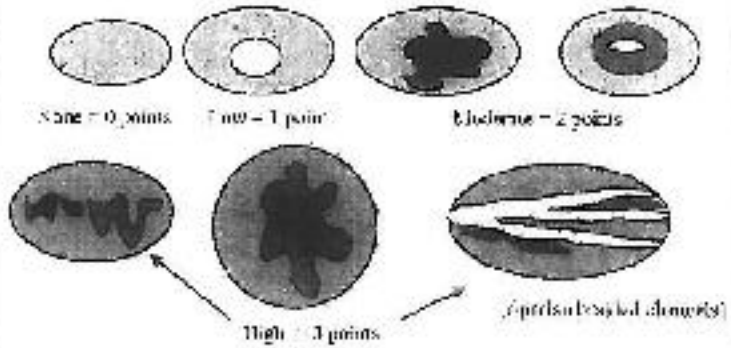
1

Total for page: 2

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 classes and non-vegetated areas (which include open water or mudflats) is high, medium, low, or none.

Figure__ 1



NOTE: If you have four or more classes or three vegetation classes and open water in rating, it always "high".

Use map of Cowardin vegetation classes

H 1.5 Special habitat features *(see p. 77)*

Check the habitat features that are present in the wetland. The number of features is the number of points you get for this section.

- ☐ Large, diverse, woody debris within the wetland (>4 in. diameter and 6 ft long)
- ☐ Standing snags (diameter at bottom >4 inches) in the wetland
- ☐ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging vegetation extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)
- ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30 deg. slope) OR signs of beaver activity are present (gnawed stumps or trees, dams, lodges, etc.)
- ☐ At least 1/4 acre of fine-stemmed persistent emergent or scrub/shrub wetland present in areas that are permanently or seasonally inundated (for activity for egg-laying by amphibians)
- ☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants (note: the 25% cover is only percentage of the species on page 22 in question)

H 1.5 TOTAL Score – potential for providing habitat: *add the scores from H 1.1, H 1.2, H 1.3, H 1.4, H 1.5*	2

Comments:

H. 3. Does the wetland have the opportunity to provide habitat for many species?	
H. 3.1 Buffer score (p. 89) *Choose the description that best represents condition of buffer of wetland. Use sight and aerial photo to see what is present at the rating. See text for definition of "undisturbed".*	Figure ___
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% 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 (165 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% circumference. Points = 4	1
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference. Points = 3	
☐ 50 m (165 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for >50% circumference. Points = 2	
If buffer does not meet any of the three criteria above	
☐ No paved areas (except paved trails) or buildings within 25 m (80 ft) of wetland >25% circumference. Light to moderate grazing, or mowing OK. Points = 2	
☐ No paved areas or buildings within 50 m (165 ft) of wetland for >50% circumference. Light to moderate grazing or mowing OK. Points = 2	
☒ Heavy grazing in buffer. Points = 1	
☐ Vegetated buffer are <25 m wide (82 ft) for more than 50% of the circumference (e.g. lawns, crops, grazing, bare ground) or is not to scale of wetland. Points = 0	
☐ Buffer does not meet any of the criteria above. Points = 0	
Aerial photo showing buffer	
H. 3.2 Corridors and Connectivity (see p. 89) H. 3.2.1 Is the wetland part of a relatively undisturbed riparian corridor, vegetated corridor (other riparian or upland) that is at least 100 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to streams, other wetlands or undisturbed uplands that are at least 100 acres in size? (Power or pipeline corridors, mowed roads, cleared roads, are considered breaks in the corridor.) ☐ Y = 4 points (go to H. 3.3) ☒ N = 0 (go to H. 3.2.2)	
H. 3.2.2 Is the wetland part of a relatively undisturbed riparian corridor, vegetated corridor (other riparian or upland) that is at least 100 ft wide, has at least 30% cover of shrubs or forest, and connects to streams, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an inlet, does it connect to the open water?	1
☐ Y = 4 points (go to H. 3.3) ☒ N = 0 (go to H. 3.3)	
H. 3.3 Is the wetland within within 3 miles (5 km) of a breeding colony OR within 1 mile (1.6 km) of a large (>50 acres) lake OR within 1 mile of a lake greater than 20 acres?	
☒ Y = 1 point ☐ N = 0 points	

Total for page: 2

H. 3.4 Is the wetland in a priority habitat listed by WDFW (see www and compare the priorities of WDFW priority habitats and the wetlands in which they can be found, in the PHS report (www.wdfw.wa.gov/hab/phsmain.htm) Wetland has the following priority habitats within 330 ft (100 m) of its boundary (mark all that apply or none if not applicable): ☐ 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 undisturbed in various stages of succession and provide habitat for many species (see "DOFW PHS report" p. 153). ☐ Herbaceous Balds: Variable size patches of grass and shrubs on shallow soil over bedrock. ☐ Old-growth/Mature forest: (Old-growth was old-growth west of Cascade crest) Stands of at least 2 tree species, forming 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 with canopy cover of the live trees that is 100% canopy cover or less than 60% decay, decadence, number of snags and quantity of large downed material is generally less than the stand in old-growth (80 - 200 years old west of the Cascade crest). ☐ Oregon White Oak Woodland: Stands of pure oak or oak with a variety of other hardwood tree species, canopy coverage of the oak component is important (Oak decision tree in PHS/DOFW PHS report p. 155). ☐ 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 Prairie: Herbaceous, non-forested plant communities that can either take the form of dry prairie or wet prairie (Prairie decision tree in PHS/DOFW PHS report p. 161). ☐ Instream: The combination of physical, biological, and chemical processes and conditions that exists 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 (for descriptions of habitats and the definition of relatively undisturbed see the WDFW report, pp. 167-169 and glossary in Appendix A). ☐ Caves: A naturally occurring cavity, void, or system of interconnected passages under the earth in soil, rock, ice, or other geological formations and is large enough to enter in a human. ☐ Cliffs: Greater than 7.6 m (25 ft) high and occurring below 1000 ft. ☐ Talus: Homogeneous accumulations of rock and/or rubble, at least 20 m (20 ft) wide, composed of basalt or acidic, and/or sedimentary rock, including ripap slides and talus slopes. 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 by wildlife. Point snags have a diameter at breast height of > 51 cm (20 in) in Western Washington and are > 2 m (6.5 ft) in height. Pileated logs are > 50 cm (12 in) in diameter at the larger end, and > 5 m (16 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 = 2 points No habitats = 0 points *Note: All vegetated wetlands are by definition a priority habitat and are not included in the PHS. Nearby wetlands are addressed in question H. 2. 0.*	0

H 3.4 Wetland Landscape *(choose the one description of the landscape around the wetland that best fits) (see p. 14)* ☐ There are at least 3 other wetlands within ¼ mile and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is blocked, or with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development) points = 3 ☐ The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ¼ mile points = 3 ☒ There are at least 3 other wetlands within ¼ mile, BUT the connections between them are disturbed points = 3 ☐ The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within ¼ mile points = 3 ☐ There is at least 1 wetland within ¼ mile points = 2 ☐ There are no wetlands within ¼ mile points = 0	3
H 3 TOTAL Score – opportunity for providing habitat *Add the scores in the column above*	5
TOTAL for H 1 from page 14	2
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	7

Comments

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 Updated [illegible]

Name of wetland (if known): Wetland C Date of site visit: 10-27-09

Rated by: A. Abedie Trained by Ecology? Yes ☒ No ☐ Date of Training: 10-06

SECTION: 1 TOWNSHIP: 12N RANGE: 2W [illegible] in Appendix 1? Yes ☐ No ☒

Map of wetland unit: Figure ____ Estimated size: 1,495 sf

DRAFT SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☐ IV ☒

Category I – Score >= 70	Score for Water Quality Functions: 14
Category II – Score 51-69	Score for Hydrologic Functions: 4
Category III – Score 30-50	Score for Habitat Functions: 6
Category IV – Score < 30	TOTAL Score for Functions: 24

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☐

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☒
Natural Heritage Wetland	☐	Riverine	☐
Bog	☐	Lake-fringe	☐
Mature Forest	☐	Slope	☐
Old Growth Forest	☐	Flats	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above	☐	Check if unit has multiple HGM classes present	☐

Comments

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 Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland been documented as a habitat for any Federally Listed Threatened or Endangered animal or plant species (US species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	☐	☐
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).	☐	☐
SP3. *Does the wetland contain individuals of Priority species listed by the WDFW for the state?*	☐	☐
SP4. *Does the wetland have a more significance in addition to its functions?* 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.	☐	☐

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Comments

Classification of Wetland Units in Western Washington

1. Are the water levels in the wetland tidally controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ YES – the wetland class is Tidal Fringe

If yes, is the salinity of the water during periods of normal low (low tide) flow less than 0.5 parts per thousand? ☐ YES – Freshwater Tidal Fringe ☐ NO – Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the form for Riverine wetlands. If it is Saltwater Tidal Fringe it is called an Estuarine wetland. Wetlands that were called estuarine in the old classification system are called Saltwater Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is retained in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. [illegible]).

2. Is the entire wetland unit flat and precipitation is the only source (>99%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

☒ NO – go to 3 ☐ YES – The wetland class is Flat

If your wetland can be classified as a "Flat" wetland use the form for Depressional wetlands.

3. Does the wetland meet both of the following criteria?

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

☐ At least 50% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ YES – The wetland class is Lake Fringe (Littoral)

4. Does the wetland meet all of the following criteria?

☐ The wetland lies on a slope (or has been on a slope, if it has been altered) and

☐ The water flows through the wetland in one direction (unless blocked by beaver dams) and usually comes from seeps. It may flow subsurface, as shallow, or in a channel without distinct banks.

☐ The water leaves the wetland without being impounded?

NOTE: *Depressional wetlands may have seeps in them, but water does not pond in these types of wetlands except occasionally or very small and shallow depressions or ponding occurs because water cannot flow through the wetland fast enough.*

☒ NO – go to 5 ☐ YES – The wetland class is Slope

Comments

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

☐ The unit is in a valley or on a stream channel, where it gets inundated by overbank flooding from that stream or river

☐ The overbank flooding occurs at least once every two years.

NOTE: *Do not count areas in which water ponds for less than a few days, or areas that are flooded only by water whose source is rainfall or groundwater.*

☐ NO – go to 6 ☐ YES – The wetland class is Riverine

6. Is the wetland in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This must be the topographic depression, if present, in which the bottom of the wetland is located.*

☐ NO – go to 7 ☒ YES – The wetland class is Depressional

7. Is the wetland located in a very low area with no or little evidence of surface water flowing through it? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in this area. The wetland may be flooded, but this is not its normal hydrology.

☐ NO – go to 8 ☐ YES – The wetland class is Depressional

8. Your wetland seems to be difficult to classify and probably contains several different HGM classes. For example, seeps in the lower 1/3 of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland may have areas of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HGM CLASSES 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 or use the decision tree (next page) 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 vegetation of the wetland as it is delineated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that may occupy more than 50% of the wetland.

What Class were the wetland units listed in?	What Class is the wetland?
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along a stream within its boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetland with multiple characteristics

If you are unable to determine which of the above criteria apply to your wetland, or you have more than 3 HGM classes within a wetland boundary, classify the wetland as Depressional for scoring.

Comments

D	Depressional and Flat Wetlands WATER QUALITY FUNCTION – Indicators that the wetland can function to improve water quality	Points (only 1 score per box)
D	D 1. Does the wetland have the potential to improve water quality?	(see p.40)
D	D 1.1 Characteristics of surface water flows out of the wetland. Depressional with no surface water flowing (or ponded) — points = 3 Slightly depressional or flat, OR highly ponded, permanently flowing outlet — points = 2 Ponded depressional or flat, OR seasonally ponded, or flows seasonally — points = 1 Outlet "flat" (no slope), OR no outlet, OR outlet is a culvert, or flows underground or stagnant ditch — points = 0 (If there is no permanently flowing outlet, or it is "intermittently flowing", consider it as seasonally flowing.) Private paths or crossing	Figure ____ 3
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (i.e. NRCS definitions) YES — points = 4 NO — points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest canopy): Wetland has persistent, ungrazed, vegetation >= 5/6 of area — points = 5 Wetland has persistent, ungrazed, vegetation >= 1/2 of area — points = 3 Wetland has persistent, ungrazed vegetation >= 1/10 of area — points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area — points = 0 Map of Cowardin vegetation classes	Figure 0
D	D 1.4 Characteristics of seasonal ponding or inundation. This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 3 out of 10 years. Area seasonally ponded is > 1/2 total area of wetland — points = 4 Area seasonally ponded is > 1/4 total area of wetland — points = 2 Area seasonally ponded is < 1/4 total area of wetland — points = 0 Maps of Hydrologic Units	Figure ____ 4
D	Total for D 1 — Add the points in the boxes above	7
D	D 2. Does the wetland have the opportunity to improve water quality? Answer YES if you think or believe there are sediments, toxic pollutants, or nutrients in water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Look at each of the following continuous pathways for the sources of sediments, toxics and nutrients. Answer YES if any of these pathways are present, but any single source would qualify as appropriate. ☒ Coming in the wetland in water (i.e. ...) ☐ Contains a stormwater discharge to wetland ☐ Land adjacent or close within 150 ft. to wetland ☐ A stream or culvert discharges into wetland that receives runoff from urban areas, or from agricultural or other lands ☐ Farm fields, other areas, pollutants within 150 ft of wetland ☒ Wetland is fed by groundwater high in phosphorus or nitrogen ☐ Other: ____ ☒ YES — multiplier is 3 ☐ NO — multiplier is 1	(see p.40) multiplier 2
D	TOTAL - Water Quality Functions — Multiply the scores from D1 by D2 Add score to table on p. 2	14

D	Depressional and Flat Wetlands HYDROLOGIC FUNCTION – Indicators that wetland functions to reduce flooding and stream erosion	Points
	D 3. Does the wetland have the potential to reduce flooding and erosion?	(see p.40)
D	D 3.1 Characteristics of surface water flows out of the wetland unit. Outlet is depressional with no surface water flowing (or ponded) — points = 4 Outlet is constricted, slowly flowing, OR highly ponded, permanently flowing outlet — points = 2 Outlet is depressed or flat, but has a well-defined channel, with permanent surface water — points = 1 Outlet is not depressed, flowing freely, with a well-defined channel — points = 0 (If there is no permanently flowing outlet, or it is "intermittently flowing", consider it as seasonally flowing.) Outlet is a culvert, or ditch, or pipe, or other man-made feature that clearly restricts flow — points = 2	Figure 0
D	D 3.2 Depth of storage during wet periods. Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry). Maximum ponding are 1 ft or more above the surface or bottom of outlet — points = 7 The wetland is a "headwater" wetland — points = 5 Maximum ponding between 2 ft. to < 3 ft. from surface or bottom of outlet — points = 4 Maximum ponding between 0.5 ft. to < 2 ft. from surface or bottom of outlet — points = 3 Wetland is flat (just 1 - 0.2 ft. deep), but has small depressions on the surface that trap water — points = 2 Maximum ponding less than 0.5 ft. — points = 1	Figure 0
D	D 3.3 Contribution of wetland to storage in the watershed. Estimate the ratio of the area of upgradient land contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of unit — points = 5 The area of the basin is 10 to 100 times the area of the unit — points = 3 The area of the basin is more than 100 times the area of the unit — points = 0 Entire basin is in the CLASS class — points = 5	Figure ____ 0
D	Total for D 3 — Add the points in the boxes above	4
D	D 4. Does the wetland have the opportunity to reduce flooding and erosion? Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity it provides, helps prevent downstream property damage, including erosion and/or erosive flows. Answer NO if the water coming into the wetland is mostly held by a downstream structure (i.e. culvert, tide gate, dike, reservoir, etc.). Or, you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging surface flooding and erosion do not occur. Wetland is in the following categories of depressions or flats: ☐ Wetland is in a headwater or a river or stream that has flooding problems ☐ Wetland is in the lower or middle part of a river that has flooding problems ☐ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems ☐ Other: ____ ☐ YES — multiplier is 2 ☒ NO — multiplier is 1	(see p.40) multiplier 1
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 2	4

Continue with

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat | **Points**

H 1. Does the wetland have the potential to provide habitat for many species?

H 1.1 Vegetation structure *(see p. 72)*

Check the type of vegetation classes present (as defined by Cowardin class identifiers) for each class to be scored as more than 10% of the area of unit or smaller than 2.5 acres.

- ☐ Aquatic bed
- ☒ Emergent plants
- ☐ Scrub/shrub (areas where shrubs have >30% cover)
- ☐ Forested (areas where trees have >30% cover)

If the unit has a forested class check if:

- ☐ Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, non-vascular or moss) that each cover 20% within the forested polygon

Add the number of vegetation types that qualify. If you have:

			Figure ___
Map of Cowardin vegetation classes	4 types or more	points = 4	
	3 types	points = 2	
	2 types	points = 1	0
	1 type	points = 0	

H 1.2 Hydroperiods *(see p. 73)*

Check the types of water regime (hydroperiods) present within the wetland. The water regime has to cover more than 25% of the wetland or 2.5 acres to count. (See text for descriptions of hydroperiods.)

			Figure ___
☐ Permanently flooded or inundated	4 or more types present	points = 3	
☒ Seasonally flooded or inundated	3 types present	points = 2	
☐ Occasionally flooded or inundated	2 types present	points = 1	1
☒ Saturated only			
☐ Permanently flowing stream or river in, or adjacent to, the wetland			
☐ Seasonally flowing stream or river in, or adjacent to, the wetland			
☐ Lake-fringe wetland = 2 points			
☐ Small water ponds in wetland = 2 points			

H 1.3 Richness of Plant Species *(see p. 75)*

Count the number of plant species in the wetland that cover at least 10 ft². Different species of the same genus can be combined to meet the size threshold.

You do not have to name the species.

Species include dominant hybrids and monotypic genera, purple loosestrife, Canadian thistle.

If you counted:	> 19 species	points = 2
	> 10 species	points = 1
Not greater than 10 species	<5 species	points = 0

0

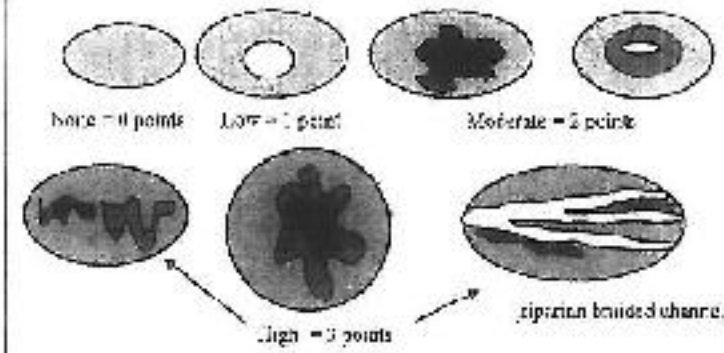
Total for page: 1

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 open water or mudflats is high, medium, low, or none.

Figure ___

0



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.

H 1.5 Special habitat features: *(see p. 77)*

Check the boxes for the features that are present in the wetland. The number of checks is the number of points you get for this section.

- ☐ Large (>10 cm) woody debris within the wetland (>4 in. diameter and 1 ft. long).
- ☐ Standing snags (diameter at chest height >4 inches) in the wetland
- ☐ Undercut banks are present for at least 0.6 ft. (20 cm) 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 (10 m)
- ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30 degree slope) OR signs of recent beaver activity are present (cut trees or "peeled" logs not yet fallen into the wetland)
- ☐ At least 0.5 acres of ripe, ungrazed persistent vegetation or shrub branches are present in areas that are permanently or seasonally inundated (structures for age feeding or exploitation)
- ☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants

Note: The 25% criteria in early priorities of these would be more 50% for non-trees.

0

H 1. TOTAL Score – potential for providing habitat
Add the scores from H 1.1, H 1.2, H 1.3, H 1.4, H 1.5

1

Comments:

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 46) *Choose the category that best represents condition of buffer of wetland. The highest scoring criteria that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."*	Points__
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. Intense, No structures are within or adjacent to the 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 (165 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. Points = 4	1
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% circumference. Points = 3	
☐ 50 m (165 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for >50% circumference. Points = 2	
If buffer does not meet any of the three criteria above	
☐ No paved areas (except paved trails) or buildings within 25 m (82 ft) of wetland >50% circumference. Light to moderate grazing, or lawns are OK. Points = 1	
☐ No paved areas or buildings within 50 m (165 ft) for >50% circumference. Light or moderate grazing or lawns are OK. Points = 2	
☒ Heavy grazing in buffer. Points = 1	
☐ Vegetated buffers are < 5 m wide (16 ft) for more than 95% of the circumference (e.g. filled to the paving, lawn, landscaping, or pasture of weekend). Points = 0	
☐ Buffer does not meet any of the criteria above. Points = 1	
Jurisdictional excluding buffers	
H 2.2 Connectivity (See p. 47) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 100 ft wide, has at least 50% cover of shrubs, forest or other undisturbed habitat, that connects to adjacent other wetlands or undisturbed uplands that are at least 250 acres in size? (Note: in riparian corridors, heavily used gravel trails, paved trails are considered breaks in the corridor). ☐ YES = 4 points (go to H 2.3) ☐ NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 100 ft wide, has at least 50% cover of shrubs or forest, and connects to adjacent 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? ☐ YES = 2 points (go to H 2.3) ☐ NO = H 2.2.3 H 2.2.3 Is the wetland within 5 mi (8 km) of a brackish or salt water estuary OR within 5 mi of a large lake (or reservoir > 1000 acres) OR within 1 mi of a lake greater than 20 acres? ☒ YES = 1 point ☐ NO = 0 points	1

Total for page: 2

H 2.3 Nearby Adjacent to or in proximity to the habitat of WDFW *priority species and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS maps at* www.wdfw.wa.gov/hab/phsmain.htm *Which of the following priority habitats are within 2 km (1 km if not in an urban area) of the wetland? (NOTE: the wetland does not have to be within the habitat area)*	
☐ Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
☐ Biodiversity Areas and Corridors: Areas of Global Significance, or relatively undisturbed areas of native vegetation 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 east of the 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/ac) > 51 cm (20 in) dbh or > 200 years of age. (Mature Forest) Stands with average diameters exceeding 46 cm (18 in) dbh, canopy closure of at least 60%, at least 200 trees/ha (80 trees/ac) > 28 cm (11 in) dbh or > 80 years old. Stands with canopy closure over 80% may be less than 120 trees/ha (50 trees/ac) if other attributes meet old-growth or mature forest criteria. Snag and downed woody material is not to be considered.	1
☐ 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. 155*).	
☐ 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 be in the form of native prairie or a mix of native/exotic species (*full description in WDFW PHS report p. 161*).	
☐ Instream: The combination of physical, biological, and chemical process and conditions that occur in streams to support aquatic life having requirements for migration, feeding, spawning, and rearing.	
☐ Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Net-shore, Open Coast Nearshore, and Puget Sound Nearshore (*full descriptions of habitats and the distribution of relatively undisturbed areas in WDFW Nearshore report p. 167-190 are given in Appendix A*).	
☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth's soil, rock, ice, or other geological formations and a large enough for someone to enter.	
☐ Cliffs: Exposures 7.6 m (25 ft) high and occurring below 914 m (3000 ft).	
☐ Talus: Accumulations of rock and rubble resulting in average size 0.15 – 2.0 m (0.5 – 6.5 ft), composed of basalt, andesite, and/or sediment rock, including rock slides and talus slopes. May be associated with cliffs.	
☐ Snags and Logs: Trees or portions of trees that are dead, standing (snags) or down (logs), with characteristics to enable cavity excavation use by wildlife. Priority snags have a diameter at breast height (dbh) of 50 cm (20 in) in western Washington and are > 8 m (26 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the larger end, and > 6 m (20 ft) long.	
If wetland has 2 or more priority habitats = 4 points If wetland has 1 priority habitat = 2 points If wetland has 1 priority habitat = 1 point No habitat = 0 points	
Note: All vegetated wetlands are by definition a priority habitat, but are not included in this list. Non-forested wetlands are included in question H 2.4.1.	

H 2.4 Wetland Landscape *(choose the one description of the landscape around the wetland that best fits)* (see p. 64) ☐ There are at least 3 other wetlands within ½ mile, and the connections between them are relatively unbroken (fig) by having between wetlands OK, as is like those with some bearing, but connections should NOT be blocked by paved roads, fill, fields, or other development. points = 5 ☐ The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5 ☒ There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 ☐ The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 3 ☐ There is at least 1 wetland within ½ mile points = 2 ☐ There are no wetlands within ½ mile. points = 0	3
H 3. TOTAL Score (superimposed in pre-rating habitat) *Add the scores in the column above*	5
TOTAL (for H 1) from page 14	1
Total Score for Habitat Functions – add the points for H 1, H 2 and round the result on p. 1	6

Comments

Wetland name or number

WETLAND RATING FORM – WESTERN WASHINGTON

Version 1 – Dated July 2004 (revised to incorporate Ecology's 2004 revisions)

Name of wetland (if known): Wetland "B" Date of site visit: 10/21/2006

Rated by A. Alexie Trained by Ecology? Yes ☒ No ☐ Date of Training: 10/2006

SECTION, TOWNSHIP, RANGE: 29 N 5 E/2 W Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure ___ Estimated size 14,778 sf

DRAFT 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	14
	Score for Hydrologic Functions	5
	Score for Habitat Functions	7
	TOTAL Score for functions	26

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☐

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

Check the appropriate type and class of wetland being rated

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☒
Natural Heritage Wetland	☐	Riverine	☐
Bog	☐	Lake Fringe	☐
Mature Forest	☐	Slope	☐
Old Growth Forest	☐	Flats	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above	☐	Check if unit has multiple HGM classes to be rated	☐

Comments

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 Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (TES species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	☐	☒
SP2. *Has the wetland not 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. 5 of data form)	☐	☒
SP3. *Does the wetland contain individuals of Priority species listed by the WDFW for its habitat?*		☒
SP4. *Does the wetland have additional significance or relative to its functions?* 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.	☐	☒

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the question, needed to assess how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 27 for more detailed instructions on classifying wetlands.

Comments

Wetland name / number _____

Classification of Wetland Units in Western Washington

[illegible]

1. Are the water levels in the wetland mostly controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ YES – the wetland class is Tidal Fringe

If yes, is the entirety of the wetland zone subject to tidal influence (water levels rise and fall twice per day)? ☐ YES – Freshwater Tidal Fringe ☐ NO – Saltwater Tidal Fringe (Return to 1b)

If your wetland can be classified as a Freshwater Tidal Fringe use the form for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. We (and others) were initially remarkably inconsistent in the classification of the tidal wetlands called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were rarely mapped properly in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the chemistry of the water in the Puget Sound is changing, and estuarine wetlands have changed (see p. [illegible]).

2. The entire wetland unit is flat and precipitation is the only source (>95%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

☒ NO – go to 3 ☐ YES – The wetland class is Flats

If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.

3. Does the wetland meet both of the following criteria?

☐ The vegetated part of the wetland is smaller than one acre (0.4 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)

4. Does the wetland meet all of the following criteria?

☐ The wetland is on a slope (slope can be very gentle) or hillside

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in small channels but not in floods.

☐ The water leaves the wetland without being impounded.

NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (irregularities in ground caused by uprooted trees and fallen logs). Water may flow through these wetlands in channels, but water does not flow in channels downstream of the wetland.*

☒ NO – go to 5 ☐ YES – The wetland class is Slope

Comments

Wetland name / number _____

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

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river

☐ The overbank flooding occurs at least once every two years.

NOTE: *The wetland unit could be in the floodplain of a river or stream, but not receive overbank flooding.*

☒ NO – go to 6 ☐ YES – The wetland class is Riverine

6. Is the wetland in an topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This water that may collect or present, is higher than the levels of the wetland.*

☐ NO – go to 7 ☒ YES – The wetland class is Depressional

7. Is the wetland located in a very flat area with no covered depressions and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be disturbed, but has no obvious natural outlet.

☐ NO – go to 8 ☐ YES – The wetland Class is Depressional.

8. Your wetland seems to be difficult to classify and probably contains several different HGM classes. For example, steps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland may cause flowing water in its center. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC ALGORITHMS DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch if it helps you think). Use the following table to identify the appropriate class to use in 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 90% 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 the wetland unit being rated	Wetland Class to use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along a stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with several characteristics

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.

Comments

D	Depressional and Flats Wetlands WATER QUALITY FUNCTION – Indicators that the wetland is functioning to improve water quality	Points (circle one per box)
D	**D 1. Does the wetland have the potential to improve water quality?**	(see p. 14)
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (permanently ponded) — points = 4 Wetland has an intermittently flowing, OR highly constricted, permanently flowing outlet — points = 2 Wetland has an unrestricted, or highly constricted, permanently flowing outlet — points = 1 Unit is a flat depression (D 2.7 on keys), or is a flat-bottomed, wide, permanently flowing stream or river, with no obvious natural outlet within its wide bottom — points = 1 (If water is not permanently flowing it can't score more than 2 points) Provide photo or drawing	Figure ____ 3
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES — points = 4 NO — points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest class): Wetland has persistent, ungrazed, vegetation in > 95% of area — points = 5 Wetland has persistent, ungrazed, vegetation in > 1/2 of area — points = 3 Wetland has persistent, ungrazed vegetation in > 1/10 of area — points = 1 Wetland has persistent, ungrazed vegetation in <1/10 of area — points = 0 Map of Dominant vegetation classes	Figure ____ 0
D	D 1.4 Characteristics of seasonal ponding or inundation: This is the area of the wetland that is ponded for at least 2 months, but does not normally dry out. Do not count areas that are permanently ponded. Count the area that is ponded for the longest duration in an average year. Area seasonally ponded is > ½ total area of wetland — points = 4 Area seasonally ponded is > ¼ total area of wetland — points = 2 Area seasonally ponded is < ¼ total area of wetland — points = 0 Map of Hydrologic Ratings	Figure ____ 4
D	Total for D 1 — Add the points in the boxes above	7
D	**D 2. Does the wetland have the opportunity to improve water quality?** Answer YES if you know or believe there are pollutants in groundwater or surface water coming to the wetland that would otherwise reduce water quality if released. Sources of pollutants downgradient of the wetland? Note which of the following conditions provide the sources of pollutants. A wetland may have pollutants coming from several sources, but any single source, multiplied by its score, may not exceed 10. ☒ Discharge to the wetland within 1/4 mile ☐ Upgradient discharge to wetland ☐ Land within the watershed within 1/4 mile of wetland ☐ Agricultural land upgradient or within the watershed (including farms, feedlots, orchards, vineyards, etc.) ☐ Residential, urban areas, golf courses, or other developed areas within the watershed ☐ Other: ____ ☒ YES – multiplier is 2 ☐ NO – multiplier is 1	(see p. 14) multiplier 2
D	TOTAL – Water Quality Functions – Multiply the score from D 1 by D 2 Add score to table on p. 7	14

D	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream degradation	Points
	D 3. Does the wetland have the potential to reduce flooding and erosion?	(see p. 14)
D	D 3.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (permanent) — points = 4 Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet — points = 2 Unit is a depression or D 2.7 on key, or is a flat-bottomed, wide, permanently flowing stream or river, with no obvious natural outlet within its wide bottom — points = 1 (If water is not permanently flowing it can't score more than 2 points) Unit has an unrestricted, or slightly constricted, outlet (permanently flowing) — points = 0	Figure ____ 4
D	D 3.2 Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the lowest elevation in the entire unit. Marks of ponding are 3 ft or more above the surface or bottom of outlet — points = 7 The wetland is a "depressional" wetland (see D 2.7 on key) — points = 7 Marks of ponding between 2 ft to < 3 ft above surface or bottom of outlet — points = 5 Marks of ponding between 0.5 ft to < 2 ft above surface or bottom of outlet — points = 3 Wetland is flat (see D 2.7 on key) but has some depressions on the surface that may store water — points = 1 Marks of ponding less than 0.5 ft — points = 0	Figure ____ 1
D	D 3.3 Contribution of wetland to storage in the watershed: Estimate the ratio of the area of upgradient basin contributing surface water to the wetland to the area of the wetland itself. The area of the basin is less than 10 times the area of unit — points = 5 The area of the basin is 10 to 100 times the area of the unit — points = 3 The area of the basin is more than 100 times the area of the unit — points = 0 Estimated is in the FLATS class — points = 5	Figure ____ 0
D	Total for D 3 — Add the points in the boxes above	5
D	**D 4. Does the wetland have the opportunity to reduce flooding and erosion?** Answer YES if the wetland is in a location in the watershed where its flood storage, or reduction in water velocity it provides, helps protect downstream property and/or resources from flooding or erosion in streams or rivers. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flat valve, reservoir etc. OR you estimate that more than 50% of the water in the wetland is from groundwater in areas where storage of groundwater flooding does not occur. Note which of the following conditions of importance apply: ☐ Wetland is in a headwater of a river or stream that has flooding problems ☐ Wetland drains to a river or stream that has flooding problems ☐ Wetland has no outlet and impounds surface water that might otherwise flow in a river or stream that has flooding problems ☐ Other: ____ ☐ YES – multiplier is 3 ☒ NO – multiplier is 1	(see p. 14) multiplier 1
D	TOTAL – Hydrologic Functions – Multiply the score from D 3 by D 4 Add score to table on p. 7	4

Comments

These questions apply to wetlands of all HGM classes — **Points**

HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat

H 1. Does the wetland have the potential to provide habitat for many species?

H 1.1 Vegetation structure *(see p. 72)* — Figure

Check the types of vegetation classes present (as defined by Cowardin). Size does not matter. Check all that cover at least 10% of the area (patch size smaller than 0.1 acre).

- ☐ Aquatic bed
- ☒ Emergent plants
- ☐ Scrub/shrub (areas where shrubs have >30% cover)
- ☐ Forested (areas where trees have >30% cover)

If you checked more than one of the above forested classes, check it.

- ☐ Persistent ungrazed plants (>25% of plant species remain ungrazed late in the growing season) that each cover 200 sq.m. (2,150 sq.ft.) or more in the forested polygon

Add the number of vegetation types that qualify. If none, score 0.

Map of Cowardin vegetation classes	4 types or more	points = 4	0
	3 types	points = 2	
	2 types	points = 1	
	1 type	points = 0	

H 1.2 Hydroperiods *(see p. 73)* — Figure___

Check the type of water regime (ignore any ground water for wildlife). The water regime has to cover more than 10% of the wetland or 5 acre-feet. (See text for description of hydroperiods.)

☐ Permanently flooded or inundated	4 or more types present	points = 3	
☒ Seasonally flooded or inundated	3 types present	points = 2	
☐ Occasionally flooded or inundated	2 types present	points = 1	1
☒ Saturated only			
☐ Permanently flowing stream or river in, or adjacent to, the wetland			
☐ Seasonally flowing stream or river in, or adjacent to, the wetland			
☐ Lake-fringe wetland = 2 points			
☐ Freshwater tidal wetland = 2 points			

H 1.3 Richness of Plant Species *(see p. 73)*

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 cover the size threshold.)

You do not have to name the species.

Do not include Extension Noxious weed species (see Washington State Noxious Weed List).

If you counted:	> 19 species	points = 2
	5 - 19 species	points = 1
Bonus species points (if you scored 2 for richness)	<5 species	points = 0

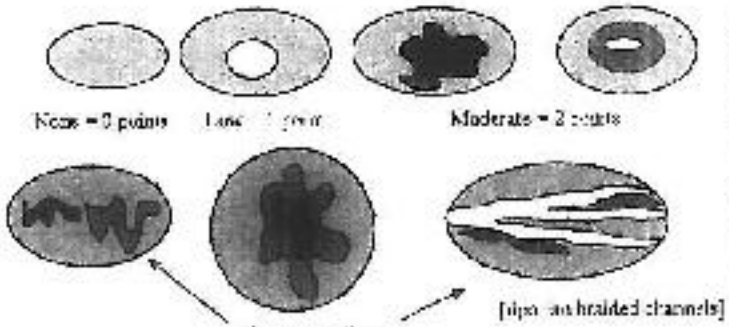
1

Total for page 1

H 1.4 Interspersion of habitats *(see p. 76)* — Figure

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

0



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

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

Check the boxes for features that are present in the wetland. The number of checks is the number of points, plus one for the new column.

- ☐ Large, downed, woody debris within the wetland (>10in diameter and 6 ft long)
- ☐ Standing snags (diameter at breast height [dbh] >4 inches) in the wetland
- ☐ Undercut banks are present for at least 0.5 ft. (2m) and over overhanging vegetation is present at least 1.5 ft. (.5 m) over a stream (or ditch) in, or near, areas with slopes of at least 33% (1Om)
- ☐ Stable steep banks of fine material that might be used by beaver or muskrat for burrows (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not healed over)
- ☐ At least 1 acre of fine-textured, ungrazed herbaceous or woody vegetation is present in areas that are permanently or seasonally inundated (structure for egg-laying amphibians)
- ☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants (Note: The 25% is based on cover of the normal or mature state of the species.)

0

H 1. TOTAL Score – potential for providing habitat — 2

Add the scores from H 1.1, H 1.2, H 1.3, H 1.4, H 1.5

H 2. Does the wetland have the opportunity to provide habitat for many species?

H 2.1 B. *(See page 86)*
Choose the description that best represents condition of buffer of wetland. The buffer must be the vegetated area that adjacent to the wetland and is to be measured in the field. See text for definition of "undisturbed".

- ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. No stand-alone or within-the-mixed-habitat part of buffer. (to qualify undisturbed also means no grazing, no hay cutting, no daily human use) — Points = 5
- ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 25% circumference — Points = 4
- ☐ 50 m (165 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference — Points = 4
- ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 25% circumference — Points = 2
- ☐ 50 m (165 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference — Points = 2

If buffer does not meet any of the three criteria above

- ☐ No paved areas (except paved trails) or buildings within 50 m (165 ft) of wetland for > 50% circumference. Light to moderate grazing or mowing are OK — Points = 2
- ☐ No paved areas or buildings within 50 m (165 ft) of wetland for > 50% circumference. Light to moderate grazing or mowing are OK — Points = 2
- ☑ Heavy grazing in buffer — Points = 1
- ☐ Vegetated buffer less than 25 m wide (82 ft) for more than 50% of the circumference (e.g. filled fields, paving, bank or bedrock extend to edge of wetland) — Points = 0
- ☐ Buffer does not meet any of the criteria above — Points = 0

Score points following buffers

1

H 2.2 Corridors and Connections *(see p. 87)*

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, trees, or non-native undisturbed prairie grasses, connects other wetlands or undisturbed uplands that are at least 250 acres in size? *(Where we mention "corridor", the only part given credit, must be a corridor, not just connection.)*

☐ YES = 4 points (go to H 2.3) ☒ NO = go to H 2.2.2

H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 100 ft wide, has at least 30% cover of shrubs or trees, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Dabb-5 Lake wetland, if it does not have an undisturbed corridor as in the question above?

☐ Yes = 2 points (go to H 2.3) ☒ NO = H 2.2.3

H 2.2.3 Is the wetland

within 5 mi (8 km) of a brackish or salt water estuary OR
within 5 mi of a large lake or river (>40 acres) OR
within 1 mile of a lake greater than 20 acres?

☒ YES = 1 point ☐ NO = 0 points

1

H 2.3 *Near or adjacent to other priority habitat listed by WDFW (provide any complete descriptions of WDFW priority habitats, and the species in which they can be found, in the DNS report if any, if we question the rating info)*

Which of the following priority habitats are within 330 ft (100 m) of the wetland unit? (Note: the connections do not have to be continuously 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 undisturbed to provide species of native fish and wildlife *(full descriptions in WDFW PHS report p. 157)*.
- ☐ **Herbaceous Balds:** Vertical shallow patches (grass and forbs) in shallow soil over bedrock.
- ☐ **Old-growth/Mature Forests:** (Only south west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 snags/ha (8 snags/ac) > 51 cm (52 in) DBH or > 200 years of age. (Mature forests: Stands with average diameters exceeding 53 cm (21 in) DBH; canopy cover may be less than 100%; snags and coarse woody debris occur; number 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 greater than 0.4 ha (1 acre) *(full descriptions in WDFW PHS report p. 156)*.
- ☐ **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 include a mixture of native grasses and forbs *(full description in WDFW PHS report p. 161)*.
- ☐ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide suitable habitat for fish and wildlife resources.
- ☐ **Nearshore:** Subtypes: Natural nearshore stands: Those include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. *(full descriptions of habitats and the definition of relatively undisturbed are in the text, pgs. 162-169 with a summary in Appendix 4)*
- ☐ **Caves:** A naturally occurring cavity, room, void, or system of interconnected passages under or within basalt, talus, ice, or other geological formations and is large enough to contain a human.
- ☐ **Cliffs:** Rock faces from 7.6 m (25 ft) tall and occurring below 5000 ft.
- ☐ **Talus:** Naturally occurring areas of rock rubble ranging in size from 0.15 - 2.0 m (1.5 - 6.5 ft) composed of broken pieces of weathered rock, exhibiting cryoplanation and wind tolerant. May be associated with cliffs.
- ☐ **Snags and Logs:** Trees that are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation by wildlife. Priority snags have a diameter of greater height (> 51 cm (20 in)) in western Washington and are > 2.1 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the large end and > 6 m (20 ft) long.

If wetland has 3 or more priority habitats = 4 points
If wetland has 2 priority habitats = 2 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 the list. Priority wetlands are addressed in question H 2.4.

0

Wetland Rating Form

H.2.1. Wetland Landscape (*choose the one description of the landscape around the wetland from Page 7(a), page 84*) ☐ 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 trailing, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5 ☐ The wetland is Lake fringe on a lake with little disturbance and there are 3 other lake fringe wetlands within ½ mile points = 5 ☒ There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 ☐ The wetland is Lake fringe on a lake with [illegible] and there are 3 other lake fringe wetlands within ½ mile points = 3 ☐ There is at least 3 wetland within ½ mile points = 3 ☐ There are no wetlands within ½ mile points = 1	3
H.2. TOTAL Score (opportunity for providing habitat) *Add the scores in the column above*	5
TOTAL for H.1 from page 14	2
Total Score for Habitat Functions — add the points for H.1, H.2 and record the result on p. 1	7

Comments

Wetland number ___

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Updated July 2004 to incorporate Ecology's comments and recent technical research

Name of wetland (if known): "Wetland "2" Date of site visit: 10/21/2003

Rated by A. Alberts Trained by Ecology? Yes ☒ No ☐ Date of training: 11/2005

SECTION 1 TOWNSHIP: 22N RANGE: 2W Is S/T/R in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure ____ Estimated size 211 sf

DRAFT 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	10
	Score for Hydrologic Functions	5
	Score for Habitat Functions	7
	TOTAL Score for functions	22

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☐

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☒
Natural Heritage Wetland	☐	Riverine	☐
Bog	☐	Lake-fringe	☐
Mature Forest	☐	Slope	☐
Old Growth Forest	☐	Flats	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above	☐	Check here for multiple HGM classes present	☐

Comments

Wetland number ___

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 Additional Protection (in addition to the protection recommended for its category)	YES	NO
SC1. *Has the wetland 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.	☐	☒
SC2. *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. 15 in Chap 6 text)	☐	☒
SC3. *Does the wetland contain individuals of Priority species listed by the WDFW for the state?*	☐	☒
SC4. *Does the wetland have a local significance in addition to its functions?* 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.	☐	☒

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands that perform functions in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 34 for more detailed instructions on identifying wetlands.

Comments

Wetland # ____

Classification of Wetland Units in Western Washington

[illegible]

1. Are the water levels in the wetland mostly controlled by tides (i.e. except during floods)?

   ☒ NO – go to 2 ☐ YES – the wetland class is Tidal Fringe

   If you is the salinity of the water during periods of normal low tide below 0.5 ppt (parts per thousand)? ☐ YES – Freshwater Tidal Fringe ☐ NO – Saltwater Tidal Fringe (Estuarine)

   If your wetland can be classified as a Freshwater Tidal Fringe use the form for Riverine wetlands. If it is Saltwater Tidal Fringe it could be an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are now all Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To minimize confusion between editions, the term "Estuarine" wetland is kept. Please note, however, that the criteria for this that define Category I and II Estuarine wetlands have changed [illegible]

2. Is the entire wetland unit flat and precipitation is the only source (>95%) of water to it? Use the hydrologic criteria in the NRCS manual to see if water in the wetland is NOT coming from a stream or river?

   ☒ NO – go to 3 ☐ YES – The wetland class is Flats

   If your wetland can be classified as a "Flats" wetland, use the Slope or Depressional wetlands

3. Does the wetland meet both of the following criteria?

   ☐ The vegetated part of the wetland is on the shores of a lake (water may be deeper than 6.6 ft (2 m) in the vegetated part) at least 10 acres (8 ha) in size;

   ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

   ☒ NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)

4. Does the wetland meet all of the following criteria?

   ☐ The wetland is on a slope (slope can be very gentle).

   ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow over the surface, as shallow sheet flow, or in a well-defined channel.

   ☐ The water leaves the wetland without being impounded.

   NOTE: *Surface water does not collect in these types of wetlands except in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).*

   ☒ NO – go to 5 ☐ YES – The wetland class is Slope

Comments

5. Does the unit in question meet all of the following criteria?

   ☐ The unit is in a valley, or a stream channel, where it is inundated by overbank flooding from that stream or river

   ☐ Overbank flooding occurs at least once every two years.

   NOTE: *The boundary of an unit of wetland may be defined by the water level during a 100-year flood event.*

   ☒ NO – go to 6 ☐ YES – The wetland class is Riverine

6. Is the wetland in a topographic depression in which water ponds, or is saturated to the surface, at some time of the year? *This water may evaporate or be taken up by the vegetation.*

   ☐ NO – go to 7 ☒ YES – The wetland class is Depressional

7. Is the wetland located in a very flat area with no obvious depression and no outside flooding. The unit does not pond surface water more than a few inches. The unit does not contain or be adjacent to a lake or river. The wetland may be vegetated, but has no obvious natural outlet.

   ☐ NO – go to 8 ☐ YES – The wetland class is Depressional

8. Your wetland seems to be difficult to classify and probably contains several HGM classes. For example, slope at the base of a slope may grade into a riverine fringe, or a small stream within a depressional wetland has a zone of flooding along its edge. USE THIS AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN CONCLUSIONS 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 in this wetland. NOTE: Use this table only if the class that is recommended in the case of a tie or a class that covers 10% or more of the landscape of the wetland is being rated. If the area of the class listed in column 2 is less than 10% of the area covered by the wetland unit, then it may be more than fair to ignore it.

HGM Classes within the wetland unit being rated	Wetland Class to be used for rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-Fringe	Lake-fringe
Depressional + Riverine along a stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE unless wetlands with special characteristics

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

Comments

D	Depressional and Flats Wetlands WATER QUALITY FUNCTIONS – Indicators that the wetland has the potential to improve water quality	Points (circle one per row)
D	**D 1. Does the wetland have the potential to improve water quality?**	*(see p.30)*
D	D 1.1 Characteristics of surface water flows out of the wetland. Outlet is a pipe or ditch or the water is ponding 3 ft or more Wetland is a depressional, or slope, OR high gradient, persistently flooding wetland Wetland is a depressional, or slope, seasonally flooding, or flat, permanently flooding Outlet is a flat depression (Q 1 outlet), or outlet flows through a flat wetland None of the above *If there is no outlet or water is at least 6 inches below the lowest ground surface* Provide photo or drawing	points = 3 points = 3 points = 1 points = 1 points = 0	Figure___ 3
D	D 1.2 The soil 2 inches below the surface (or duff layer) is one of organic (see NRCS definitions) YES NO	points = 4 points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, scrub/shrub, or forested class) Wetland has persistent, ungrazed, vegetation >= 95% of area Wetland has persistent, ungrazed, vegetation >= 1/2 of area Wetland has persistent, ungrazed vegetation >= 1/10 of area Wetland has persistent, ungrazed vegetation <1/10 of area Map of Cowardin vegetation classes	points = 3 points = 2 points = 1 points = 0	Figure___ 1
D	D 1.4 Characteristics of seasonal ponding or inundation. *This is the area of the wetland that is ponded for at least 2 months, but does not dry out during the year. Do not count the area that is permanently ponded. Estimate the area as the average conditions 5 out of 10 years.* Area seasonally ponded is > 1/2 total area of wetland Area seasonally ponded is > 1/4 total area of wetland Area seasonally ponded is < 1/4 total area of wetland Map of Hydroperiods	points = 4 points = 2 points = 0	Figure___ 2
D	**Total for D 1** *Add the points in the boxes above*	6
D	**D 2. Does the wetland have the opportunity 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. Use your best judgment. Check which of the following conditions provide the sources of pollutants. A land use may have pollutants coming from several sources, but one single source would usually be sufficient. ☒ Septic in the wetland or within 150 ft ☐ Livestock in or immediately adjacent to wetland ☐ Stormwater runoff within 150 ft of wetland ☐ A stormwater outfall discharges to wetland and the drainage system includes roadways, lawns, farmed fields, roofs, or other yard areas ☐ Farm fertilizer used, golf courses or other turf areas ☐ Wetland is fed by groundwater downgradient of agriculture ☐ Other ☒ YES multiplier is 2 ☐ NO multiplier is 1	*(see p.40)* multiplier	2
D	**TOTAL – Water Quality Functions** Multiply the score from D1 by D2 *Add score to table on p. 1*	10

D	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream degradation	Points
	D 3. Does the wetland have the potential to reduce flooding and erosion?	*(see p.40)*
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving (no outlet) Unit has an intermittent outlet, OR is a high or moderate permanently flowing outlet Unit is flat depression (Q 7 on key) or has a flat outlet, with permanently flowing water Other unvegetated outlet and/or a steep gradient *If there is no permanently flowing water or "intermittently flowing"* Unvegetated or sparsely vegetated surface of the ponded/seasonally flooding	points = 3 points = 2 points = 1 points = 0	Figure___ 4
D	D 3.2 Depth of storage during wet periods *Estimate the height of ponding above the bottom of the outlet. For wetlands with multiple outlets, measure from the surface of permanent water or deepest part if dry.* Marks of ponding are 3 ft or more above the surface or bottom of outlet The wetland is a "headwater" wetland (Q 1 on key) Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet Marks are at least 0.5 ft, but < 2 ft from surface or bottom of outlet Wetland is flat (see Q 2 on key) but has small depressions on the surface that trap water Marks of ponding less than 0.5 ft	points = 5 points = 5 points = 3 points = 1 points = 0	Figure___ 1
D	D 3.3 Contribution of wetland to storage in the watershed *Estimate the ratio of the area of upgradient basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of the unit The area of the basin is 10 to 100 times the area of the unit The area of the basin is more than 100 times the area of the unit Unknown and/or in the PLA 15 class	points = 5 points = 3 points = 0 points = 5	Figure___ 0
D	**Total for D 3** *Add the points in the boxes above*	9
D	**D 4. Does the wetland have the opportunity to reduce flooding and erosion?** 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 erosion or stream flows. Answer NO if the water coming into the wetland is controlled by a structure such as a flood gate, culvert, flap gate, etc. Also NO if you estimate that more than 95% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. *Mark which of the following indicators of opportunity apply.* ☐ Wetland is in a floodplain of a river or stream that has flooding problems ☐ Wetland drains to a river or stream that has flooding problems ☐ Wetland has no outlet and impounds surface water OR is very flat or slight depressions flow in or out, or water flows through it in a ditch ☐ Other ☐ YES multiplier is 2 ☒ NO multiplier is 1	*(see p.41)* multiplier	1
D	**TOTAL – Hydrologic Functions** Multiply the score from D3 by D4 *Add score to table on p. 1*	9

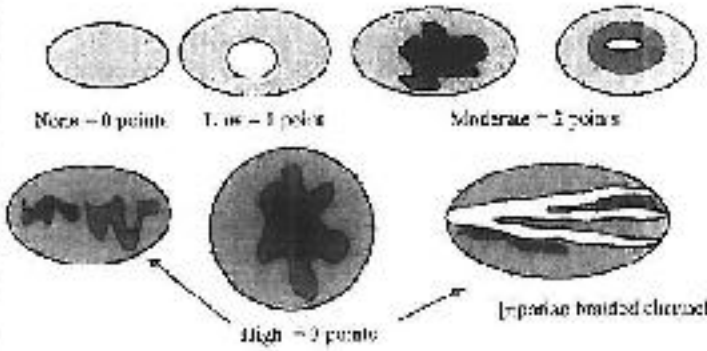
Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS – indicators that wetland functions to provide important habitat	Points (circle one per box)
H 1. Does the wetland have the potential to provide habitat for many species?	
H 1.1 Vegetation structure *(see p. 72)* *Check the types of vegetation classes present (as defined by Cowardin classes) that contribute to the rating. Must be at least 1/4 ha (0.1 ac) in size to count. Do not count classes that cover less than 10% of the area of unit if it is smaller than 2.5 acres.* ☐ Aquatic bed ☒ Emergent ☐ Scrub/shrub (areas where shrubs have >30% cover) ☐ Forested (areas where trees have >30% cover) *If the wetland is forested also check if:* ☐ Forested area has 3 or all 4 strata (canopy, sub-canopy, shrubs, herbaceous), moss/ground-cover that each cover 20% within the forested polygon *Add the number of vegetation layers that qualify. If you have:* Map of Cowardin vegetation classes: 4 types or more = 4; 3 types = 3; 2 types = 2; 1 type = 0	Figure__ 0
H 1.2 Hydroperiods *(see p. 73)* *Check the boxes of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 2 acres to count. (See text for descriptions of hydroperiods.)* ☐ Permanently flooded or inundated — 4 or more types present = 3 ☒ Seasonally flooded or inundated — 3 types present = 2 ☐ Occasionally flooded or inundated — 2 types present = 1 ☒ Saturated only ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream or river in, or adjacent to, the wetland ☐ *Lake fringe wetland* = 2 points ☐ *Freshwater tidal wetland* = 2 points	Figure 1
H 1.3 Richness of Plant Species *(see p. 74)* *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 cover threshold.* *You do not have to name the species.* *Do not include Extreme Hydroperiods, weed species, exotic species, Canopy species.* List species below. If you need to: 11 types or more = 2; 5 - 10 species = 1; <5 species = 0	1
H 1. TOTAL Score – potential for providing habitat *Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5*	2

Total for page: 2

H 1.4 Interspersion of habitats *(see p. 74)*

Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or classes and open water (aquatic habitat) is high, medium, low, or none. Figure__ 0



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

H 1.5 Special Habitat Features *(see p. 75)*

Check the habitat features that are present in the wetland. The minimum size for any feature is one acre unless otherwise noted.

- ☐ Large, downed, woody debris within the wetland (>6" diameter x 0.5 mile)
- ☐ Standing snags (diameter at bottom >6" height >15 ft) within the wetland
- ☐ Undercut banks are present for at least 0.5 mile (1 ft) and overhanging vegetation extends at least 33 ft (10 m) in, or contiguous with, the unit for at least 33 ft (10 m)
- ☐ Biologically active areas of the wetland (not mowed by homeowner on a regular basis (>30 days/year)) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet decayed gray/brown)
- ☐ At least 1/4 ac (0.1 ha) of the wetland persistent vegetation or woody shrubs are present in areas that are permanently or seasonally inundated (structures for egg laying by amphibians)
- ☐ Invasive plant cover less than 25% of the wetland area in each stratum of plants *Note: The 25% stated is only guidance of the normal or right, it is unknown.*

0

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

Comments:

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 60) *Choose the description that best represents conditions of buffer of wetland. The buffer rating criterion for wetlands in the rangeland is in the text in the notes. See text for definition of undisturbed.*	Figure___
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily mowing) Points = 5	
☐ 200 m (660 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference Points = 4	
☐ 50 m (165 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference Points = 4	1
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% circumference. Points = 3	
☐ 50 m (165 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3	
If buffer does not meet any of the three criteria above	
☐ No paved roads (except paved trails) or buildings within 150 m (500 ft) of wetland > 50% circumference. Unpaved trails, gravel roads, or mowed grass are OK. Points = 2	
☐ No paved roads or buildings within 50 m of wetland for >50% circumference. Unpaved trails, gravel roads, or mowed grass are OK. Points = 0	
☒ Heavy grazing in buffer. Points = 1	
☐ Vegetated buffer less than 25 m (82 ft) in place for 50% or less of the circumference (e.g. ditched for irrigation, paving, busy roadway, commercial or edge of wetland) Points = 0	
☐ Buffer does not meet any of the criteria above. Points = 1	
Aerial photo showing buffers	
H 2.2 Corridors and Connections (see p. 61) H 2.2.1 Is the wetland part of a relatively undisturbed riparian corridor (either riparian or upland) that is at least 150 m wide, has at least 90% cover of shrubs, trees, or non-native pasture grass, that connects to a priority other wetlands or undisturbed uplands that are at least 250 acres in size? (Note: in mountain corridors, *primary and secondary roads, power lines, etc. considered breaks in the corridor.*) ☐ YES – 1 point (go to H 2.2.2) ☒ NO – go to H 2.2.2	1
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 100 m wide, has at least 90% cover of shrubs or trees, and connects to a priority other wetlands or undisturbed uplands that are at least 25 acres in size? (OR > 5 acre isolated wetland with forest and shrub cover or in the custom above) ☐ YES – 1 point (go to H 2.2.3) ☒ NO – go to H 2.2.3	
H 2.2.3 Is the wetland within 5 mi (8 km) of a breeding heron colony OR within 3 mi of a large field of geese (> 500 acres) OR within 1 mi of a lek (greater than 20 birds) ☒ YES – 1 point ☐ NO – 0 points	

Total for page 2

H 2.3 Near or at priority habitats listed by WDFW (see text and compare descriptions of WDFW priority habitats, and the species in which they can be found, in the PHS report one-mile or ten-mile radius)	
Which of the following priority habitats are within 330 ft (100 m) of the wetland unit? *NOTE: the connections do not have to be within wetland.*	
☐ Aquatic: Rivers or streams or lakes or ponds greater than 0.4 ha (1 acre)	
☐ Biodiversity Areas and Corridors: Areas of nature that are relatively important to various species of native fish and wildlife (*see descriptions in WDFW PHS report p. 152*).	
☐ Herbaceous Balds: Variable size patches of grass and forb as shallow soils over bedrock.	
☐ Old-growth/Mature forest: Old-growth west of Cascade crest: Stands at least 2 tree species, forming a multi-layered canopy with trees over 500 years of age. (Mature forest: Stands with live and dead trees exceeding 53 cm (21 in) dbh (or > 200 years of age). Minimum tree size may be less than 100%, decay, decadence, number of snags, and quantity of large downed material is greater than "minimum" for 80-200 year old "mature" forest. Descriptions	0
☐ Oregon white Oak: Woodlands where Oregon white oak is the dominant tree, singly or in groups, and canopy coverage of the oak component is important (*for descriptions see WDFW PHS report p. 158*).	
☐ Riparian: The area adjacent to flowing waters that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
☐ Westside Prairie: Herbaceous, non-forested plant communities that can either be the climax or they persist as the result of disturbance (*see descriptions in WDFW PHS report p. 161*).	
☐ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide fish and shellfish habitat. For instream fish and wildlife resources.	
☐ Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Bluffs. Natural shoreline (*for descriptions of nearshore zones see definitions of habitats in WDFW PHS report pp. 167-195 and glossary of PHS report*)	
☐ Caves: A naturally occurring void, cavern, void, or system of interconnected passages under the earth or within a rock mass, including any associated dripwater and related biotic habitat.	
☐ CWD: Scattered logs 76 cm (25 ft) tall and occurring below 5000 ft.	
☐ Talus: Heterogeneous accumulations of loose rubble ranging in average size from 0.1 m (0.3 ft) to 6.3 ft, composed of basalt, andesite, and/or andesitic rock, including flows, slides and talus cones. May be associated with cliffs.	
☐ Snags and Logs: Trees to be considered snags if they are dead or dying and exhibit sufficient decay, dimension, cavities in suitable size to provide habitat for wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 6 m (19.7 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (19.7 ft) long. ☐ wetland has 3 or more priority habitats = 4 points ☐ wetland has 2 priority habitats = 2 points ☐ wetland has 1 priority habitat = 1 point ☒ No habitats = 0 points *Note: All regulated wetlands are by definition a priority habitat but are not included for this rating. Priority habitats are protected by regulation (H 2.1).*	

Wetland Rating Form ____

17.4 Wetland Landscape (Choose the one description of the landscape around the wetland that best fits) (see p. 84) ☐ There are at least 3 other wetlands within ½ mile and those wetlands between them are relatively undisturbed (high grazing between wetlands OK, as is lake shore with some heating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5 ☐ The wetland is Lake fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile. points = 5 ☒ There are at least 3 other wetlands within ½ mile. BUT the connections between them are disturbed. points = 3 ☐ The wetland is Lake-fringe on a lake with disturbance and there are 2 other lake-fringe wetlands within ½ mile. points = 3 ☐ There is at least 1 wetland within ½ mile. points = 2 ☐ There are no wetlands within ½ mile. points = 0	3
H.2. TOTAL Score (opportunity for providing habitat) Add the scores in the column above	5
TOTAL for H.1 from page 24	2
Total score for Habitat Functions — add the points for H.1, H.2 and record the result on p. 1	7

Comments

Wetland number _____

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Ecology Pub. No. 04-06-025 (Revised August 2014)

Name of wetland (if known): Wetland "O" Date of site visit: 10/21/2009

Rater by: A. Abadie Trained by Ecology? Yes ☒ No ☐ Date of Training: 11/2011

SECTION: 1 TOWNSHIP: 22N RANGE: 2W Is S/A/M in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure _____ Estimated size: 4,623 sf

DRAFT 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: 6 Score for Hydrologic Functions: 4 Score for Habitat Functions: 7 TOTAL Score for Functions: 17

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☐

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☒
Natural Heritage Wetland	☐	Riverine	☐
Bog	☐	Lake-fringe	☐
Mature Forest	☐	Slope	☐
Old Growth Forest	☐	Flats	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above	☐	Check if unit has multiple HGM classes present	☐

Comments

Wetland name or number _____

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 characteristic found in the wetland.

Check List for Wetlands That Need Additional Protection (in addition to the protection required for all wetlands)	YES	NO
SP1. *Has the wetland been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (TE species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate agency database.	☐	☒
SP2. *Has the wetland 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 this form).	☐	☒
SP3. *Does the wetland contain individuals of Priority species listed by the WDFW for this state?*	☐	☒
SP4. *Does the wetland have a local significance in addition to its functions?* For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or a local management plan as having special significance.	☐	☒

To complete the next part of the checklist you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 2– [illegible] for instructions on classifying wetlands.

Comments

Classification of Wetland Units in Western Washington

1. Are the water levels in the wetland unit primarily controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of normal low flow below 0.5 ppt (parts per thousand)? ☐ YES – **Freshwater Tidal Fringe** ☐ NO – **Saltwater Tidal Fringe (Estuarine)**

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine Wetlands. If it is Saltwater Tidal Fringe it is called an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are not in the Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized as partly in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define this category in the Estuarine wetlands have changed (see p.)

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

☒ NO – go to 3 ☐ YES – The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.

3. Does the wetland 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 (8.1 ha) in size,

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ YES – The wetland class is **Lake-fringe (Limnetic Fringe)**

4. Does the wetland 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 through a channel, or it may spread across the surface, but no water stays for long periods of time.

☐ The water is not ponded or flowing impounded.

NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (microtopographic depressions are usually <1 ft diameter and less than 1 ft deep).*

☒ NO – go to 5 ☐ YES – The wetland class is **Slope**

Comments

5. Does the wetland unit meet all of the following criteria?

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from the stream or river

☐ The overbank flooding occurs at least once every two years.

NOTE: *The overbank flooding must occur in the portion of the wetland that is within the 100-year floodplain.*

☒ NO – go to 6 ☐ YES – The wetland class is **Riverine**

6. Is the wetland in a topographic depression in which water ponds, or is saturated to the surface, at some time of the year. *This water then may slowly drain, or evaporate, leaving behind a saturated soil.*

☐ NO – go to 7 ☒ YES – The wetland class is **Depressional**

7. Is the wetland located in a very flat area with no obvious depressions and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be in a flat, low lying area in the middle of a slope.

☐ NO – go to 8 ☐ YES – The wetland class is **Depressional**

8. You wetland unit may be difficult to classify and perhaps you can see several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. (CAUTION: AND DOES NOT FITEACH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUES. 5 AND 6 ANALYZE 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 the wetland unit being rated	*Wetland Class to Use in Rating*
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along a stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Sub. Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with mixed characteristics

If you are unable 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.

Comments

		Points
D	**Depressional and Flow-through Wetlands**	
D	**D 1. Does the wetland have the potential to improve water quality?**	*(see p.39)*
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) — points = 3 Water has an intermittently flowing, OR is a seasonally ponded, permanently flowing outlet — points = 2 Water has an intermittently, or slightly constricted, surface outlet (you can't see flowing water) — points = 1 Unit is "flat" depression (Q 7 in key), with no discernable outlet, or the outlet is a culvert or ditch — points = 1 *(Check to see if unit is a "Depressional Wetland with Permanently Flowing Outlet")* Provide photo or drawing	Figure ___ 2
D	D 1.2 Is the unit's outlet below the surface (or the O horizon) is only or mainly fine textured (clay, silt, or organic)? (see NRCS definitions) YES — points = 4 NO — points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forested trees): Wetland has persistent, ungrazed, vegetation in > 95% of area — points = 5 Wetland has persistent, ungrazed, vegetation in > 1/2 of area — points = 3 Wetland has persistent, ungrazed vegetation in > 1/4 of area — points = 1 Wetland has persistent, ungrazed vegetation in < 1/4 of area — points = 0 Map of Cowardin vegetation classes	Figure ___ 1
D	D 1.4 Characteristics of seasonal ponding or inundation. *This is the area of the wetland that is ponded for at least 2 months, not the area inundated during the year. Do not count the area that is permanently ponded. Estimate depth at the deepest ponded area during a typical year.* Area seasonally ponded > 1/2 total area of wetland — points = 4 Area seasonally ponded > 1/4 total area of wetland — points = 2 Area seasonally ponded < 1/4 total area of wetland — points = 0 Map of hydrologic units	Figure ___ 1
D	Total for D 1 — *Add the points in the boxes above*	3
D	**D 2. Does the wetland have the opportunity to improve water quality?** *(see p.44)* *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. Place notes of the following information provide the sources of pollutants. A list only lists pollutants coming from surface sources. For any single source, mark only one category.* ☒ Upgradient or the wetland receives 201 L ☐ Untreated stormwater discharges to wetland ☐ Has septic or sewage within 100 ft of wetland ☐ Agricultural, other discharges into wetland (for example developed areas, manure storage, animal debris, crop, or other logging) ☐ Residential, urban areas, golf courses, and parks > 1/2 of wetland — multiplier ☐ Wetland is fed by groundwater that is susceptible to pollution or storage ☐ Other: ___ ☒ YES — multiplier is 2 ☐ NO — multiplier is 1	(see p.44) multiplier 2
D	**TOTAL - Water Quality Functions** — Multiply the score from D1 by D2 *Add score to table on p. 7*	6

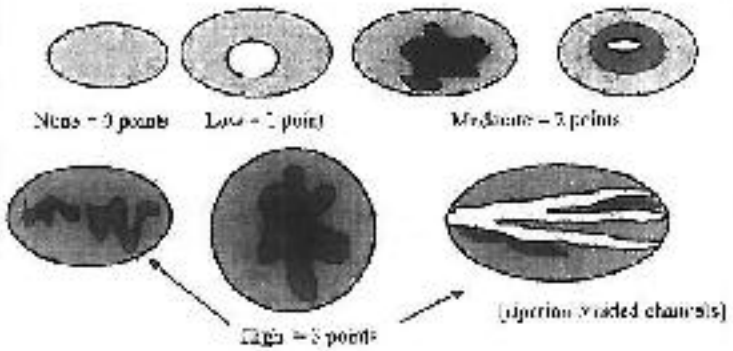
		Points
D	**Depressional and Flow-through Wetlands**	
D	**D 3. Does the wetland have the potential to reduce flooding and erosion?**	*(see p.46)*
D	D 3.1 Characteristics of surface water flows out of the wetland unit: Unit is a depression with no surface water leaving it (no outlet) — points = 4 Unit has an intermittently flowing, OR highly constricted, seasonally flowing outlet — points = 2 Unit has permanently flowing, OR is a depressional wetland with a permanently flowing outlet — points = 1 *Which is most prominent: the very fast or the intermittently flowing?* Unit has an constricted, or slightly constricted, surface outlet (permanently flowing) — points = 0	Figure ___ 4
D	D 3.2 Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For unit with no outlet measure from the surface of permanent water or deepest part if dry.* Marks of ponding are 2 ft or more above the surface or bottom of outlet — points = 7 The wetland has "landforms" which allow ponding — points = 3 Marks of ponding between 2 ft to 0.5 ft from surface or bottom of outlet — points = 5 Marks are at least 0.5 ft to 2 ft from surface or bottom of outlet — points = 3 Wetland is flat (you in Q 7 in Q 7 not key) but has small depressions on the surface that trap water — points = 1 Marks of ponding less than 0.5 ft — points = 0	Figure ___ 0
D	D 3.3 Contribution of wetland to storage in the watershed: *Estimate the ratio of the area of upgradient landscape draining surface water to the wetland to the area of the wetland itself.* The area of the basin is less than 10 times the area of unit — points = 5 The area of the basin is 10 to 100 times the area of the unit — points = 3 The area of the basin is more than 100 times the area of the unit — points = 0 Indicate ratio in the FLATS notes — points = 5	Figure ___ 0
D	Total for D 3 — *Add the points in the boxes above*	4
D	**D 4. Does the wetland have the opportunity to reduce flooding and erosion?** *(see p.47)* *Answer YES if the wetland is in a location in the watershed where the flood storage or retention in water it holds is important to downstream property and/or public resources from flooding or excessive stream flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, dike, pump, culvert, reservoir, etc. OR if you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur.* *Check indicators of the following indicators of opportunity apply.* ☐ Wetland is in a basin with a river or stream that has flooding problems ☐ Wetland drains to a river or stream that has flooding problems ☐ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems ☐ Other: ___ ☐ YES — multiplier is 2 ☒ NO — multiplier is 1	(see p.47) multiplier 1
D	**TOTAL - Hydrologic Functions** — Multiply the score from D3 by D4 *Add score to table on p. 7*	4

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS – Questions that wetland functions to provide important habitat	Points
H 1. Does the wetland have the potential to provide habitat for many species?	
H 1.1 Vegetation structure (see p. 77) *Check the types of vegetation classes present (as defined in the Cowardin) – See threshold for each class: 5 acres or more that 10% of the area of unit is nearer than 2.5 acres* ☐ aquatic bed ☒ emergent plants ☐ scrub/shrub (areas where most of the area is covered by shrubs or saplings) ☐ forested (areas where trees have >30% cover) *If the unit has a forested class, check if:* ☐ Persistent ones (at least 5 out of 7 strata (canopy, sub-canopy, snags, herbaceous, moss/ground cover) that each cover 20% within the forested polygon *Add the number of vegetation types that qualify. If you chose:* 4 types or more points = 4; 3 types points = 3; 2 types points = 1; 1 type points = 0 — Map of Cowardin vegetation classes	Figure__ 6
H 1.2 Hydroperiods (see p. 78) *Check the types of water regimes (or hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 5 acres to count. Add bonus for additional hydroperiods.* ☐ Permanently flooded or inundated ☒ Seasonally flooded or inundated ☐ Occasionally flooded or inundated ☒ Saturated only ☐ Permanently flowing stream or river is contained in the wetland ☐ Seasonally flowing stream or river is contained in the wetland ☐ Lake-fringe wetland = 2 points ☐ Freshwater tidal wetland = 2 points — 4 or more types present: points = 3; 3 types present: points = 2; 2 types present: points = 1	Figure__ 1
H 1.3 Richness of Plant Species (see p. 79) *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.) You do not need to identify the species. Do not include Reed canarygrass, purple loosestrife, Canadian Thistle.* If you counted: > 19 species points = 2; 5 – 19 species points = 1; < 5 species points = 0 — *List species below if you want to:*	1

Total for page: 2

	Figure__
H 1.4 Interspersion of habitats (see p. 79) Decide from the diagram below whether interspersion between Cowardin vegetation classes (listed in H 1.1), or classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	8



NOTE: If you have four or more classes in these vegetation classes, and open water is a class, it always "high". **Use map of Cowardin vegetation classes**

H 1.5 Special habitat features (see p. 79) *Check the special features that are present in the wetland. The number of checks is the number of points you get for the rest of the form.* ☐ Large, downed, woody debris within the wetland (>4 in. diameter and 6 ft long). ☐ Standing snags (diameter at 1 foot is >4 inches) in the wetland ☐ Undercut banks are present for at least 6.6 ft. (and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with, the wetland, for at least 33 ft (10m) ☐ Stable steep banks of fine material that might be used by beavers or muskrats for denning (>45 degrees slope) OR steep banks of peat/muck that have not been cut/burned/grazed ☐ At least 1/4 acre of ungrazed or ungraded emergent or scrub/shrub wetland vegetation as measured on the ground. (Or seasonally inundated pastures for egg-laying by amphibians) ☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants. *Note: The 25% criterion is only for plants listed on page 103 in the manual.*	0
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 have the opportunity to provide habitat for many species?

H 2.1 Buffer (see p. 89)

Choose the description that best represents condition of buffer of wetland. The highest scoring review that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."

- ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures within the undisturbed part of buffer (pilings, docks, manmade islands, no grazing, no landscaping, no daily human use) — Points = 5
- ☐ 120 m (394 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. — Points = 4
- ☐ 50 m (150 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. — Points = 4
- ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for 25-50% circumference. — Points = 3

If buffer does not meet any of the three criteria above

- ☐ No paved areas (except paved trails) or buildings within 50 m (164 ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. — Points = 2
- ☐ No paved areas or buildings within 50 m (164 ft) of wetland for 25-95% circumference. Light to moderate grazing or lawns are OK. — Points = 2
- ☒ Heavy grazing in buffer. — Points = 1
- ☐ Vegetated buffers are narrow or absent for most of the circumference (e.g. diked ponds, parking, lawn, backyard extend to edge of wetland). — Points = 0
- ☐ None of the above. — Points = 0

Attach photo showing buffer

H 2.2 Corridors and Connections (see p. 89)

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 50% cover of shrubs, forest, or undisturbed prairie, that connects to other habitats, other wetlands or undisturbed uplands that are at least 250 acre in size? (Lines in aerial photos, hedgerows, grassy strips, power lines, etc. are not considered a corridor.)

☐ YES = 4 points (go to H 2.3) ☒ NO → go to H 2.2.2

H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (within riparian or upland) that is at least 50 ft wide, has at least 50% cover of shrubs or forest, and connects to other habitats, other wetlands or undisturbed uplands that are at least 25 acres in size (within Lake Ledge we use 10)? (This does not have an undisturbed corridor is an OK question.)

☐ YES = 2 points (go to H 2.3) ☒ NO → go to H 2.3

H 2.3 Is the wetland

within 1 mi (1 km) of a breeding or year-round water source OR
within 5 mi of a large field or pasture (only area of this type)
within 1 mi of a lake greater than 20 acres?

☒ YES = 1 point ☐ NO = 0 points

Total for page: 2

H 2.3 Have considerations in the private habitats rated by WDFW been used and complete descriptions of WDFW priority habitats, and the species in which they can be found, in the PHS report (http://wdfw.wa.gov/hab/phsmain.htm)

Which of the following priority habitats are within 3,000 ft (900 m) of the wetland unit? (NOTE: The connections do not have to be continuous or contiguous.)

- ☐ 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 (pg. 179; descriptions in WDFW PHS report p. 151).
- ☐ Herbaceous Balds: Vegetated non-forested patches on hilltops or south-facing slopes.
- ☐ Old-growth/Mature Forest: (Including Douglas-fir, Western hemlock, Western red cedar, and Sitka spruce) Stands at least 2 acres in size, containing a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/ac) > 81 cm (32 in) dbh or > 200 years of age. (Nature Serve) Stands with average diameter exceeding 53 cm (21 in) dbh crown cover may be less than 100%; crown cover may be less than 10%, decadence, numbers of snags, and quantity of large downed material is generally less than that found in stands 200 - 500 years old west of the Cascade crest.
- ☐ Oregon White Oak: Woodlands Stands of pure oak or oak-mixed conifer woodlands where canopy coverage of the oak component is important. (WDFW priority 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 have the form of a dry prairie or a wet prairie (WDFW PHS report p. 161).
- ☐ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide for long-term habitat requirements for instream fish and wildlife resources.
- ☐ Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Net Shore, Open Coast, Nearshore, and Puget Sound Nearshore. (WDFW priority of habitat and the definition of "relatively undisturbed" are in WDFW report pgs. 159-160 and glossary in Appendix A)
- ☐ Cave: A naturally occurring cavity, room, and or system of interconnected passages under the earth in soil, rock, ice or other geological formations large enough to contain a human.
- ☐ Cliff: Greater than 7.6 m (25 ft) high and occurring below 610 m.
- ☐ Talus: Heterogeneous areas of rock rubble ranging in size from 0.3 - 2.2 m (0.2 - 5.5 ft), composed of basaltic, andesitic, sedimentary rock, including strong slopes and cliff bridges. May be associated with Cliff.
- ☐ Snags and Logs: These are invisible snags if they are dead or dying and either of them down the potential to enable cavity excavation in wildlife. Firmly snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Firmly 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 = 2 points
If wetland has 1 priority habitat = 1 point — No habitats = 0 points

Note: All regulated wetlands may be considered to provide habitat for some species. Only wetlands that score yes on this question should be considered for special management.

H 2.4 Wetland Landscape *(Use the wetland description of the landscape around the wetland that best fits) (see p. 84)* ☐ There are at least 3 other wetlands within ¼ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some farming, but connections should NOT be blocked by paved roads, fill, lakes, or other development). points = 5 ☐ The wetland is Lake fringe on a lake with little disturbance and there are 3 other lake fringe wetlands within ¼ mile points = 5 ☒ There are at least 3 other wetlands within ¼ mile, BUT the connections between them are disturbed. points = 3 ☐ The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within ¼ mile points = 3 ☐ There is at least 1 wetland within ¼ mile. points = 2 ☐ There are no wetlands within ¼ mile points = 0	3
H 2.5 TOTAL Score: opportunity for providing habitat *Add the scores in the ability to above*	5
TOTAL for H 1 from page 14	2
Total Score for Habitat Functions — add the points for H 1, H 2 and record the result on p. 1	7

Comments

Project name or number

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2004 to incorporate [illegible] and Ecology's [illegible] guidance

Name of wetland (if known): Wetland "H" Date of site visit: 11/18/2002

Rated by A. Merle Trained by Ecology? Yes ☒ No ☐ Date of Training: 10/2006

SECTION/TOWNSHIP/RANGE: 29/1-R/2E/2W Is S/N/R in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure _____ Estimated size 7,897 sf

DRAFT SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☒ IV ☐

Category I = Score >=70	Score for Water Quality Functions: 13
Category II = Score 51-69	Score for Hydrologic Functions: 9
Category III = Score 30-50	Score for Habitat Functions: 14
Category IV = Score < 30	TOTAL Score for Functions: 30

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☐

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☒
Natural Heritage Wetland	☐	Riverine	☐
Bog	☐	Lake fringe	☐
Mature Forest	☐	Slope	☐
Old Growth Forest	☐	Flats	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above	☐	Check if unit has multiple HGM classes present	☐

Comments

Wetland name or number

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 species or habitat found in the wetland.

Check List for Wetlands That Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (TE species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	☐	☒
SP2. *Has the wetland unit been determined 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 1 Natural Heritage Wetlands (see p. 19 of this form).	☐	☒
SP3. *Does the wetland contain individuals of Priority species listed by the WDFW for breeding?*	☐	☒
SP4. *Does the wetland have other significance as addition to its functions?* For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or it has been mapped as having special significance	☐	☒

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using Ecology's Guide. See p. 24 for more detailed instructions on classifying wetlands.

Comments

Classification of Wetland Units in Western Washington

1. Are the water levels in the wetland usually controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ YES – The wetland class is Tidal Fringe

Does it lie entirely in the water during period of annual low flow below the ordinary high water mark (or MHW)? ☐ YES – Freshwater Tidal Fringe ☐ NO – Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is a Saltwater Tidal Fringe it is called an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the "Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in the revision. To maintain consistency between editions the term "Estuarine" wetland is kept. Please note however, that the descriptions that define Category I and II estuarine wetlands have changed (see p. [illegible]).

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water contribute less than 10% of water to the unit.

☒ NO – go to 3 ☐ YES – The wetland class is Flats

If the wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.

3. Does the wetland 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 it) that is at least 20 acres (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.5 ft (2 m)?

☒ NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)

4. Does the wetland meet all of the following criteria?

☐ The wetland is on a slope (*slope can be very gentle*)

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from a seep. It may flow subsurface, as shallow flow, or it may be ponded behind depressions or behind barriers.

☐ The water leaves the wetland without being ponded?

NOTE: *Neither water that ponds in the depressions in a flat wetland nor water that is temporarily ponded behind a culvert, or other man-made structure, or behind beaver dams, or other similar structures qualifies.*

☒ NO – go to 5 ☐ YES – The wetland class is Slope

Comments

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

☐ The unit is in a valley, or a depression surrounded by higher ground, such that it is inundated by overbank flooding from nearby streams

☐ The overbank flooding occurs at least once every two years

NOTE: *The wetland may contain ponds, however, the water in the ponds should be shallow (less than 6 ft or 2 m) and not cover more than 30% of the wetland area.*

☒ NO – go to 6 ☐ YES – The wetland class is Riverine

6. Is the wetland in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *Only count this any ponds, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☒ YES – The wetland class is Depressional

7. Is the wetland located in a very flat area with no obvious depressions and no overbank flooding. The unit does not pond surface water more than a few inches. The wetland may be flooded, but has a strong vertical component.

☐ NO – go to 8 ☐ YES – The wetland class is Depressional

8. Your wetland seems to be difficult to classify, and probably no one else could either. For example, water in the basin of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its edge. GO BACK AND REPEAT BY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 5-7 APPLY TO THE DIFFERENT AREAS IN THE UNIT. (Make a rough sketch showing your results). Use the following table to identify the appropriate class to use for the rating system if you have several hydrologic classes present within your wetland. NOTE: Use the table only if the class that is recommended by 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 1 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the unit.

Most Common water the wetland may contain	Rate Class of the wetland
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along mean water boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

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

Comments

D	Depressional and Flats Wetlands WATER QUALITY FUNCTIONS – Indicators that the wetland is functioning to improve water quality	Points (circle one per box)
D	**D 1. Does the wetland have the potential to improve water quality?**	See D.2.0
D	D 1.1 Characteristics of surface water flows out of the wetland Unit is a depressional wetland with no surface water leaving it (no outlet) — points = 3 Water leaves wetland as slowly flowing OR highly constricted, permanently flowing outlet — points = 3 Wetland has moderately constricted or slightly constricted, seasonally flowing outlet — points = 1 Unit is a "flat" depression (D.1.1 on key), or is in the "Flats" class, with permanently ponded or saturated soils, and no obvious outlet (other than a very constricted one) (Which is not permanently flowing, but which is "obviously flowing") Unit is a depressional, or slightly constricted, surface outlet (seasonally flowing) — points = 1 Provide photo or drawing	Figure ____ 3
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES — points = 4 NO — points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forested class) Wetland has persistent, ungrazed, vegetation >= 95% of area — points = 5 Wetland has persistent, ungrazed, vegetation >= 1/2 of area — points = 3 Wetland has persistent, ungrazed, vegetation >= 1/10 of area — points = 1 Wetland has persistent, ungrazed, vegetation <1/10 of area — points = 0 Map of Cowardin vegetation classes	Figure ____ 3
D	D 1.4 Characteristics of seasonal ponding or inundation *This is the area of the wetland that is ponded for at least 2 months, but dry out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 7 out of 10 years.* Area seasonally ponded is > 1/2 total area of wetland — points = 4 Area seasonally ponded is > 1/4 total area of wetland — points = 2 Area seasonally ponded is < 1/4 total area of wetland — points = 0 Major Hydroperiods	Figure ____ 0
D	**Total for D 1** *Add the points in the boxes above*	6
D	**D 2. Does the wetland have the opportunity to improve water quality?** *Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland (or would otherwise) or there is water quality improvement provided to water leaving the wetland? Note which of the following conditions provide the sources of pollutants. If you say there pollutants coming from several sources, but only one type of pollutant, list only one source.* ☒ There is a wetland within 150 ft. ☐ Unit is downgradient of potential contaminant sources. ☐ Unit receives discharge from a stream within 150 ft of the unit ☐ Unit receives runoff or flow from a pasture, farm, feedlot, road, or other source ☐ Residential, commercial, or agriculture is adjacent to wetland ☐ Wetland is fed by groundwater highly influenced by human activities ☐ Other ☒ YES — multiplier = 2 ☐ NO — multiplier = 1	See D.2.0 multiplier 2
D	**TOTAL** - Water Quality Functions *Multiply the score from D1 by D2* *Add score to table on p. 1*	12

D	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream erosion	Points
D	**D 3. Does the wetland have the potential to reduce flooding and erosion?**	See D.3.0
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depressional wetland with no surface water leaving it (no outlet) — points = 4 Unit has an constantly flowing, OR highly constricted, permanently flowing outlet — points = 3 Unit is flat depression (D.1.1 on key), or in the "Flats" class, with permanently ponded or saturated soils, and no obvious outlet (other than a very constricted one) (Which is not permanently flowing, but which is "obviously flowing") Unit has an unconstricted, or slightly constricted, surface outlet (seasonally flowing) — points = 2	Figure ____ 4
D	D 3.2 Depth of storage during wet weather *Estimate the height of ponding above the lowest elev. of the outlet. For wetlands with no outlet, measure to the surface of permanent water or depth of wet soil in dry season.* Maximum depth of ponding is 2 ft or more above the surface or lowest elev. of the outlet — points = 7 The wetland is a "flat-wide" wetland (points = 5) Maximum depth of ponding between 2 ft to < 3 ft from surface to bottom of outlet — points = 5 Maximum depth of ponding 1 ft to < 2 ft from surface to bottom of outlet — points = 3 Wetland is flat (yes to Q 2 or Q. 3 on key) but has small depressions on the surface that impound water — points = 1 Maximum depth of ponding less than 0.5 ft — points = 0	Figure ____ 0
D	D 3.3 Contribution of wetland to storage in the watershed *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of unit — points = 5 The area of the basin is 10 to 100 times the area of the unit — points = 3 The area of the basin is more than 100 times the area of the unit — points = 0 Entire unit is in the FLATS class — points = 0	Figure ____ 0
D	**Total for D 3** *Add the points in the boxes above*	4
D	**D 4. Does the wetland have the opportunity to reduce flooding and erosion?** *Answer YES if the wetland is in a location in the watershed where its flood storage or retention/detention provides, helps protect downstream property and aquatic resources from flooding or excessive water flows. Answer NO if the water coming into the wetland is controlled by a structure such as flow gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 50% of the water in the wetland is from groundwater or springs which discharge groundwater in amounts that are not significant.* *Note which of the following conditions of opportunity apply.* ☐ Wetland is in a basin where a river or stream that has flooding problems ☐ Wetland drains to a river or stream that has flooding problems ☐ Wetland receives surface and impounded surface runoff water that might otherwise flow into a river or stream that has flooding problems ☐ Other ☐ YES — multiplier is 2 ☒ NO — multiplier is 1	See D.4.0 multiplier 1
D	**TOTAL** - Hydrologic Functions Multiply the score from D.3 by D.4 *Add score to table on p. 1*	4

Comments

These questions apply to wetlands of all HGM classes. | **Points** (circle one)

HABITAT FUNCTIONS – indicators that wetland functions to provide important habitat

H 1. Does the wetland have the potential to provide habitat for many species?

H 1.1 Vegetation structure (see p. 72) — Figure

Check the types of vegetation classes present (as defined by Cowardin). Use threshold for each class: 10 meters or more wide AND of the area of area smaller than 2.5 acres.

- ☐ Aquatic bed
- ☒ Emergent plants
- ☒ Scrub-shrub (areas where shrubs have >20% cover)
- ☐ Forested (areas where trees have >20% cover)

If you marked a forested class check it:

- ☐ Forested must have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, ground cover) that each cover 20% within the forested polygon

Add the number of vegetation types that qualify. If you have

Use of Cowardin vegetation classes	4 types or more	points = 4
	3 types	points = 2
	2 types	points = 1
	1 type	points = 0

1

H 1.2 Hydroperiods (see p. 73) — Figure

Check the types of water regimes (hydroperiods) observed within the wetland. The water regime has to cover more than 10% of the wetland to count. (Not to cover 10% for the three types of hydroperiods.)

- ☐ Permanently flooded or inundated — 4 or more types present — points = 3
- ☐ Seasonally flooded or inundated — 3 types present — points = 2
- ☒ Occasionally flooded or inundated — 2 types present — points = 1
- ☒ Saturated only
- ☐ Permanently flowing stream or river in, or adjacent to, the wetland
- ☐ Seasonally flowing stream in, or adjacent to, the wetland
- ☐ *Lake-fringe wetland* = 2 points
- ☐ *Freshwater tidal wetland* = 2 points

2

H 1.3 Richness of Plant Species (see p. 75)

Count the number of plant species in the wetland that cover at least 10 ft². (Species richness of the same species can be combined to meet the size threshold.)

You do not have to name the species.

Use Washington Native Plant Society, Flora of the Pacific Northwest, or Cascadia Chapter, Flora of Washington to help you count species.

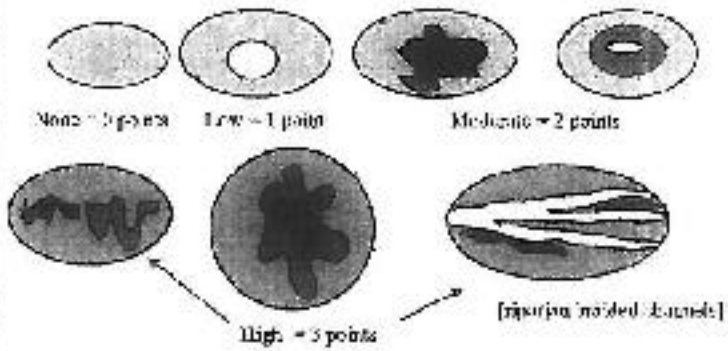
If you counted:	> 19 species	points = 2
	5 – 19 species	points = 1
Add points below if you counted:	<5 species	points = 0

1

Total for page: 5

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

Decide from the diagram below whether interspersion between Cowardin vegetation classes (described in H 1.1), or classes and unvegetated areas (open water or mud flats) is none, low, moderate, or high.



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**

2

H 1.5 Size of habitat patch (see p. 77)

Check the patches found within the wetland. The number of checks is the number of points you get for the habitat size.

- ☒ Large, downed woody debris within the wetland (>4 in. diameter and 6 ft long)
- ☒ Standing snags (diameter at breast height (4.5 ft) of 4 in or more)
- ☐ Undercut banks are present for at least 0.5 m (1.6 ft) and are at least 1.0 ft (0.3 m) above the water for at least 33 ft (10 m)
- ☐ Stable sloping banks of the water of the right bank (as seen by viewer on stream facing downstream) OR signs of more frequent activity are present (such as shrubs or trees that have not yet fully matured)
- ☐ At least 1/4 acre of non-aquatic persistent cover is within 330 ft of the wetland and is separated from the wetland by no more than 330 ft of cover that is permanently or seasonally inundated (*not suitable for egg-laying by amphibians*)
- ☐ Invasive plant cover less than 25% of the wetland area in each stratum of plants (*Note: The 25% cutoff is only relevant for the purposes of page 75 to score*)

2

H 1. TOTAL Score – potential for providing habitat: *Add the scores from H 1.1, H 1.2, H 1.3, H 1.4, H 1.5* — 7

Comments:

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 80) "Buffer" is the vegetated area that surrounds a wetland. This buffer is a critical area that protects the wetland from human disturbance. The buffer should be measured from the edge of the wetland to the first point where there is a permanent structure or a lawn. Buffers should be measured from the edge of the wetland to the first point where there is a permanent structure or a lawn. ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >75% 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 ☐ 50 m (165 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >75% of circumference. Points = 4 ☐ 50 m (165 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% of circumference. Points = 4 ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% of circumference. Points = 3 ☒ 50 m (165 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% of circumference. Points = 3 ☐ If buffer does not meet any of the three criteria above ☐ No paved roads (except paved trails), or buildings within 25 m (80 ft) of wetland >50% of circumference. Light to moderate grazing or hayfields OK Points = 2 ☐ No paved roads or buildings within 50 m of wetland for >50% of circumference. Light to moderate grazing or hayfields OK Points = 2 ☒ Heavy grazing in buffer Points = 1 ☐ Vegetated buffers are <20 m wide (66 ft) for more than 50% of the circumference (e.g. tilled fields, pasture, small residential areas extend to edge of wetland.) Points = 0 ☐ Buffer does not meet any of the criteria above Points = 1 **Cite or photo showing buffers**	Figure __ 3
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 100 ft wide, has at least 30% cover of shrubs or forest, and connects to other wetlands or undisturbed uplands that are at least 2.5 acres in size? (paved roads, railroads, and mowed grass do not count as breaks in the corridor) ☐ YES – 4 points (go to H 2.2.2) ☒ NO – go to H 2.2.3 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50 ft wide, has at least 30% cover of shrubs or forest, and connects to other wetlands or undisturbed uplands that are at least 2.5 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor (see the question above) ☐ YES = 2 points (go to H 2.3) ☒ NO – H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8 km) of a brackish or salt water estuary OR within 5 mi of a large lake or wetland (>40 acres) OR within 1 mi of a large patch (more than 20 acres)? ☒ YES = 1 point ☐ NO = 0 points	1

Total for page: 4

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see text and consider descriptions of WDFW priority habitats, and the species for which they are designated in the WHS report http://wdfw.wa.gov/hab/phsvis.htm) Which of the following priority habitats are within 330 ft (100 m) of the wetland unit? NOTE: Accessibility does not cause to be marginally applicable. ☐ 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 birds and wildlife (all descriptions in WDFW PHS report p. 152). ☐ Herbaceous Balds: Variable size patches of grass and forbs on shallow soil over bedrock. ☐ Old-growth/Mature forests: Old-growth west side Douglas-fir stands at least 3 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 diameter exceeding 51 cm (20 in) dbh, canopy cover may be less than 70%; crown cover may be less than 100%; snags, downed logs, and quantity of large downed material generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest. ☐ Oregon White Oak: Stands of pure oak or oak-conifer associations where canopy coverage of the oak component is important (all descriptions in WDFW PHS report p. 156). ☐ Riparian: The area adjacent to aquatic ecosystems 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 be dominated by grasses or a wet prairie. Still descriptions in WDFW PHS report p. 161. ☐ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide instream and adjacent habitat for aquatic life, including water quantity and quality, channel structure and complexity, flow regime, sediment load, and nutrients. ☐ Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Net-shore, Open Coast Nearshore, and Puget Sound Nearshore. (for descriptions of nearshore and the definition of relatively undisturbed see WDFW report pp. 172-183 and glossary in appendix A). ☐ Caves: A naturally occurring cavity, room, vault or system of interconnected passages under the earth's surface, or in the geological formations and large enough to contain a person. ☐ Cliffs: Greater than 7.6 m (25 ft) high and occurring below 1,200 ft. ☐ Talus: Homogeneous areas of rock rubble ranging in average size from 0.3 - 2.0 m (0.3 - 6.5 ft), composed of hard igneous, metamorphic or sedimentary rock, including rockslides and talus talings. May be associated with cliffs. ☐ Snags and Logs: Dead or decaying trees or logs. If they are dead or decay and exhibit evidence of cavities or other structures suitable for use by wildlife. Priority snags have a complete crown, are at least 6 m (20 ft) in height, and are > 2 m (6.5 ft) in height. Priority logs are > 20 cm (12 in) in diameter at the large 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 riparian wetlands are hydrologically connected but are not included in the list. Herbaceous areas are addressed in question H 2.4.*	0

H.2.A. Wetland Landscape (choose the one description of the landscape around the wetland that best fits from p. 84) ☐ 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 ☐ This wetland is lake-fringe on a lake with little disturbance and there are 3 other lake fringe wetlands within ½ mile points = 5 ☒ There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 ☐ This wetland is lake-fringe on a lake with disturbance and there are 3 other lake fringe wetlands within ½ mile points = 3 ☐ There is at least 1 wetland within ½ mile points = 2 ☐ There are no wetlands within ½ mile points = 0	5
H.2. TOTAL Score (opportunity for providing habitat) *Add the scores in the column above*	7
TOTAL for H.1 from page 11	7
Total Score for Habitat Functions — add the points for H.1, H.2 and record the result on p. 2	14

Comments

Wetland name or number ____

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2006 to [illegible]

Name of wetland (if known): Wetland 'B' Date of site visit: 11/18/2006

Rated by A. Anerle Trained by Ecology? Yes ☒ No ☐ Date of Training: 10/2006

SECTION 1 TOWNSHIP: 12N RANGE: 2W Is S/T/R in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure ____ Estimated size 9,612 sf

DRAFT 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	16
	Score for Hydrologic Functions	4
	Score for Habitat Functions	12
	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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☒
Natural Heritage Wetland	☐	Riverine	☐
Bog	☐	Lake-fringe	☐
Mature Forest	☐	Slope	☐
Old Growth Forest	☐	Flats	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above	☐	Check if unit has multiple HGM classes present	☐

Comments

Wetland name or number ____

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 Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland 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.	☐	☒
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).	☐	☒
SP3. *Does the wetland contain individuals of Priority species listed by the WDFW for the state?*	☐	☒
SP4. *Does the wetland have a local significance in addition to its functions?* For example, the wetland has been identified in the Shore the Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.	☐	☒

To complete the next part of the document you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into three that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Comments

Wetland name or number ___

Classification of Wetland Units in Western Washington

1. Are the water levels in the wetland usually controlled by tides (i.e. not right during flow)?

☒ NO – go to 2 ☐ YES – the wetland class is Tidal Fringe

If yes, is the salinity of the water during periods of normal flow (low tides) 0.5 ppt (parts per thousand)? ☐ YES – Freshwater Tidal Fringe ☐ NO – Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it's a Saltwater Tidal Fringe it's a tidal or an Estuarine wetland. Wetlands that were called estuarine in the Cowardin classification of the rating system are called Sal. Water Tidal Fringe in the Hydrogeomorphic Class/Location. Estuarine wetlands were categorized separately in the earlier editions, but this separation is being kept in this revision. To minimize revisions to forms, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Groups I and II estuarine wetlands have changed (see p. ___)

2. The entire wetland unit is flat and precipitation is the only source (>95%) of water to it. Groundwater and surface water flow is not a source of water to the unit.

☒ NO – go to 3 ☐ YES – The wetland class is Flats

If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.

3. Does the wetland 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 25% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)

4. Does the wetland 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 has no ponded areas. It may have a channel, but it does not have a stream or river within it.

☐ The water leaves the wetland without being impounded?

NOTE: *Surface water does not pond in these types of wetlands except around beaver dams or behind culverts or behind hummocks (these situations are usually small, temporary, and less than 1 foot deep).*

☒ NO – go to 5 ☐ YES – The wetland class is Slope

Comments

Wetland name or number ___

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

☐ The wetland is in a valley, or contained in a depression, such that it can receive floodwater flooding from an adjacent stream or river.

☐ The overbank flooding occurs at least once every two years.

NOTE: *The wetland cannot be a depression that was filled with water when the river was first built.*

☒ NO – go to 6 ☐ YES – The wetland class is Riverine

6. Is the wetland in a topographic depression in which water ponds or is saturated to the surface, at some time of the year. *This may be the very wet season, but it may be later than the beginning of the wet season.*

☐ NO – go to 7 ☒ YES – The wetland class is Depressional

7. Is the wetland located in a very flat area with no obvious depression and no overbank flooding? The wetland does not pond surface water more than a few inches. The soil is saturated to the surface by high groundwater in the area. The wetland may be a closed, but very flat natural basin.

☐ NO – go to 8 ☐ YES – The wetland class is Depressional

8. Your wetland was not easily classified. It may be classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine fringe along a stream. Or a wetland may be in a depression but receive water at the edge from a lake. DO BACK AND FORTH THE WORKS 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 classes for the rating system if you have several HGM classes present in your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 1/4 or more of the landform of the wetland unit being rated. If the area of the class in the landform is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the landform.

[illegible]	[illegible]
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Sal. Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

Type your initials if it looks as the which of the above criteria apply to your wetland, or you have checked 2 HGM classes or are a wetland that is very, classify the wetland as Depressional for the rating.

Comments

D	Depressional and Flats Wetlands WATER QUALITY FUNCTIONS – Indicators that the wetland performs functions to improve water quality	Points (only 1 score per box)
D	D 1. Does the wetland have the potential to improve water quality?	(maxpt 8)
D	D 1.1 Characteristics of surface water flows out of the wetland: Outlet is a depression with no surface water leaving it (no outlet) points = 3 Wetland has a broad, flat outlet, OR highly constricted, permanently flowing outlet points = 2 Wetland has a moderately constricted, surface water permanently flowing points = 1 Outlet is "flat" (depressional/DQ, flat but not in the Flats class) with no well defined surface outlet and is obviously manmade or modified to a manmade ditch points = 1 *(if the outlet is not permanently flowing, evaluate as "intermittently flowing")* Provide photo or drawing	Figure___ 3
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (but NOT a peat/muck) YES points = 4 NO points = 0	0
D	D 1.3 Size and richness of persistent vegetation (tall grass, shrubs, and/or forest canopy): Wetland has persistent, ungrazed, vegetation > 2/3 of area points = 7 Wetland has persistent, ungrazed, vegetation > 1/2 of area points = 5 Wetland has persistent, ungrazed vegetation > 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area points = 0 Map of Cowardin vegetation classes	Figure____ 5
D	D 1.4 Characteristics of seasonal ponding or inundation. *This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0 Map of Hydrologic Units	Figure____ 0
D	Total for D 1 *Add the points in the boxes above*	8
D	D 2. Does the wetland have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming in from OR we have data that would tell us that water quality is impaired, flows or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. *It can only have pollutants coming from several sources, but any single source would qualify as applicable.* ☒ Outflow from the wetland is or within 50 ft ☐ Outlet of wetland is within 1/4 mile of wetland ☐ Outlet of wetland is within 1/2 mile of wetland ☐ Agricultural drainage tile water, farm animal waste, or farm fields, roads, or manure spreading ☐ Septic systems, greenhouses, golf courses, or other commercial or industrial ☐ Wetland is fed by groundwater with high phosphorus or nitrogen ☐ Other: ____ ☒ YES multiplier is 2 ☐ NO multiplier is 1	(maxpt 4) (multiplier) 2
D	TOTAL – Water Quality Functions Multiply the score from D1 by D2 *Add score to table on p. 2*	16

D	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream degradation	Points
	D 3. Does the wetland have the potential to reduce flooding and erosion?	(maxpt 8)
D	D 3.1 Characteristics of surface water flows out of the wetland: Outlet is a depression with no surface water leaving it (no outlet) points = 3 Outlet is a broad, slightly flowing, OR highly constricted, permanently flowing outlet points = 2 Outlet is flat (depressional/DQ, flat but not in the Flats class), with permanent surface water and no obvious natural outlet and/or is a manmade ditch points = 1 *(if ditch is not permanently flowing treat as "intermittently flowing")* Outlet is a well defined, slightly constricted, surface stream or deep, narrow, permanently flowing outlet points = 0	Figure__ 4
D	D 3.2 Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For units with no outlet, measure from the lowest elevation of the perimeter to the highest point of ponding.* Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The wetland is a "Depressional" wetland (Points = 5) Marks of ponding between 2 ft and 3 ft from surface or bottom of outlet points = 5 Marks of ponding 0.5 ft to 2 ft from surface or bottom of outlet points = 3 Wetland is flat (as in DQ2 or DQ3 in the key) but has minor depressions on the surface that trap water points = 3 Marks of ponding less than 0.5 ft points = 0	Figure__ 0
D	D 3.3 Contribution of wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire unit is in the FLATS class points = 5	Figure__ 0
D	Total for D 3 *Add the points in the boxes above*	4
D	D 4. Does the wetland have the opportunity to reduce flooding and erosion? Answer YES if the wetland is at a location in the watershed where the flood storage or retention in wave velocity it provides, helps protect downstream property and aquatic resources from flooding or excess stormwater. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, culvert with a flap gate, or you see evidence that more than 50% of the water in the wetland is from groundwater in areas where managing groundwater flooding does not occur. Note which of the following indicators of opportunity apply: ☐ Wetland is in a headwater of a river or stream that has flooding problems ☐ Wetland drains into a river or stream that has flooding problems ☐ Wetland has no outlet and immediate surface runoff water that might otherwise flow into a river or stream that has flooding problems ☐ Other: ____ ☐ YES multiplier is 2 ☒ NO multiplier is 1	(maxpt 4) (multiplier) 1
D	TOTAL – Hydrologic Functions Multiply the score from D3 by D4 *Add score to table on p. 2*	4

Comments

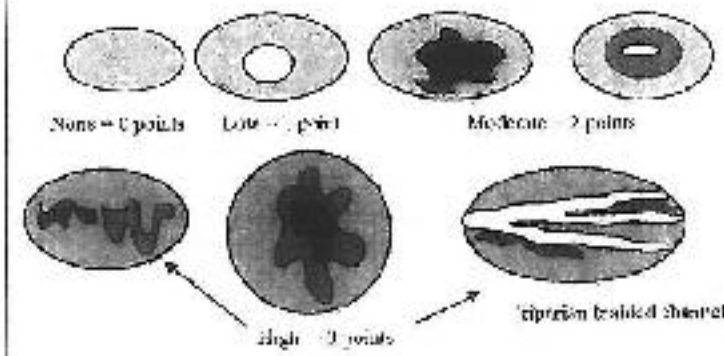
Wetland name or number ____

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS – Questions that wetland functions to provide important habitat	Points (circle one per question)
H 1. Does the wetland have the potential to provide habitat for many species?	
H 1.1 Vegetation structure (see p. 72) *Check the types of vegetation classes present (as defined by Cowardin). Use the field for even class or % cover or more than 10% of the area of unit is smaller than 2.5 acres.* ☐ Aquatic bed ☐ Emergent plants ☒ Scrub/shrub (areas where shrubs have >20% cover) ☐ Forested (areas where trees have >20% cover) *If the unit has only one vegetated class, mark it.* ☐ The wetland unit has 3 out of 5 strata (canopy, subcanopy, shrubs, herbs, ground cover) that each cover 20% within the forested polygon. *Add the number of vegetation types that qualify. If you have:* 4 types or more – points = 4; 3 types – points = 2; 2 types – points = 1; 1 type – points = 0. Map of Cowardin vegetation classes	Figure ___ 0
H 1.2 Hydroperiods (see p. 74) *Check the types of water regimes (hydroperiods) present within the wetland. The water regime must cover more than 10% of the wetland or 5 acres to count. (See text for descriptions of water regimes.)* ☐ Permanently flooded or impounded ☐ Seasonally flooded or inundated ☒ Occasionally flooded or inundated ☒ Saturated only ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream or river in, or adjacent to, the wetland ☐ Lake-fringe wetland = 2 points ☐ Freshwater tidal wetland = 2 points. 4 or more types present: points = 3; 3 types present: points = 2; 2 types present: points = 1	Figure ___ 1
H 1.3 Richness of Plant Species (see p. 75) Count the number of plant species in the wetland that cover at least 10 ft² (different species of the same genus can be combined to meet the threshold). *You do not have to name the species.* Do not include invasive (Class C) or noxious weeds. Cattail, Himalayan blackberry, reed canarygrass, purple loosestrife, Canadian thistle. If you counted: > 19 species – points = 2; 5 – 19 species – points = 1; < 5 species – points = 0. List species below if you want to.	1

Total for page 2

Wetland name or number ____

H 1.4 Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (counted in H 1.1), or classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	Figure ___ 1



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

H 1.5 Special Habitat Features (see p. 77) *Check the boxes for features that are present in the wetland. The number of checks is the number of points you get for the rest of this section.* ☒ Large, downed, woody debris within the wetland (>6 in. diameter and >6 ft long). ☒ Standing snags (diameter at bottom >4 in. dbh) in the wetland. ☐ Undercut banks are present for at least 0.5 ft (15 cm) and for more than a total of 33 ft (10 m) in a stream (or river) in or adjacent to the wetland. ☐ Stable steep banks of fine material that might be used by beavers or muskrats for denning (>30 degree slope). Old signs of recent beaver activity are present (cut shrubs or trees that have not yet decayed or gnawed). ☐ At least 1/4 acre of thin-stemmed persistent hydrophytic vegetation (cattail, bulrush, or similar) that are permanently or seasonally inundated (structure for egg-laying by amphibians). ☐ Invasive plants cover less than 25% of the wetland area in aerial coverage of plants. *Note: The 25% total in each grouping of the wetland on page 18 is an error.*	2
H 1. TOTAL Score – potential for providing habitat *Add the scores from H 1.1, H 1.2, H 1.3, H 1.4, H 1.5*	5

Comments:

H 2. Does the wetland have the opportunity to provide habitat for many species?

H 2.1 Buffer (see p. 44)
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed".

- ☐ 100 m (330ft) of relatively undisturbed vegetated areas, forest, or open water (>95% circumference. Not 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, forest, or open water (>50% circumference) — Points = 4
- ☐ 50 m (150ft) of relatively undisturbed vegetated areas, forest, or open water (>95% circumference) — Points = 4
- ☐ 100 m (330ft) of relatively undisturbed vegetated areas, forest, or open water (>50% circumference) — Points = 3
- ☑ 50 m (150ft) of relatively undisturbed vegetated areas, forest, or open water (>50% circumference) — Points = 3

If buffer does not meet any of the three criteria above:

- ☐ Natural areas (except pasture lands) or buildings within 25 m (80ft) of wetland (>50% circumference. Light to moderate grazing, or lawns are OK) — Points = 2
- ☐ No natural areas or buildings within 50m of wetland (>50% circumference. Light to moderate grazing or lawns are OK) — Points = 2
- ☐ Heavy grazing in buffer — Points = 2
- ☐ Vegetated buffers are <2m wide (6.6ft), or more than 95% of the circumference (e.g. filled lakes, pasture, roads, or a road or railroad bed at edge of wetland) — Points = 0
- ☐ Buffer does not meet any of the criteria above — Points = 1

Total for H 2.1 _____

H 2.2 Connectivity (see p. 44)

H 2.2.1 Is the wetland part of a relatively undisturbed riparian corridor, vegetated corridor, or other open space that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, and connects to another wetland or to a large area of natural habitat that is at least 250 acres in size? (*forest or riparian corridors, fence rows, and power lines are considered nearly or not connected*)

☐ YES = 4 points (go to H 2.3.1) ☒ NO = go to H 2.2.2

H 2.2.2 Is the wetland part of a relatively undisturbed vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs or forest, and connects to another wetland or undisturbed uplands that are at least 25 acres in size? OR is Lake Fenwick wetland, if it does not have an undisturbed corridor as in the question above?

☐ YES = 2 points (go to H 2.3.1) ☒ NO = H 2.2.3

H 2.2.3 Is the wetland:
within 5 mi (8km) of a herbaceous or shrub wetland greater than 1 ha
within 2 mi of a large undeveloped pasture (>40 acres) OR
within 1 mi of a lake greater than 20 acres?

☒ YES = 1 point ☐ NO = 0 points

Total for H 2.2 _____ 1

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see map and complete description of WDFW priority habitats and the counties in which they can be found, in the PHS report Recommendations on Buffers for Priority Habitats)

Which of the following priority habitats are within 3 km (1.8 mi) of the wetland unit? (NOTE: the connection does not have to be functionally verified)

- ☐ Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 ac).
- ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native birds and wildlife (full description in WDFW PHS report p. 157).
- ☐ Herbaceous Balds: Variable size patches of grass and forbs in shallow soils over bedrock.
- ☐ Old-growth/Mature Forest: Old growth was defined as forest stands of any age and species forming a multi-layered canopy with occasional emergent trees, snags, and large woody debris. Mature forest: Stands with average diameter exceeding 53 cm (21 in) dbh. Canopy cover may be less than 100%, crown cover may be less that 100%, decay, deadfall, understory, and quantity of large coarse woody 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 description in WDFW PHS report p. 158).
- ☐ Riparian: The transitional ecological community between terrestrial ecosystems and freshwater aquatic ecosystems through which water, energy, materials, and organisms are transferred or exchanged (full description in WDFW PHS report p. 159).
- ☐ Westside Prairies: Herbaceous balds and bunchgrass prairies (full description in WDFW PHS report p. 159).
- ☐ Instream: The communities of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for native fish and wildlife resources.
- ☐ Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Bluffs and Banks, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of these and the equivalent of relatively undisturbed are in WDFW report pp. 167-169 and glossary in Appendix A).
- ☐ Caves: A naturally occurring cavity, 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: Homogeneous areas of loose rock ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basaltic, andesitic, and/or sedimentary rock, including riprap slides and mine tailings. May be a result of cliffs.
- ☐ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation by wildlife. Priority snags have a minimum diameter (DBH) of 51 cm (20 in) in the Western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the larger end, and > 5 m (20 ft) long.

If one habitat has 4 or more priority habitats = 4 points
If one habitat has 3 priority habitats = 3 points
If one habitat has 2 priority habitats = 2 points No habitat = 0 points

Note: If a wetland is adjacent to a priority habitat, but not connected, it is not included in this list. Nearby wetlands are addressed in question H 2.2.3.

H 2.4 Wetland Landscape (distance to and description of the landscape around the wetland that best fits) (see p. 86) ☐ There are at least 3 other wetlands within ½ mile and the connections between them are relatively unbroken (light grazing between wetlands OK, as is a scattered wall, some housing, but connections should NOT be bisected by paved roads, fill, fields, or other development points = 5 ☐ The wetland is Lake-fringe on a lake with little disturbance and there are 1 or no lake-fringe wetlands within ½ mile points = 5 ☒ There are at least 3 other wetlands within ½ mile, BUT the corridor from between them are disturbed points = 3 ☐ The wetland is Lake-fringe on a lake with disturbance and there are 1 or no lake-fringe wetlands within ½ mile points = 3 ☐ There is at least 1 wetland within ½ mile points = 2 ☐ There are no wetlands within ½ mile points = 0	3
H 2.5 TOTAL Score for opportunity for providing habitat *Add the scores in the column above*	7
TOTAL for H 1 from page 14	5
Total Score for Habitat Functions add the points for H 1, H 2 and record the result on p. 1	12

Comments

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2005 to increase consistency and reliability among users

Name of wetland (if known): Wetland 'T' Date of site visit: 11/15/2006

Rated by A. Aberle Trained by Ecology? Yes ☒ No ☐ Date of Training: 10/2006

SECTION: 1 TOWNSHIP: 12N RANGE: 2W ± S/DR in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure _____ Estimated size 10,577 sf

DRAFT 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	20
Score for Hydrologic Functions	8
Score for Habitat Functions	11
TOTAL Score for functions	39

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☐

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☒
Natural Heritage Wetland	☐	Riverine	☐
Bog	☐	Lake-fringe	☐
Mature Forest	☐	Slope	☐
Old Growth Forest	☐	Flats	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above		Check if unit has multiple HGM classes present	

Comments

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 Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland 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.	☐	☒
SP2. *Has the wetland 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)	☐	☒
SP3. *Does the wetland contain individuals of Priority species listed by the WDFW for the state?*	☐	☒
SP4. *Does the wetland have a local significance in addition to its functions?* 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.	☐	☒

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Comments

Wetland name or title: ____

Classification of Wetland Units in Western Washington

[illegible]

1. Are the water levels in the unit usually controlled by tides (except extreme floods)?

☐ NO – go to 2 ☐ YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of normal low flow below 0.5 ppt (parts per thousand)? ☐ YES – **Freshwater Tidal Fringe** ☐ NO – **Saltwater Tidal Fringe (Estuarine)**

If your wetland can be classified as a Freshwater Tidal Fringe use the form for Riverine wetlands. If it is Saltwater Tidal Fringe it is treated as an Estuarine wetland. We have defined two classes in the estuarine in the first edition (Cowardin, et al.) the tidal Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were designated separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics can define Category I and I estuarine wetlands in new changes in step [illegible].

2. The entire wetland unit is flat and receives water only from precipitation within its watershed (i.e. no water flows in it, in its tributaries and surface water runoff are NOT a source of water to the unit)

☒ NO – go to 3 ☐ YES – The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.

3. Does the wetland meet both of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of open water (such as any ponds or lakes) at least 20 acres (8 ha) in size;

☐ At least 20% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ YES – The wetland class is **Lake-fringe (Littoral or Fringe)**

4. Does the wetland meet all of the following criteria?

☐ The wetland is on a slope (slope can be very gentle);

☐ This water flows through the wetland in one direction (unidirectional) and usually in one channel. It may flow in a channel, as shallow sheet flow, or in many channels without flow in other areas.

☐ The water leaves the wetland without being impounded?

NOTE: *Surface water does not pond in these type of wetlands except possibly in very small and shallow depressions or behind temporary dispersal barriers (no more than 3 feet high)*

☒ NO – go to 5 ☐ YES – The wetland class is **Slope**

Continued

Wetland name or number

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

☐ The unit is in a valley, or drainage channel, where it gets inundated by overbank flooding from a stream or river;

☐ The overbank flooding occurs at least once every two years.

NOTE: *This does not include ponds or lakes that are fed by water channels and are not flooding.*

☐ NO – go to 6 ☒ YES – The wetland class is **Riverine**

6. Is the wetland in a topographic depression in which water ponds or is saturated to the surface at some time during the year? *This means that any wetland, forested, scrub/shrub, or emergent, that is in the interior of the wetland.*

☐ NO – go to 7 ☒ YES – The wetland class is **Depressional**

7. Is the wetland located in a very flat area with no obvious drainage and/or evidence of flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be diked, but has no obvious natural outlet.

☐ NO – go to 8 ☐ YES – The wetland class is **Depressional**

8. Your wetland seems to be different from classes 5 and probably requires several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland may overflow during flooding. Go BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 5-7 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. 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 classes listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 10% of the total area.

HGM Classes within the wetland unit being rated	*HGM Class to Use in Rating*
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within unit	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE wetland overlaying with special characteristics

If you are unable to determine which of the above criteria apply to your wetland, or you have more than 3 HGM classes within a wetland boundary, class for the wetland as Depressional for the rating.

Continue Depressional + Riverine + Depressional

D	**Depressional and Flats Wetlands** **WATER QUALITY FUNCTION** – Indicators that wetland has functions to improve water quality	**Points** (only 1 score per box)
D	**D 1. Does the wetland have the potential to improve water quality?**	See p.35
D	D 1.1 Characteristics of surface water flows out of the wetland Unit is a depressional wetland with no surface water leaving it (no outlet) — points = 3 Water leaving unit is mostly flowing OUT in a permanent, permanently flowing outlet — points = 2 Water leaving unit is mostly OUT in a seasonally flowing outlet — points = 1 Unit is a "flat" depression (Q 7 or less), or in the Flats class, with no surface outflow and no obvious natural outlet (for a man-made outlet, see D 3.1) points = 1 *(If D 1.1 is not permanently flowing, see also "Flow Modifiers" in Appendix)* **Provide photo or drawing**	Figure ____ 2
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use *NRCS definition*) YES — points = 4 NO — points = 0	4
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest canopy) Wetland has persistent, ungrazed, vegetation >= 90% of area — points = 7 Wetland has persistent, ungrazed, vegetation >= 1/2 of area — points = 3 Wetland has persistent, ungrazed vegetation >= 1/10 of area — points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area — points = 0 **Map of Cowardin vegetation classes**	Figure ____ 5
D	D 1.4 Characteristics of seasonal ponding or inundation. *This is the area of the wetland that is ponded for at least 2 months, but does not pond for the entire year. Do not count the area that is permanently ponded. Estimate area at the average condition in out of 10 years.* Area seasonally ponded is > 1/4 total area of wetland — points = 4 Area seasonally ponded is > 1/4 total area of wetland — points = 2 Area seasonally ponded is < 1/4 total area of wetland — points = 0 **Map of Hydroperiods**	Figure ____ 2
D	**Total for D 1** *Add the points in the boxes above*	10
D	**D 2. Does the wetland have the opportunity 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. Also score if the following conditions provide the source of pollutants. A unit may have pollutants coming from several sources. Any one, single source could qualify as a positive. ☒ Outflow from the wetland is stable (D 1.1 *) ☐ Human uses have caused pollution in the wetland ☐ Unit is downgradient within 30 of wetland ☐ A stream or other discharge area within the basin, including man-made ditches, receives water from the wetland ☐ Wetland receives runoff from roads, golf courses, or other sources of pollution ☐ Wetland is in a basin where high phosphorus or nitrogen ☐ Other ____ ☒ YES — multiplier is 2 ☐ NO — multiplier is 1	See p.40 Multiplier 2
D	TOTAL – Water Quality Functions – Multiply the score from D 1 by D 2 *Add score to table on p. 2*	20

D	**Depressional and Flats Wetlands** **HYDROLOGIC FUNCTIONS** – Indicators that wetland functions to reduce flooding and stream degradation	**Points**
D	**D 3. Does the wetland have the potential to reduce flooding and erosion?**	See p.40
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depressional wetland with no surface water leaving it (no outlet) — points = 4 Unit has an intermittent or tidal, OR highly restricted permanently flowing outlet — points = 2 Unit is flat depressional (Q 7 or less), or in the Flats class, with permanent surface outflow and no obvious natural outlet (for a man-made outlet, see D 3.1) — points = 1 *(If D 1.1 is not permanently flowing, see also "Flow Modifiers" in Appendix)* Unit has an unvegetated, highly constricted, surface outlet (permanently flowing) — points = 0	Figure ____ 4
D	D 3.2 Depth of storage during wet periods *Estimate the height of ponding above the bottom of the outlet. For units with no outlet, measure from the surface of permanent water or deepest part (Q 1).* Marks of ponding are 3 ft or more above the surface or bottom of outlet — points = 7 The wetland is a "headwater" wetland — points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet — points = 5 Marks of ponding between 1 ft to < 2 ft from surface or bottom of outlet — points = 3 Wetland is flat (yes to Q 2 or Q 7 or key) but has small depressions on the surface that trap water — points = 1 Marks of ponding less than 1 ft — points = 0	Figure ____ 0
D	D 3.3 Contribution of wetland to storage in the watershed *Estimate the ratio of the area of upgradient basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of unit — points = 5 The area of the basin is 10 to 100 times the area of the unit — points = 3 The area of the basin is more than 100 times the area of the unit — points = 0 Entire unit is in the FLATS class — points = 5	Figure ____ 0
D	**Total for D 3** *Add the points in the boxes above*	4
D	**D 4. Does the wetland have the opportunity to reduce flooding and erosion?** Answer YES if the wetland is in a location in the watershed where its flow storage or retention is most critically important for downstream improvement and equity. Isolated from flooding or excessive water quality flows. Answer NO if the water coming into the wetland is controlled by a downstream dam, flood gate, dike, tide value, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater sources where damaging groundwater flooding does not occur. *Note which of the following indicators of opportunity apply:* ☐ Wetland is in a headwater of a river or stream that has flooding problems ☐ Wetland drains to a river or stream that has flooding problems ☐ Wetland has no outlet and has only surface runoff or first ridge of riverine flow in a river or stream that has flooding problems ☐ Other ____ ☐ YES — multiplier is 2 ☒ NO — multiplier is 1	See p.40 multiplier 1
D	TOTAL – Hydrologic Functions – Multiply the score from D 3 by D 4 *Add score to table on p. 2*	4

Comments

	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that wetland unit functions to improve water quality	Points
S	S 1. Does the wetland have the potential to improve water quality?	(see p. 66)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance) Average slope of wetland ..... points = 3 Slope is 1% - 2% points = 2 Slope is 2% - 5% points = 1 Slope is greater than 5% points = 0	
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay, organic, or histic (peat/muck)	
	Yes = 3 points NO = 0 points	
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediment and pollutants: Choose the most appropriate description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. (>75% cover), and small stems that persist or matted and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of wetland area points = 6 Dense, ungrazed, herbaceous vegetation > ½ of area points = 5 Dense, woody vegetation > ½ of area points = 3 Dense, ungrazed, herbaceous vegetation > ½ of area points = 1 Does not exhibit any of the criteria above for vegetation points = 0 Adjust points if slope with vegetation has signs	Figure__
S	Total for S 1 Add the points in the boxes above	
S	S 2. Does the wetland have the opportunity to improve water quality?	(see p. 67)
	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? Water quality impacting conditions include: sources of pollutants that may have pollutants coming from several sources, but no single source would qualify as opportunity. ☐ Discharge in the wetland or within 300 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 feet of wetland ☐ Residential, urban areas, or golf courses are within 150 ft upgradient of wetland ☐ Other ☐ YES multiplier is 2 ☐ NO multiplier is 1	multiplier
S	TOTAL - Water Quality Functions Multiply the score from S1 by S2 Add score to table on p. 1	

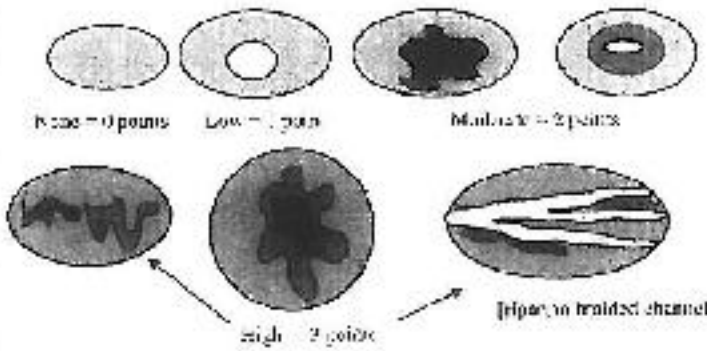
Comments

	Slope Wetlands HYDROLOGIC FUNCTIONS - Indicators that wetland unit functions to reduce flooding and stream erosion	Points
S	S 3. Does the wetland have the potential to reduce flooding and erosion?	(see p. 68)
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the one appropriate description that best fits conditions in the wetland. Stems of plants should be thick enough (about ≥ 1/8 in.) or dense enough to remain upright during surface flows. Dense, erect, rigid vegetation covers >90% of area of the wetland. points = 6 Dense, erect, rigid vegetation >½ area of wetland points = 3 Dense, erect, rigid vegetation >1/4 area of wetland points = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is non rigid points = 0	
S	S 3.2 Characteristics of slope wetland that holds back small amounts of surface flows: The slope wetland has small surface expressions that can retain water over at least 10% of its area. Yes points = 2 NO points = 0	
S	Add the points in the boxes above	
S	S 4. Does the wetland have the opportunity to reduce flooding and erosion?	(see p. 70)
	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 erosive flows? Note which of the following conditions apply. ☐ Wetland has outlet that drains to a river or stream that has flooding problems ☐ Other ____ Answer NO if the major source of water is controlled by a restrictor (e.g. wetland is a stop depression at the downstream end of a drainage)	multiplier
	☐ YES multiplier = 2 ☐ NO multiplier is 1	
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	

Comments

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** – indicates that wetland functions to provide important habitat	Points (only 1 score per box)
H 1. Does the wetland have the potential to provide habitat for many species?	
H 1.1 Vegetation structure (see p. 73)	Figure__
Check all types of vegetation classes present (as defined by Cowardin). Size threshold for each class is 0.1 acre or 1/10th of the area of any wetland over 2.5 acres.	
☐ Aquatic bed	
☒ Emergent plants	
☒ Scrub/shrub (areas where shrubs have >30% cover)	
☐ Forested (areas where trees have >30% cover)	
If you marked boxes for all three, stop here.	1
☐ Forested areas have 5 or more vertical layers, including shrubs, herbaceous, and epiphytes, that each cover 20% within the forested polygon	
Enter the number of vegetation types from points, if you have.	
Map of Cowardin vegetation classes — 4 types or more: points = 4; 3 types: points = 2; 2 types: points = 1; 1 type: points = 0	
H 1.2 Hydroperiods (see p. 75)	Figure__
Check the types of water regime (hydroperiods) present within the wetland. The water regime can be seen more than 10% of the wetland or 5 acres to count. (See text for description of hydroperiods.)	
☐ Permanently flooded or impounded	4 permanent hydro present: points = 3
☐ Seasonally flooded or inundated	3 types present: points = 2
☒ Occasionally flooded or inundated	2 types present: points = 1
☒ Saturated only	2
☐ Permanently flowing stream or river in, or adjacent to, the wetland	
☒ Seasonally flowing stream or river in, or adjacent to, the wetland	
☐ Lake-fringe wetland = 2 points	
☐ Freshwater tidal wetland = 3 points	
H 1.3 Number of Plant Species (see p. 77)	
Count the number of plant species in the wetland that cover at least 10 ft² (different species of trees count as different species; do not count species in the shrub/scrub layer).	
You do not have to name the species.	
Do not include Harvest Velvetgrass, purple loosestrife, Canadian Thistle.	
If you counted: > 19 species: points = 2; 5 – 19 species: points = 1; < 5 species: points = 0	
Exclusions (see p. 78):	1

Total for page 4

	Figure__
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 open water and vegetation areas, is high, medium, low, or none.	2
 None = 0 points; Low = 1 point; Medium = 2 points; High = 3 points; [riparian, braided channels]	
NOTE: If you have four or more classes or three vegetation classes and open water, the rating is always "high". See map of Cowardin vegetation classes.	
H 1.5 Special Habitat Features (see p. 77)	
Check the habitat features that are present in the wetland. The number of features is the number of points you put into the last column.	
☒ Large, coarse woody debris at least 6 inches in diameter and 20 ft long	
☒ Standing snags (diameter at bottom 4 inches) in the wetland	
☐ Undercut banks are present for at least 6.6 ft (2 m) and/or root mat hanging vegetation extends at least 3.3 ft (1 m) over a stream (or tidal) in, or contiguous with the wetland, for at least 33 ft (10 m)	
☐ Stable steep banks of fine material that might be used by burrowing animals (for nesting (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet rotted or gnawed)	3
☐ At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (elevation is low enough that they do not dry out)	
☐ Invasive plants cover less than 25% of the wetland area in accessible strata of plants (note: The 25% standard is only for the purpose of this question on page 78 from now)	
H 1. TOTAL Score – potential for providing habitat *(add the scores from H 1.1, H 1.2, H 1.3, H 1.4, H 1.5)*	8

Comments:

II 2. Does the wetland have the opportunity to provide habitat for many species?	
II 2.1 Buffers (see p. 80) *Choose the description that best represents conditions of buffer of wetland. The highest scoring category that applies to the wetland is to be used for determination of "condition of buffer."* [ ] 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water 95% of circumference. No structures are within the outlined part of buffer (relative to wetland size) and no more than grazing, selective logging, or limited farming is allowed. Points = 5 ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water 75% circumference. Points = 4 ☐ 50 m (165 ft) of relatively undisturbed vegetated areas, rocky areas, or open water 95% circumference. Points = 4 ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water 75% circumference. Points = 3 ☐ 50 m (165 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 1 If buffer does not meet any of the three criteria above ☐ No paved areas (except paved trails) or buildings within 25 m (80 ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. Points = 3 ☐ No paved areas or buildings within 50 m of wetland for > 50% circumference. Light to moderate grazing or lawns are OK. Points = 2 ☒ Heavy grazing in buffer. Points = 1 ☐ Vegetated buffers are < 5 m wide (16 ft) for more than 95% of the circumference (e.g. lawns, crops, hay fields, or any other type of vegetation). Points = 0 ☐ Buffer does not meet any of the criteria above. Points = 1 **Aerial photo showing buffers**	Figure__ 1
II 2.2 Corridors/Connections (see p. 81) II 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, and at least 90% cover disturbed forest or native undisturbed habitat, that connects to a similar, other wetland, or undisturbed upland habitat of at least 250 acres in size? (see definition in glossary) *Partially cleared or mowed paths, paved roads, are considered breaks in the corridors.* ☐ YES = 4 points (go to II 2.3) ☒ NO – go to II 2.2.2 II 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 300 ft wide, has at least 30% cover of shrubs or forest, and connects to another other wetland or undisturbed habitat that is at least 25 acres in size? OR is it a lake-fringe wetland, if it does not have an undisturbed corridor (see the question above)? ☐ YES = 2 points (go to II 2.3) ☒ NO = II 2.2.3 II 2.2.3 Is the wetland: within 5 mi (8 km) of a beach or other water source? OR within 2 mi of a large field or pasture (>40 acres)? OR within 1 mi of a lake greater than 20 acres? ☒ YES = 1 point ☐ NO = 0 points	1

Total for page: 2

II 2.3 Source of support for other priority habitats listed by WDFW (see your wetland's description of WDFW priority habitats and the counties in which they are found. If the PHS report lists "all counties" the habitat is present)	
Which of the following priority habitats are within 3 km (2 mi) of the wetland (in 2000)? (In counties with no data, use best available information) ☐ Aspen Stands: Pure or mixed stands of aspen greater than 1.6 ha (4 acres) ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in PHS report p. 179) ☐ Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. ☐ Old-growth/Mature Forest: Old-growth west of the Cascade crest: Stands at least 4 acres in size, containing trees of many species with canopy closure over most of the stand. Mature forest: Stands with average diameters exceeding 53 cm (21 in) dbh or > 200 years old (see definitions in glossary). Canopy closure may be as low as 60% in the case of western larch or ponderosa pine, and must be at least 100% in other types. Minimum acreages vary by habitat type. Old-growth/mature forest in the Puget Trough ecoregion is 80 – 200 years old west of the Cascade crest. ☐ Oregon White Oak: Woodlands: Stands of pure oak or oak with conifer or other deciduous tree canopy cover of 10 – 75%. Urban extent is important (see descriptions in WDFW PHS report p. 151). ☐ Riparian: The area adjacent to aquatic systems with flowing water that contains a mosaic 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. 157). ☐ Freshwater: The combination of physical, biological, and chemical processes and conditions that interactively produce functional life history requirements for resident fish and wildlife resources. ☐ Nearshore: Relatively undisturbed marine habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the species associated with them in WDFW PHS report pp. 162 and 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 1800 ft. ☐ Talus: Homogeneous masses of rock material on steep slopes (> 40 percent). Talus is composed of hard, resistant, and/or sedimentary rock, including rockslides and talus pitches. May be associated with cliffs. ☐ Snags and Large Trees: Standing dead trees or snags if they are dead or dying and exhibit sufficient decay characteristics to provide cavity nesting habitat for wildlife. Priority snags have a diameter at breast height (dbh) of > 51 cm (20 in) in western Washington and are > 7.6 m (25 ft) in height. Priority logs are > 31 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. Priority wetlands are addressed in question II 2.4*	0

Wetland Landscape Number: ____

H.2.4 Wetland Landscape (*check the one description of the landscape and add the extent that best fits (see p. 44)* ☐ There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light pressure between wetlands OK, with less shore with some cutting, but connections should NOT be bisected by paved roads, fill, fields or other development) points = 5 ☐ The wetland is a lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 3 ☒ There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 ☐ The wetland is a lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 3 ☐ There is at least 1 wetland within ½ mile points = 2 ☐ There are no wetlands within ½ mile points = 0	3
H.2. TOTAL Score (opportunity for providing habitat data transcribed in the crosswalk table)	5
TOTAL H.1 + H.2 from page 14	6
Total Score for Habitat Functions — add the points for H.1, H.2 and record the result on p. 1	11

Comments

Wetland rating number____

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July of the [illegible] version

Name of wetland (if known): "Wetland 'K'" Date of site visit: 12/18/2009

Rated by A. Alante Trained by Ecology? Yes ☒ No ☐ Date of Training: 10/2005

SECTION: _ TOWNSHIP: 12N RANGE: 5W Is S/T/R in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure _____ Estimated size 2,084 sf

DRAFT 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	11
	Score for Hydrologic Functions	8
	Score for Habitat Functions	9
	TOTAL Score for functions	37

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☐

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☒
Natural Heritage Wetland	☐	Riverine	☐
Bog	☐	Lake-fringe	☐
Mature Forest	☐	Slope	☐
Old Growth Forest	☐	Flats	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above	☐	Check if unit has multiple HGM classes present	☐

Comments

Wetland rating number____

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 enter the wetland according to the regulations regarding the special characteristics (i.e. fen) or as an wetland.

Check List for Wetlands That Need Additional Protection (in addition to the protection measures called for by category)	YES	NO
SP1. *Has the wetland been documented as a habitat for any Federally Listed Threatened or Endangered animal or plant species (TE species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	☐	☒
SP2. *Has the wetland 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 fish species are categorized as Category I Natural Heritage Wetlands (see p. 19 of this form).	☐	☒
SP3. *Does the wetland contain individuals of Priority species listed by the WDFW for the state?*	☐	☒
SP4. *Does the wetland have a local significance in addition to its functions?* 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.	☐	☒

To complete the rest part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This slightly differs the questions needed to assess how well it does and functions. The Hydrogeomorphic Class of a wetland can be determined using the key below (see p. 24 for more detailed instructions on classifying wetlands).

Comments

Classification of Wetland Units in Western Washington

[illegible]

1. Are the water levels in the wetland tidally controlled by tides (i.e. except during floods)?

☒ NO – go to 2 ☐ YES – The wetland class is Tidal Fringe

2. Does the salinity of the water during periods of normal low flow below 0.5 ppt (salinometer)?

☐ YES – Freshwater Tidal Fringe ☐ NO – Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is treated as an Estuarine wetland. We use the term "Estuarine" wetland called estuarine in the first and second editions of the rating system and called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the set of tables, and this separation is being kept in this revision. To minimize confusion, only between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics and definition Category I and II estuarine wetlands have changed since the [illegible]

3. The entire wetland unit is flat and precipitation is the only source (>99%) of water to it. Ground water and surface water runoff are NOT sources of water to the unit

☒ NO – go to 2 ☐ YES – The wetland class is Flats

If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.

3. Does the wetland 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 hectares)

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)

4. Does the wetland meet all of the following criteria?

☐ The wetland is on a slope (slope can be very gentle),

☐ The water flows through the wetland in one direction (unless it is a tidal wetland). It may flow through a channel, as shallow sheet, or in a network of channels without distinct banks.

☐ The water leaves the wetland without being impounded?

NOTE: *Swales (water does not stand in these parts of wetlands except briefly in very small and shallow depressions or behind somewhat deep narrow areas perpendicular to the slope) and low areas (flat areas)*

☒ NO – go to 5 ☐ YES – The wetland class is Slope

Comments

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

☐ It is in the active floodplain of a river or stream, and its water is at least partly controlled by overbank flooding from that river or stream

☐ The water in it flows (or could flow if ditches or culverts were removed) for a short time after the river or stream floods

NOTE: The wetland may not completely surround the river or stream. It could be on the side of a levee away from the river.

☐ NO – go to 6 ☒ YES – The wetland class is Riverine

6. Is the wetland in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This water may come from groundwater, precipitation, or flooding from the nearest river or stream.

☐ NO – go to 7 ☒ YES – The wetland class is Depressional

7. Is the wetland located in a very flat area with no obvious depressions and no evidence of flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ YES – The wetland class is Depressional

8. Your wetland seems to be difficult to classify and probably contains several different HGM classes. For example, starting at the back of a depressional wetland, water flows across the floodplain of a small stream within a depressional wetland but outside of flooding along its edge. 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 over 3 HGM classes 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 is less than 10% of the area of the wetland unit being rated, classify the wetland as Depressional if it represents more than 20% of the total area.

HGM Classes within the wetland unit being rated	*HGM Class to Use in Rating*
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along a stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with tidal influence

If you are unable to decide which of the two HGM classes applies, rate it as both classes and use the lower rating. If more than 2 HGM classes within a wetland boundary, classify the wetland as Depressional for the rating.

Comments Depressional + Riverine = Depressional

	Depressional and Flat Wetlands WATER QUALITY FUNCTIONS – Indicators that the wetland is functioning to improve water quality	Points (circle one per row)
D	**D 1. Does the wetland have the potential to improve water quality?**	*(see p.16)*
D	D 1.1 Characteristics of surface water flows out of the wetland: Outlet is a depressed culvert, or other outlet having high velocity Outlet has a weir, or other structure that is highly constricted, permanently flowing outlet Wetland has an outlet that is highly constricted, but it is not permanently flowing Outlet is "flat" depression (D 1.2 is likely to be Flats class) or permanently flooded or flows underground Wetland has no outlet, or outlet is a human-caused ditch Outlet is not permanently flowing and outlet is "constricted" (D 1.2 is Depressional class) **Provide photo or drawing**	Figure ____ 3
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (see WVC definitions) YES points = 4 NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest classes) Wetland has persistent, ungrazed, vegetation > = 95% of area points = 5 Wetland has persistent, ungrazed, vegetation > = 1/2 of area points = 3 Wetland has persistent, ungrazed vegetation > = 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0 **Map of Cowardin vegetation classes**	Figure ____ 0
D	D 1.4 Characteristics of seasonal ponding or inundation *This is the area of the wetland that is ponded for at least 2 months (not depth or frequency during the year. Do not count the areas that are permanently ponded. Estimate areas to the nearest 10% of the wetland.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0 **Map of Hydrologic Units**	Figure ____ 1
D	**Total for D 1** *Add the points in the boxes above*	5
D	**D 2. Does the wetland have the opportunity 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? *Place an "X" in one of the following categories to provide the sources of pollutants. A wetland may have pollutants coming from several sources, but regardless, we need only to identify one opportunity.*	*(see p.17)*
	☒ Upgradient wetland or surface water ☐ Upgradient stormwater from urban areas ☐ Septic systems within 100 ft of wetland ☐ Agricultural drainage or wetland that has been ditched, diked, tiled, and/or filled, or has a channel flowing into it ☐ Residential, commercial, or industrial areas within 100 ft of wetland ☐ Wetland is fed by groundwater high in phosphorus or nitrogen ☐ Other ____ ☒ YES multiplier is 2 ☐ NO multiplier is 1	multiplier 2
D	**TOTAL - Water Quality Functions** Multiply the score from D1 by D2 *Add score to table on p. 1*	10

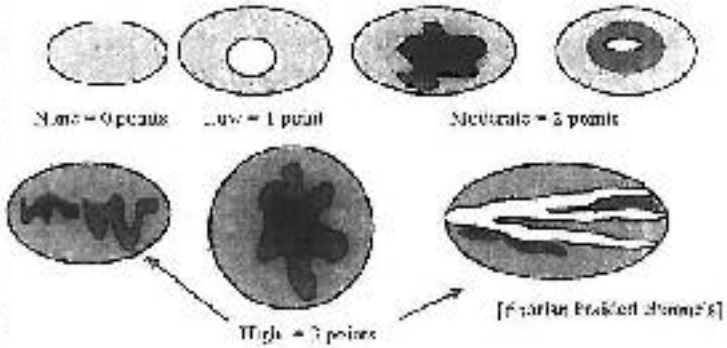
	Depressional and Flat Wetlands HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream downcutting	Points
	D 3. Does the wetland have the potential to reduce flooding and erosion?	*(see p.18)*
D	D 3.1 Characteristics of surface water flows out of the wetland: Outlet is a depressed culvert, or other outlet having high velocity points = 4 Outlet is a "flat" depression (D 1.2 is Depressional class), with permanent or seasonal flow, but outlet is highly constricted, or highly vegetated, or has beaver dams points = 2 Outlet is flat depression (D 1.2 is Flats class), with permanent or seasonal flow, but outlet is highly constricted, or highly vegetated points = 2 Outlet is a "flat" depression (D 1.2 is Flats class) or permanently flooded or flows underground Wetland has no outlet, or outlet is a human-caused ditch points = 1 *If there is no permanently flowing outlet or "constricted" outlet:* Outlet is not constricted, or is highly constricted, outlet is not permanently flowing points = 0	Figure ____ 4
D	D 3.2 Depth of storage during wet periods *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet measure from the surface of permanent water or deepest part of the wetland.* Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 3 The wetland is a "flat depression" (as defined in D 1.2) with no outlet points = 3 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 2 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 1 Wetland is flat (as in D 1.2 or D 1.3) but has evidence of ponding water points = 1 Marks of ponding less than 0.5 ft points = 0	Figure ____ 0
D	D 3.3 Contribution of wetland to storage in the watershed *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire unit is in the FLATS class points = 5	Figure ____ 0
D	**Total for D 3** *Add the points in the boxes above*	4
D	**D 4. Does the wetland have the opportunity to reduce flooding and erosion?** Answer YES if the wetland is in a location in the watershed where the flood storage or reduction of water actually it provides, lessens peak downstream flows, or recharges aquifers or surface water downgradient from the wetland? *Place an "X" in one of the following categories to provide the sources of flooding.*	*(see p.19)*
	☐ Wetland is in a headwater of a river or stream that has flooding problems ☐ Wetland drains to a river or stream that has flooding problems ☒ Wetland has no outlet, or an impassable culvert, water that might otherwise flow into a river or stream that has flooding problems ☐ Other ☒ YES multiplier is 2 ☐ NO multiplier is 1	multiplier 2
D	**TOTAL - Hydrologic Functions:** Multiply the score from D 3 by D 4 *Add score to table on p. 1*	8

Comments

These questions apply to wetlands of all HGM classes HABITAT FUNCTIONS – indicates that wetland functions to provide important habitat	Points (circle one choice)
H 1. Does the wetland have the potential to provide habitat for many species?	
H 1.1 Vegetation structure (see p. 73) *Check the types of vegetation classes present as defined by Cowardin. Size the whole for each class is NOT counted unless more than 10% of the area (if less than 2.5 acres)*	Score ___
☐ Aquatic bed ☐ Emergent plants ☒ Scrub/shrub (at least one class covers > 30% cover) ☐ Forested (at least one class covers > 30% cover) *If the only class is forested class check if:* ☐ Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon *Add the number of vegetation types that qualify. If you have:* **Map of Cowardin vegetation classes** 4 types or more — points = 4 3 types — points = 2 2 types — points = 1 1 type — points = 0	0
H 1.2 Hydroperiods (see p. 73) *Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland to be counted. (Use only for depressional hydrogeomorphic classes)*	Score ___
☐ Permanently flooded or inundated — 4 or more types present — points = 3 ☐ Seasonally flooded or inundated — 3 types present — points = 2 ☒ Occasionally flooded or inundated — 2 types present — points = 1 ☒ Saturated only ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream or river in, or adjacent to, the wetland ☐ Lake-fringe wetland = 2 points ☐ Freshwater tidal wetland = 2 points	1
H 1.3 Richness of Plant species (see p. 75) Count the number of plant species in the wetland that cover at least 10 ft² (*Different number of species qualify in the different habitat classes. Use the size to estimate*) *You do not have to name the species* *List species below if you want to* (Types counted: Aquatic bed, emergent, scrub/shrub, forested, Cowardin Types) 5 or more types — points = 2 3 – 4 types — points = 1 < 3 types — points = 0	0

Total for page: 1

	Points
H 1.4 Interspersion of habitats (see p. 76) Decide from the diagram below whether interspersion between Cowardin vegetation classes (described in H 1.1) or open water or unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	Points ___ 1



NOTE: If you have lit or more classes, you might wish to use weights for classes in a spreadsheet so the rating is always "high". **Use map of Cowardin vegetation classes**

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 last column*	
☒ Large, downed, woody debris within the wetland (>12 in diameter and 6 ft long) ☒ Standing snags (diameter at breast height [4.5 ft] of 4 in) in the wetland ☐ Undercut banks are present for at least 0.5 ft and for overhanging vegetation extends at least 0.5 ft (1 ft) over a stream (or ditch) in, or near, areas with an average slope of less than 20% (20%) ☐ Stable woody debris of the materials that might be used by beaver or muskrat for denning (at least 1 cubic yard) OR signs of recent beaver activity in the present (cut shrubs or trees that have not yet turned gray/brown) ☐ At least 1/4 acre of the dominant persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structure for egg-laying by amphibians) ☐ Invasive plants cover less than 25% of the wetland area in aerial extent of plants (note: The 25% standard is only preliminary and may change in future years)	2
H 1. TOTAL Score – potential for providing habitat *Add the points from H1.1, H1.2, H1.3, H1.4, H1.5*	4

Comments:

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 30) *Choose the description that best represents the condition of buffers surrounding the wetland. The buffer rating will not that applies to the wetland to be rated. In the rating, the best for definition of "undisturbed."*	Figure
☐ 100 m (330 ft) of relatively undisturbed vegetated area, mature forest, or open water > 95% of circumference. Natural cover or within the undisturbed portion of the buffer (other than minor trails, access roads, or landscaping, to daily human use) Points = 5	
☐ 100 m (330 ft) of relatively undisturbed vegetated area, mature forest, or open water > 50% of circumference. Points = 4	
☐ 50 m (170 ft) of relatively undisturbed vegetated areas, rock areas, or open water > 95% of circumference. Points = 4	
☐ 100 m (330 ft) of relatively undisturbed vegetated area, mature forest, or open water 50% - 95% of circumference. Points = 3	1
If buffer does not meet any of the three criteria above	
☐ No paved roads except paved trails or buildings within 50 m (165 ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. Points = 2	
☐ No paved roads or buildings within 50 m (165 ft) of wetland for > 50% circumference. Light to moderate grazing or lawns are OK. Points = 2	
☒ Heavy grazing in buffer Points = 1	
☐ Vegetated buffers are < 25 m wide (80 ft) for more than 50% of the circumference (e.g. tilled fields, paving, heavily used or cleared to edge of wetland) Points = 0	
☐ Buffer does not meet any of the criteria above. Points = 1	
See photo delineating buffers	
H 2.2 Corridors (Connectivity (see p. 31) H 2.2.1 Is the wetland part of a relatively undisturbed and unmown vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (Note: in riverine corridors, formally designated wildlife travel corridors are considered because in the corridor. ☐ YES = 4 points (go to H 2.3.1) ☒ NO = go to H 2.2.2	1
H 2.2.2 Is the wetland part of a relatively undisturbed or unmown vegetated corridor (either riparian or upland) that is at least 50 ft 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. (It does not have an undisturbed corridor as in the question above? ☐ YES = 3 points (go to H 2.3.1) ☒ NO = go to H 2.2.3	
H 2.2.3 Is the wetland: within 5 mi (8 km) of a brackish or salt water estuary OR within 5 mi of a large lake or pond (> 40 ha, or > 100 acres) within 1 mi of a lake greater than 20 acres? ☒ YES = 1 point ☐ NO = 0 points	

Next page

H 2.3.1 Size or abundance of priority habitats listed in WDFW (see more descriptions *descriptions of WDFW priority habitats, and the counties in which they occur, in the PHS report http://wdfw.wa.gov/hab/phsdata.htm*) Which of the following priority habitats are within 300 ft (100 m) of the wetland unit? Note: the measurement is not based on a point of entry and 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 birds and wildlife (*for descriptions, see WDFW PHS report, p. 153*). ☐ Herbaceous Balds: Vegetated balds or prairies in grass or forbs, or shrubs with cover but trees. ☐ Old-growth/Mature Forest: Old-growth, well-developed Douglas-fir Stands of at least a tree species, forming a multi-layered canopy, or a mature forest in stages with a mix of ages (at least 8 trees/ha (3 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. Old-growth Stands with average diameter exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old growth; 80 - 200 years old west of the Cascade crest. ☐ Oregon White Oak: Woodlands or stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*for descriptions, see 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 occur as small patches or as large prairies (*full descriptions in WDFW PHS report, p. 161*). ☐ Instream: The aquatic habitat of physical, biological, and chemical components that combine to provide functional life history requirements for resident fish and other aquatic species.	0
☐ Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Sandspit, Open Coast Salt Marsh, and Puget Sound Marshes (*full descriptions of these and the definition of relatively undisturbed are in WDFW report, pp. 164 and following, in Appendix A*). ☐ Caves: A naturally occurring opening, cavern, void, or series of interconnected passages under the earth in soil, rock, ice, or other geological formations and is large enough to accommodate a human. ☐ Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft. ☐ Talus: Homogeneous 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 Large Trees: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to provide cavity nesting structure for wildlife. Snags may range in diameter at breast height (dbh) of > 51 cm (20 in) in western Washington and > 2 m (6.5 ft) in height. Trees typically > 91 cm (36 in) in diameter in the region 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 habitat = 0 points *Note: All regulated wetlands are by definition a priority habitat for use not included in the list. Wetlands rated in question H 2.3.1*	

H 2.4 wetland connecting *(choose the one description of the landscape or circle the wetland that best fits) (see p. 84)* ☐ There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands, etc., as a lake scene with some Pond or Lake connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5 ☐ The wetland is Lake fringe on a lake with little disturbance and there are 3 other lake fringe wetlands within ½ mile points = 5 ☒ There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 ☐ The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 3 ☐ There is at least 1 wetland within ½ mile points = 1 ☐ There are no wetlands within ½ mile points = 0	3
H 2.1 TOTAL Forms opportunity for providing habitat *Add the scores in the column above*	5
H 1.4 for H 1 from page 14	4
Total Score for Habitat Functions — add the points for H 1, H 2 and record the result on p. 7	9

Comments

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July [illegible]

Name of wetland (if known): Wetland "D" Date of site visit: 1/[illegible]/2009

Rated by A. Abada Trained by Ecology? Yes ☑ No ☐ Date of Training: 10/2005

SECTION: [illegible] TOWNSHIP: 18N RANGE: 2W Is S/R in Appendix D? Yes ☐ No ☑

Map of wetland unit: Figure _____ Estimated size 15,880 sf

DRAFT SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ___ II ___ III ___ IV X

Category I = Score >70	Score for Water Quality Functions	14
Category II = Score 51-69	Score for Hydrologic Functions	8
Category III = Score 30-50	Score for Habitat Functions	7
Category IV = Score <20	TOTAL Score for functions	29

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☑

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

Check the appropriate type and class of wetland being rated

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☒
Natural Heritage Wetland	☐	Riverine	☐
Bog	☐	Lake-fringe	☐
Mature Forest	☐	Slope	☐
Old Growth Forest	☐	Flats	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above	☐	Check if unit has multiple HGM classes present	☐

Comments

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 listed in Appendix D.

Check List for Wetlands That Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland been documented as 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.	☐	☒
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).	☐	☒
SP3. *Does the wetland contain individuals of Priority species listed by the WDFW for the state?*	☐	☒
SP4. *Does the wetland have a local significance in addition to its functions? For example, the wetland is part of a "Wetland Mosaic" identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.*	☐	☒

To complete the rest part of the data sheet you will need to determine the hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into types that function in similar ways. It is simpler than the questions marked Classification for the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 29 for more detailed instructions on classifying wetlands.

Comments

Wetland name or number____

Classification of Wetland Units in Western Washington

[illegible]

1. Are the water levels in this wetland tightly controlled by tides (i.e. tides dominate during flooding)?

☒NO – go to 2 ☐YES – the wetland class is Tidal Fringe

If yes, is the salinity of the water during periods of normal low flow below 0.5 ppt (parts per thousand)? ☐YES – Freshwater Tidal Fringe ☐NO – Saltwater Tidal Fringe (Estuarine)

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the previous editions of the rating system are called Salt Water Tidal Fringes in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, but this separation is not kept in this revision. To maintain continuity between editions, the term "Estuarine" will not be kept. Please note, however, that the characteristics that define Salt Water Tidal Fringes in Western Washington wetlands have changed (see p.)

2. The entire wetland unit is flat and precipitation is the only source (>99%) of water to it. Ground water and surface water are NOT sources of water to the unit

☒NO – go to 3 ☐YES – The wetland class is Flat

If your wetland can be classified as a "Flat" wetland, use the form for Depressional wetlands.

3. Does the wetland meet both of the following criteria?

☐ The vegetation of the wetland is on the margins 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 less than 6.6 ft (2 m)

☒NO – go to 4 ☐YES – The wetland class is Lake Fringe (Lacustrine Fringe)

4. Does the wetland meet all of the following criteria?

☐ The wetland is on a slope (slope can be very gentle),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow year-round or seasonally but flow is not in a channel with distinct banks.

☐ The water leaves the wetland without being impounded.

NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (irregular microtopographic features resulting from root masses of fallen trees, or other causes) that are usually <3ft diameter and less than 1 ft in depth.*

☒NO – go to 5 ☐YES – The wetland class is Slope

Comments

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

☐ It is in the valley or river channel, where it gets an influx of water that is due to flooding from the stream or river

☐ The water level fluctuates at least once every two years.

NOTE: *Vegetation may not cover large areas of the wetland but there should be evidence that it has been washed by the river at least once every two years.*

☐NO – go to 6 ☒YES – The wetland class is Riverine

6. Is the wetland in a topographic depression in which water ponds or is saturated to the surface at some time of the year. *This may be the result of groundwater discharge or by the accumulation of surface water or groundwater.*

☐NO – go to 7 ☒YES – The wetland class is Depressional

7. Is the wetland located in a very flat area with no clear, or only weakly defined, channel and flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be in a depression but has no evident outlet.

☐NO – go to 8 ☐YES – The wetland class is Flat

8. Your wetland seems to be difficult to classify and probably contains several different HGM classes. For example, water at the base of a slope may state 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 in the rating system if you have mixed HGM classes present in your wetland. NOTE: Use this table only if the class that is not mentioned in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the second class is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the unit.

HGM Classes within a wetland unit being rated	Use this Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along one of its boundaries	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other HGM class that is not a Flat wetland	Use the FRESHWATER tidal wetlands with special characteristics

If you are unable 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.

Comments : Depressional + Riverine = Depressional

D	Depressional and Flats Wetlands WATER QUALITY FUNCTIONS – Indicators that the wetland unit functions to improve water quality	Points (circle one per box)
D	**D 1. Does the wetland have the potential to improve water quality?**	*(see p.49)*
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) points = 3 Water flows through the wetland in a highly channelized, permanently flowing stream points = 2 Wetland has dense, persistent, ungrazed, ungrazeable vegetation that is a barrier to water flow points = 1 Unit is flat (slopes < 1% or key), with little flow, with persistent, ungrazed vegetation or with no outlet points = 1 Flows out of wetland as a shallow, unchanneled, ungrazed, persistent vegetation points = 1 *(Choose only one answer. Choose the highest score if more than one condition is met.)* Provide photo or drawing	Figure___ 3
D	D 1.2 Unit is mostly below the surface (peat/muck layer is dominated by organic material *(see NRCS definitions)*. YES points = 7 NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest class): Wetland has persistent, ungrazed, vegetation >= 95% of area points = 5 Wetland has persistent, ungrazed, vegetation >= 1/2 of area points = 3 Wetland has persistent, ungrazed vegetation >= 1/10 of area points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area points = 0 Max of 3 for all vegetation classes	Figure___ 0
D	D 1.4 Characteristics of seasonal ponding or inundation: *This is the area of the wetland that is ponded for at least 2 months, but does not sometime during the year. Do not count the area that is permanently ponded. Estimate area for the average condition 2 out of 10 years.* Area seasonally ponded is > 1/2 total area of wetland points = 4 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland points = 0 Max of 4 for all hydrologic indicators	Figure___ 4
D	**Total for D 1** *Add the points in the boxes above*	7
D	**D 2. Does the wetland have the opportunity to improve water quality?** Answer YES if you know or believe there are sediments, 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 sediments. A wetland may have pollutants coming from several sources, but any single source could qualify as opportunity.* ☒ Unit is in the wetland or within 1/2 mile upstream ☐ Untreated stormwater discharges to wetland ☐ Land use adjacent within 1/4 mile of wetland ☐ Stormwater or other discharges are evident (pipes, ditches, or other evidence of discharge such as erosion, sediment deposits, or algal blooms) ☐ Residential, urban areas, or agriculture are within 1/2 mile upstream ☐ Wetland is in a groundwater recharge area (see questions in text) ☐ Other: ____ ☒ YES multiplier is 2 ☐ NO multiplier is 1	*(see p.49)* multiplier 2
D	TOTAL - Water Quality Functions - Multiply the score from D1 by D2 *Add score to table on p. 1*	14

D	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream degradation	Points
D	**D 2. Does the wetland have the potential to reduce flooding and erosion?**	*(see p.49)*
D	D 3.1 Characteristics of surface water flows out of the wetland unit: Unit is a depression with no surface water leaving it (no outlet) points = 4 Unit has outlet but it is highly constricted (pipe or culvert) points = 3 Unit is flat depression (Q. 7 on key) or in the flat class, with persistent, ungrazed vegetation or with no outlet points = 1 *(Choose only one answer. Choose the highest score if more than one condition is met.)* Unit is in the slope class, with persistent, ungrazed vegetation (permanently flowing) points = 1	Figure___ 4
D	D 3.2 Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or assume zero if dry.* Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The outlet is a "flow through" wetland points = 5 Marks of ponding between 2 ft to < 3 ft above surface or bottom of outlet points = 5 Marks of ponding between 0.5 ft to < 2 ft above surface or bottom of outlet points = 3 Wetland is flat (yes to Q 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft points = 0	Figure___ 0
D	D 3.3 Contribution of wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire unit is in the FLATS class points = 5	Figure___ 0
D	**Total for D 3** *Add the points in the boxes above*	4
D	**D 4. Does the wetland have the opportunity to reduce flooding and erosion?** *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. Answer NO if the water coming into the wetland is restricted by a downstream structure (such as a culvert, grate, tide gate, flow valve, reservoir etc.). Do you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging ground water flooding does not occur?* *Note which of the following indicators of opportunity apply:* ☐ Wetland is in a headwater of a river or stream that has flooding problems ☐ Wetland is in a river or stream that has flooding problems ☒ Wetland has no outlet and immediate surface run off water does not pass through a culvert, dam, or other structure before it enters a river or stream that has flooding problems ☐ Other: ____ ☒ YES multiplier is 2 ☐ NO multiplier is 1	*(see p.49)* multiplier 2
D	TOTAL - Hydrologic Functions: Multiply the score from D3 by D4 *Add score to table on p. 1*	8

Comments

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat — **Points** (circle one or more)

H 1. Does the wetland have the potential to provide habitat for many species?

H 1.1 Vegetation structure (see p. 78) — Figure__

Check the types of vegetation classes present (as defined by Cowardin classification) for each class that is 1/4 acre or more (that 1600 ft² of the area of that class if smaller than 2.5 acres).

- ☐ Aquatic bed
- ☒ Emergent plants
- ☐ Scrub/shrub (areas where shrubs have >30% cover)
- ☐ Forested (areas where trees have >30% cover)

If the wetland has a forested class check if:

- ☐ Forested areas have 3 or more tree canopy layers (for example, coniferous, deciduous, and shrub canopy layers) that each cover 20% within the forested polygon

Add the number of vegetation types that qualify. If you have:

Map of Cowardin vegetation classes		
	4 types or more	points = 4
	3 types	points = 2
	2 types	points = 1
	1 type	points = 0

H 1.2 Habitat patches (see p. 79) — Figure__

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 2.5 acres to count. (See text for descriptions of hydroperiods.)

☐ Permanently flooded or impounded	4 or more types present	points = 3
☒ Seasonally flooded or inundated	3 types present	points = 2
☐ Occasionally flooded or inundated	2 types present	points = 1
☒ Saturated only		
☐ Permanently flowing stream or river in, or adjacent to, the wetland		
☒ Seasonally flowing stream or river in, or adjacent to, the wetland		
☐ *Lake-fringe wetland = 2 points*		
☐ *Freshwater tidal wetland = 2 points*		

H 1.3 Richness of Plant Species (see p. 79)

Count the number of plant species in the wetland that cover at least 10 ft² (different species of trees and shrubs can be combined to meet the size threshold.)

You do not have to name the species.

Do not include Reed canarygrass, purple loosestrife, Himalayan blackberry, Cutleaf blackberry, English ivy, Japanese knotweed, or Scotch broom.

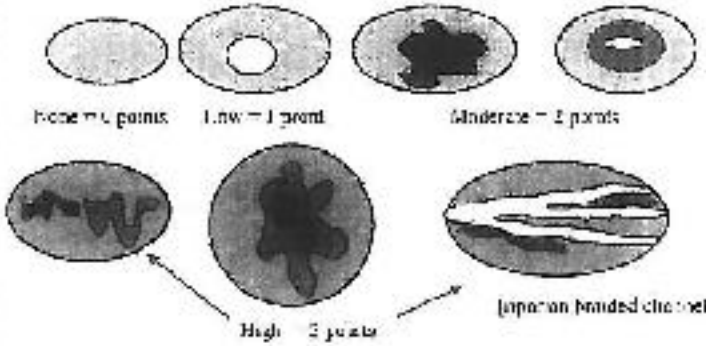
List species below if you want to	> 19 species	points = 3
	5 - 19 species	points = 1
	<5 species	points = 0

0

Total for page 13

H 1.4 Interspersion or heterogeneity (see p. 79) — Figure__

Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1) or between open water and non-aquatic vegetation is high, medium, low, or none. — 6



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.

H 1.5 Special Habitat Features (see p. 79)

Check the following features that are present in the wetland. The number of circles is the number of points you get for the wetland column.

- ☐ Large, woody debris (>4" diameter at bottom, 6' in length) in the wetland
- ☐ Snag(s) (diameter at bottom 12" inches) in the wetland
- ☐ Undercut banks are present for at least 65 ft (20 m) and are at least 3.3 ft (1 m) above water for at least 33 ft (10 m)
- ☐ Rocky steep banks of the water that might be used by beaver or muskrat for denning (>30 degree slope) OR signs of recent beaver activity are present (cut trees or trees that have not yet turned grey/brown)
- ☐ At least 1/4 acre of ungrazed persistent vegetation or woody branches are present in areas that are only seasonally inundated (available for spawning fish or amphibians)
- ☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants

Note: The 25% method is only a relative guide to the amount of cover on page 79 is an error.

H 1.5 TOTAL Score – points for providing habitat — 2

Add the scores from H 1.1, H 1.2, H 1.3, H 1.4, H 1.5

Comments:

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffer (see p. 80) *Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. Score based for individually "evaluated".*	Points ___
☐ 100 m (330ft) of relatively undisturbed vegetated areas, woody areas, or open water >75% 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, woody areas, or open water >50% circumference. Points = 4	
☐ 50 m (170ft) of relatively undisturbed vegetated areas, woody areas, or open water >75% circumference. Points = 4	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, woody areas, or open water >25% circumference. Points = 3	1
☐ 50 m (170ft) of relatively undisturbed vegetated areas, woody areas, or open water for >50% circumference. Points = 1	
If buffer does not meet any of the above criteria above	
☐ No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland for >50% circumference. Light or moderate grazing or hayfields are OK. Points = 2	
☐ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing or hayfields are OK. Points = 2	
☒ Heavy grazing in buffer Points = 1	
☐ Vegetated buffers are <2m wide (6.5ft) for more than 90% of the circumference (e.g. filled fields, paving, basalt bedrock covered by edge of wetland) Points = 0	
☐ Buffer does not meet any of the criteria above Points = 1	
Total points for buffer	
H 2.2 Complexity and Connectivity (see p. 82)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (shrub or forest, or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, trees or native undisturbed prairie, for connection to other wetlands or undisturbed uplands that are at least 250 m (820 ft) in size? (does not include roadways, paved trails, and developed areas)	
☐ YES = 1 point (go to H 2.2.2) ☒ NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (water, riparian, or upland) that is at least 50ft wide, has at least 30% cover of shrubs or trees, and connects to other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, (for does not have an undisturbed corridor as in the question above)?	1
☐ YES = 2 points (go to H 2.3) ☒ NO = H 2.2.3	
H 2.2.3 Is the wetland: within 3 m (10m) of a stream or river (water in it year round) OR within 3 m of a large lake or pasture (>40 acres) OR within 3 m of a lake smaller than 40 acres? ☒ YES = 1 point ☐ NO = 0 points	

Total for page 2

H 2.3 Significant habitats other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and see counties in which they can be found, in the LDS report August 04 priority habitat list). Which of the following priority habitats are within 330 ft (100m) of the wetland unit? NOTE: The descriptions 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 particular importance to many species of native fish and wildlife. (full descriptions in WDFW PHS report p. 152)	
☐ Herbaceous Balds: Variable size patches of grass and forbs on the drier sites 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 trees in the dominant and codominant positions of at least 81 cm (32 in) dbh for > 200 years of age. (Mature forests: Stands with average diameters exceeding 53 cm (21 in) dbh; canopy cover may be less than 100%; crown cover may be less than 100%; decay, decadence, mortality of snags, and quantity of large diameter 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 mixed conifer-oak with canopy coverage of the oak component is important (full description 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 climax prairie or a successional stage (full description in WDFW PHS report p. 161)	
☐ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide instream habitat to benefit resident fish and wildlife populations.	
☐ Nearshore: Relatively undisturbed nearshore habitats. These include Estuarine Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats are the right column of relatively undisturbed areas in WDFW report pp. 162-169 and glossary in Appendix A)	
☐ Caves: A naturally occurring cavity, recess, void, or system of interconnected passages underneath earth or rock, such as talus or other geological formations, and is large enough to contain a person	
☐ Cliffs: Rocks that are 7.6 m (25 ft) or more in vertical height and have a slope of 60° or greater	
☐ Talus: Homogeneous areas of rock rubble ranging in average size from 0.3 - 2.0 m (1 - 6.5 ft), associated with steep cliffs and/or talus slopes, 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 by wildlife. Priority snags have a diameter at breast height (dbh) > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (13 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 = 2 points	
If wetland has 1 priority habitat = 1 point No priority habitats = 0 points	
Note: All vegetated wetlands are by definition a priority habitat but are not included in H 2.3. The priority habitats are addressed in question H 2.3.	

Wetland Rating Form

H.1.4 Wetland Landscape (please fill out description of the landscape around the wetland at base flow) (see p. 84) ☐ There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands is 4), as is lake-shore with some grazing, but connections should NOT be blocked by paved roads, fill, fields, or other development. points = 5 ☐ The wetland is lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile. points = 5 ☒ There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed. points = 3 ☐ The wetland is lake-fringe on a lake with a wetland and there are 3 other lake-fringe wetlands within ½ mile. points = 3 ☐ There is at least 1 wetland within ½ mile. points = 3 ☐ There are no wetlands within ½ mile. points = 1	3
H.2 TOTAL Score - opportunity for providing habitat (add the scores for the sections above)	5
TOTAL for H.1 from page 14	2
Total Score for Habitat Functions — add the points for H.1, H.2 and record the result on p. 1	7

Comments

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy of the Wetland Rating Form

Name of wetland (if known): Wetland "R" Date of site visit: 11/18/2009

Rated by A. Aberle Trained by Ecology? Yes ☒ No ☐ Date of Training: 10/2005

SECTION: 1 TOWNSHIP: 12N RANGE: 2W Is S/T/R in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure ____ Estimated size 4,734 sf

DRAFT 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	13
	Score for Hydrologic Functions	8
	Score for Habitat Functions	7
	TOTAL Score for Functions	27

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☐

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☒
Natural Heritage Wetland	☐	Basin	☐
Bog	☐	Lake-fringe	☐
Mature Forest	☐	Slope	☐
Old Growth Forest	☐	Flats	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above	☐	Check if unit has multiple HGM classes present	☐

Comments

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 Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland 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	☐	☒
SP2. *Has the wetland 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 Wetland. (see p. 12 of data form).	☐	☒
SP3. *Does the wetland contain individuals of Priority species listed by the WDFW for the state?*	☐	☒
SP4. *Does the wetland have a local significance in addition to its functions?* 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.	☐	☒

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Comments

Classification of Wetland Units in Western Washington

1. Are the water levels in the wetland mainly controlled by tides (i.e. except during floods)?

☒NO – go to 2 ☐ YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during period of annual low flow below 0.5 ppt (parts per thousand)? ☐ YES – *Freshwater Tidal Fringe* ☐NO – *Saltwater Tidal Fringe* (Estuarine)

If your wetland can be classified as a freshwater tidal fringe use the form for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands can vary, and examples in the Ecology manual editions of the rating system use other terms for Water Tidal Fringe in the Hydrogeomorphic Classification, the name under is now category tidal as notably in the earlier editions, and this segment is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. It does mean, however, that the characterization that defines Category I and II estuarine wetlands have changed (see p. 3).

2. The only wetland water is the rainfall and precipitation (the only source (100%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

☒NO – go to 3 ☐ YES – The wetland class is **Flat**

If your wetland can be classified as a "Flat" wetland, use the form for Depressional wetlands.

3. Does the wetland meet both of the following criteria?

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

☐ At least 75% of the open water area is deeper than 6.6 ft (2 m)?

☒NO – go to 4 ☐ YES – The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the wetland meet all of the following criteria?

☐ The wetland is on a slope (*may be very gradual*),

☐ The water flows through the wetland in one direction (*unidirectional*) and slowly comes from seeps. It may flow in several channels, but they do not form a network of distinct channels.

☐ The water leaves the wetland without being impounded.

NOTE: *Surface water does not pool in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually < 3 ft diameter and less than 1 foot deep).*

☒NO – go to 5 ☐YES – The wetland class is **Slope**

Comments

5. Does the entire wetland meet all of the following criteria?

☐ The unit is in a valley, or stream channel where it can be inundated by overbank flooding from the stream or river

☐ The overbank flooding occurs at least once every two years.

NOTE: *The riverine unit can be in any part of the valley, but it must be where the river can flood.*

☐NO – go to 6 ☒ YES – The wetland class is **Riverine**

6. Is the wetland in a topographic depression in which water ponds or is saturated to the surface at some time during the year. This means that any water, if present, is higher than the surrounding landscape.

☐NO – go to 7 ☒YES – The wetland class is **Depressional**

7. Is the wetland located in a very flat area with no apparent depression and no evidence of flooding. The unit could be in a large area of shallow water more than a few months. This is usually characteristic of a high groundwater table in the area. The wetland may be diked, but has no obvious natural outlet.

☐NO – go to 8 ☐ YES – The wetland class is **Depressional**

8. You. wetland seems to be difficult to classify and probably contains several different HGM classes. For example, a depression at the base of a slope may grade into a riverine flat within, or a small stream will in a depression at wetland but a wetland flowing along its edge. CHECK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a map, sketch it, 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 the 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 the wetland unit being rated	Wetland Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional Slope + Lake-fringe	Depressional Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal fringe and any other class of freshwater wetland	Treat as ESTUARINE unless wetlands with special characteristics

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.

Comments : Depressional + Riverine + Depressional

Wetland name or number____

D	Depressional and Flats Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland functions to improve water quality	Points (circle one per line)
D	D 1. Does the wetland have the **potential** to improve water quality?	(see p.30)
D	D 1.1 Characteristics of surface water flows out of the wetland Unit is a depressional wetland with no surface water leaving it (no outlet) — points = 7 Wetland unit is depressional, flowing, OR highly convoluted, permanently flowing outlet — points = 3 Wetland unit is depressional, or slightly convoluted, surface outlet (permanently flowing) — points = 1 Unit is a flat depression (D 2 or less), or in the Flats class, with permanent surface water and no obvious or only a hidden outlet — points = 1 *(If water is permanently flowing through or ponded, it is considered "permanently flowing")* Provide details on reverse	Figure____ 3
D	D 1.2 The soils in zones below the surface (or cut layer) is clay or organic (see D3.2 definitions) YES — points = 4 NO — points = 0	3
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest classes) Wetland has persistent, ungrazed, vegetation >= 9/10 of area — points = 5 Wetland has persistent, ungrazed, vegetation >= 1/2 of area — points = 3 Wetland has persistent, ungrazed vegetation >= 1/10 of area — points = 1 Wetland has persistent, ungrazed vegetation <1/10 of area — points = 0 Map of Cowardin vegetation classes	Figure____ 3
D	D1.4 Characteristics of seasonal ponding or inundation *This is the area of the wetland that is ponded for at least 2 months, not counting ponding during floods. Do not count the area that is permanently ponded. Estimate area at the average maximum 5 out of 10 yrs.* Area seasonally ponded is >= 1/3 total area of wetland — points = 4 Area seasonally ponded is >= 1/10 total area of wetland — points = 2 Area seasonally ponded is <1/10 total area of wetland — points = 0 Map of Hydroperiods	Figure____ 4
D	Total for D 1 *Add the points in the boxes above*	6
D	**D 2. Does the wetland have the opportunity** to improve water quality? Answer YES if you know or believe the water quality improvement provided by the wetland to water coming into the wetland that would otherwise decrease water quality in streams, lakes or groundwater downgradient from the wetland? Also consider if the following conditions provide the sources of pollution or if it may have pollutants coming from a known source, but any single one of them would modify or eliminate: ☑ Outlet is a slow water or no outlet (D 1.1) ☐ Outlet is a permanent or seasonal stream ☐ Total fetch is greater than 1/4 mile ☐ A stream or river has been ditched, channelized, or diked (D 2.2) or is fed by ditches, tiles, or other man-made inputs ☐ Known contaminated water or sediments exist upstream or within 1/4 mile of wetland ☐ Wetland is fed by groundwater that is phosphate-rich or acidic ☐ Other ☑ YES multiplier is 3 ☐ NO multiplier is 1	(see p.34) multiplier 3
D	**TOTAL - Water Quality Functions** Multiply the score from D1 by D2 *Add score to table on p. 1*	18

Wetland name or number____

D	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion	Points
	D 3. Does the wetland have the **potential** to reduce flooding and erosion?	(see p.40)
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit has a depression without surface water leaving it (no outlet) — points = 7 Unit has an intermittently flowing, OR highly convoluted, permanently flowing outlet — points = 3 Unit has a flat depression (D 2 or less), or in the Flats class, with permanent surface outflow and no obvious or only a hidden outlet — points = 1 *(If water is permanently flowing through it, it is considered "permanently flowing")* Unit has an unconsolidated, or highly convoluted, surface outlet (permanently flowing) — points = 0	Figure__ 3
D	D 3.2 Depth of storage during wet periods *Estimate the height of ponding above the bottom of the outlet. For units with no surface outlet, measure from the surface of permanent water or deepest part of unit.* Average ponding are 2 ft or more above the surface or bottom of outlet — points = 7 The wetland is a "headwater" wetland — points = 5 Average ponding from 1 ft to < 2 ft from surface or bottom of outlet — points = 3 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet — points = 1 Wetland is flat (yes to D 2 or D 3 outlet) but has small depressions on the surface that trap water — points = 1 Average ponding less than 0.5 ft — points = 0	Figure__ 0
D	D 3.3 Contribution of wetland to storage in the watershed *Estimate the ratio of the area of upgradient basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of unit — points = 5 The area of the basin is 10 to 100 times the area of the unit — points = 3 The area of the basin is more than 100 times the area of the unit — points = 0 Entire unit is in the FLATS class — points = 5	Figure__ 0
D	Total for D 3 *Add the points in the boxes above*	4
D	D 4. Does the wetland have the opportunity to reduce flooding and erosion? Answer YES if the wetland is in a location in the watershed where its flood storage or reduction in water velocity it provides, helps protect downstream properties and aquatic resources from flooding or excessive stream flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flow valve, reservoir etc. OR you estimate that more than 50% of the water in the wetland is from irrigation water or water coming from a pump or other flooding source. *Now select one of the following indicators of opportunity and:* ☐ Wetland is in a subbasin or close to a town that has flooding problems ☑ Wetland stores a river or stream that has flooding problems ☐ Wetland has outlet that impounds surface water that might be released downstream to a river or stream that has flooding problems ☐ Other ____ ☑ YES multiplier is 2 ☐ NO multiplier is 1	(see p.44) multiplier 2
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 *Add score to table on p. 1*	8

Comments

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat — Points (only fill in one box per question)

H 1. Does the wetland have the potential to provide habitat for many species?

H 1.1 Vegetation structure (see p. 72) — Figure

Check the types of vegetation classes present as defined by Cowardin. Use the entire polygon even if it covers more than 10% of the area, parts smaller than 2.5 acres.

- ☐ Aquatic bed
- ☒ Emergent plants
- ☐ Scrub/shrub (areas where shrubs have >30% cover)
- ☐ Forested (areas where trees have >30% cover)

If the wetland has a persistent class check if:

- ☐ Forested areas have 3 out of 5 strata (canopy, subcanopy, shrubs, herbaceous, groundcover) that each cover 20% within the forested polygon

Add the number of vegetation types that qualify. If you have:

Mapped Cowardin vegetation classes	4 types or more	points = 4
	3 types	points = 2
	2 types	points = 1
	1 type	points = 0

H 1.2 Hydroperiods (see p. 73) — Figure__

Check the type of water regime (surface water) present within the wetland. The same regime has to cover more than 10% of the wetland or 5 acres to count. (use soil for determination of hydroperiods)

☐ Permanently flooded or inundated	4 or more types present	points = 3
☒ Seasonally flooded or inundated	3 types present	points = 2
☐ Occasionally flooded or inundated	2 types present	points = 1
☒ Saturated only		
☐ Permanently flowing stream or river in, or adjacent to, the wetland		
☒ Seasonally flowing stream or river in, or adjacent to, the wetland		
☐ Lake-fringe wetland = 2 points		
☐ Freshwater tidal wetland = 2 points		

2

H 1.3 Richness of Plant Species (see p. 75)

Count the number of plant species in the wetland that cover at least 10 ft² (Disregard patches of Phalaris arundinacea unless you can demonstrate that it is native in your area.)

You do not have to name the species.

Do not include aquatic bed, floating canopy, emergent species, or species listed as noxious weeds.

If you count:	> 19 species	points = 3
	5 - 19 species	points = 1
	< 5 species	points = 0

List species below if you want to

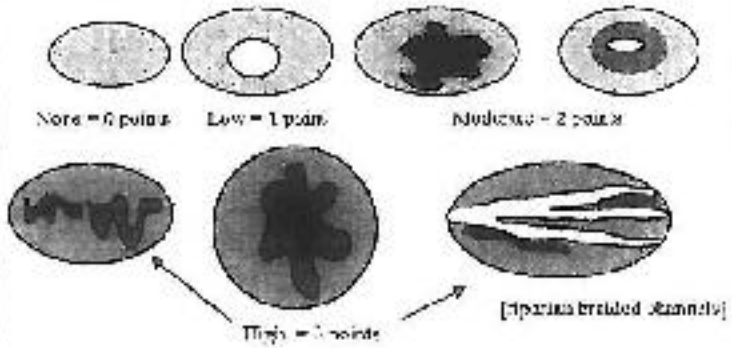
0

Total for page 2

H 1.4 Interspersion and interdigitation (see p. 76)

Decide from the diagram below whether interspersion between Cowardin vegetation classes (described in H 1.1) or between open water and any vegetation is high, moderate, low, or none.

Figure__



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

0

H 1.5 Special habitat features (see p. 77)

Check the habitat features that are present in the wetland. The number of boxes to be checked is the number of points, except for the last column.

- ☐ Large, downed, woody debris within the wetland (6 in diameter and 6 ft long)
- ☐ Standing snags (diameter at breast height [dbh] of 4 in or more)
- ☐ Undercut banks are present for at least 0.6 ft (18 in) and/or overhanging vegetation extends at least 0.3 ft (1 in) over a stream (or the ordinary high water mark) for at least 33 ft (10 m)
- ☐ Stable steep banks of fine material that might be used by beaver or muskrat for burrowing (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet decayed noticeably)
- ☐ At least 1/4 acre of persistent ungrazed emergent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structure for egg-laying by amphibians)
- ☐ Invasive shrubs cover less than 25% of the wetland area in each canopy or plant layer. Note: The 25% stated is only a guideline at this time. It may change after we have more data.

0

H 1. TOTAL Score – potential for providing habitat (Add the scores from H 1.1, H 1.2, H 1.3, H 1.4, H 1.5)	3

Comments:

Wetland name or number ___

H.2. Does the wetland have the opportunity to provide habitat for many species?

H.2.1. Buffers (*see p. 80*)

Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."

Figure ___

- ☐ 100 m (330 ft) 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 hay harvest, use) — Points = 5
- ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. — Points = 4
- ☐ 50 m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. — Points = 4
- ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. — Points = 3
- ☐ 50 m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. — Points = 3

If buffer does not meet any of the above criteria above:

- ☐ No paved areas (except paved trails) or buildings within 50 m (300 ft) of wetland > 95% circumference. High to moderate grazing or lawns are OK. — Points = 2
- ☐ No paved areas or buildings within 50 m of wetland for > 50% circumference. High to moderate grazing or lawns are OK. — Points = 1
- ☒ Heavy grazing in the buffer — Points = 1
- ☐ Vegetated buffers are < 2 m wide (6.6 ft) for more than 95% of the circumference (e.g. ditch banks, pastures, heavily used lawns, edge of wetland). — Points = 0
- ☐ Buffer does not meet any of the criteria above. — Points = 0

Points from rating buffers 1

H.2.2. Corridor and Connections (*see p. 82*)

H.2.2.1. Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 100 ft wide, has at least 30% cover of shrubs, forest or native ungrazed grass, and extends for 1/4 mile or more to other wetlands or undisturbed uplands that are at least 5 acres in size? (*Riparian corridors should generally have shrub, forest or native ungrazed grass cover.*)

☐ Y = 4 points (go to H.2.3) ☒ N = (go to H.2.2.2)

H.2.2.2. Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50 ft wide, has at least 30% cover of shrubs or forest, and connects to a riparian, other wetlands or undisturbed uplands that are at least 5 acres in size? OR, a Lake-fringe wetland, that does not have an undisturbed corridor as in the question above?

☐ Y = 2 points (go to H.2.3) ☒ N = (go to H.2.2.3)

H.2.2.3. Is the wetland:

within 2 mi (3 km) of a beaverdam or is a source of beavers? OR
within 2 mi of a large field or pasture (240 acres)? OR
within 1 mi of a lake greater than 20 acres?

☒ Y = 2 points ☐ N = 0 points

1

Total for page 2

Wetland name or number ___

H.2.3. Nearby, adjacent or other priority habitats (see by WDFW features and complete descriptions of WDFW priority habitats, and the comments in italics that are in round in the PHS report http://wdfw.wa.gov/hab/phsdata.htm)

Within the following priority habitats are within 330 ft (100 m) of wetland or within 300 ft (90 m) for streamers (do not forget to be mindful and fast):

- ☐ Aspen Stands: Pure or mixed stands of aspen greater than 0.2 ha (2 acres)
- ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of animals and wildlife (BA) (see page 91 in PHS report p. 152)
- ☐ Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock
- ☐ Old-growth/Mature Forest: 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/ac) > 81 cm (32 in) dbh or > 200 years of age. Mature forest: Stands with average diameters exceeding 53 cm (21 in) dbh; canopy cover may be less than 100% but generally not less than 60%; dominant trees are at least 80 - 100 years old west of the Cascade crest
- ☐ Oregon White Oak Woodlands: Stands of oak or oak/conifer associations where canopy coverage of the oak component is important (WDFW priority habitat p. 159)
- ☐ Riparian: The area adjacent to aquatic systems with flowing water that contain 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 climax community or serve as successional stages in the development of a forest (WDFW PHS report p. 161)
- ☐ Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional habitat for spawning, rearing, feeding, and migration of adult and juvenile salmonids and other species. — 0
- ☐ Nearshore: Estuarine, marine beach/berm, bluff, and marine shoreline habitats. These include Critical Saltwater Habitat, Kelp and Eelgrass Beds, Surf Smelt Spawning, Pacific Sand Lance Spawning, and Pacific Herring Spawning habitats, and the definition of relatively undisturbed are in WDFW report pp. 167-169 and glossary in Appendix A.
- ☐ Caves: A naturally occurring cavity, void, or system of interconnected passages under the earth in soil, rock, ice or other geological formations and large enough to contain a human.
- ☐ Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.
- ☐ Talus: Naturally occurring areas of rock rubble ranging in average size 0.3 - 2.0 m (0.9 - 6.5 ft), composed of basalt, andesite, and sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- ☐ Snags and Logs: Dead trees are considered snags if they are dead or dying and within different decay classes provide a couple of very essential roles for wildlife. Priority snags have a diameter at breast height (DBH) > 51 cm (20 in) in western Washington and are > 2 m (6.6 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 = 2 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. Priority wetlands are addressed in question H.3.0.

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that has *fatal* flaws, p. 21) ☐ 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 bathing, but connections should NOT be bisected by paved roads, OK, fields, or other development points = 5 ☐ The wetland is Lake-Fringe on a lake with little disturbance and there are 3 other lake fringe wetlands within ½ mile points = 5 ☒ There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 5 ☐ The wetland is Lake-Fringe on a lake with disturbance and there are 3 other lake fringe wetlands within ½ mile points = 5 ☐ There is at least 1 wetland within ½ mile points = 5 ☐ There are no wetlands within ½ mile points = 0	3
H 2. TOTAL Score: opportunity for providing habitat *Add the scores in the column above*	5
TOTAL for H 1 from page 14	2
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	7

Comments

Site Unit Number _____

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Ecology July 2004 (revised to incorporate [illegible])

Name of wetland (if known): [illegible] Date of site visit: 11/13/2010

Rated by: A. Abele Trained by Ecology? Yes ☒ No ☐ Date of Training: 10/2006

SECTION, TOWNSHIP: 12N RANGE: 2W to S/T/R in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure _____ Estimated size 10,388 sf

DRAFT SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☐ IV ☒

Category I = Score 70-90 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30	Score for Water Quality Functions	12
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	TOTAL Score for functions	27

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☐

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☒
Natural Heritage Wetland	☐	Riverine	☐
Bog	☐	Lake-fringe	☐
Mature Forest	☐	Slope	☐
Old Growth Forest	☐	Flats	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above	☐	Check if unit has multiple HGM classes present	☐

Comments

Site Unit Number _____

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 Additional Protection (in addition to the protection recommended for the category)	YES	NO
SP1. *Has the wetland 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.	☐	☒
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. 14 of data form).		☒
SP3. *Does the wetland contain individuals of Priority species listed by the WDFW for the state?*	☐	☒
SP4. *Does the wetland have a local significance in addition to its functions?* 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.	☐	☒

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 34 for more detailed instructions on classifying wetlands.

Conditions

Site name or number: ___

Classification of Wetland Units in Western Washington

1. Are the water levels in the wetland mostly or totally by tides (i.e. except during floods)?

   [X] NO – go to 2 [ ] YES – the wetland class is Tidal Fringe

   If yes, is the salinity of the water during periods of normal low flow below 0.5 parts per thousand? [ ] YES – Freshwater Tidal Fringe [ ] NO – Saltwater Tidal Fringe (Estuarine)

   If your wetland seems to classify as a Freshwater Tidal Fringe use the form for Riverine wetlands. If a Saltwater Tidal Fringe, it is to be an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that for characterization of the category, tidal Estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water flow is NOT sources of water to the unit

   [X] NO – go to 3 [ ] YES – The wetland class is Flats

   If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.

3. Does the wetland meet both of the following criteria?

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

   [ ] At least 20% of the open water area is deeper than 6.6 ft (2 m)?

   [X] NO – go to 4 [ ] YES – The wetland class is Lake Fringe (Lacustrine Fringe)

4. Does the wetland meet all of the following criteria?

   [ ] The ground surface is 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 in from springs, as shallow, open water, or within drainages.

   [ ] The water leaves the wetland without being impounded.

   NOTE: *Surface water does not pool in these type of wetlands except occasionally in very small and shallow depressions or behind beaver dams. Organic soils are usually of decomposed and undecomposed peat mosses.*

   [X] NO – go to 5 [ ] YES – The wetland class is Slope

Comments

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

   [ ] The unit is in a valley, or drainage channel, where it gets inundated by overbank flooding from that stream or river

   [ ] The overbank flooding occurs at least once every two years.

   NOTE: *The riverine unit can be on any slope, or in any size valley, but it must be in a valley or drainage channel.*

   [ ] NO – go to 6 [X] YES – The wetland class is Riverine

6. Is the wetland in a topographic depression in which water ponds or is saturated to the surface at some time during the year? *This excludes ponds caused by beaver activity.*

   [ ] NO – go to 7 [X] YES – The wetland class is Depressional

7. Is the wetland located in a very flat area with no discernible drainage, and is overall flat? The unit has vegetated surface water more than a few inches. The soil seems to be saturated by high groundwater in the area. The wetland may be ditched, but there is no obvious outlet or inlet.

   [ ] NO – go to 8 [ ] YES – The wetland class is Depressional

8. Your wetland seems to be difficult to classify and probably contains several types of wetlands. For example, edge of the base of a slope may grade into a riverine floodplain or a small stream. While a depressional wetland has a variety of functions, OFTENTIMES, AND DEPENDING ON WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (water sources, slope, etc.) to help you decide. Use the following table to identify the appropriate class to use for the rating system if you have several DIFFERENT classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 75% or more of the total area of the wetland unit being rated. If the main Hydrologic Unit in column 1 is less than 75% of the unit, then you should not rating the class that represents more than 90% of the total area.

90% Classes within the wetland unit Depressional	Rate this as a Riverine
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake fringe	Lake fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake fringe	Depressional
Salt Water Tidal fringe and any other kind of freshwater wetland	Treat as ONE UNIT in these wetlands with special characteristics

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

Comments: Depressional + Riverine = Depressional

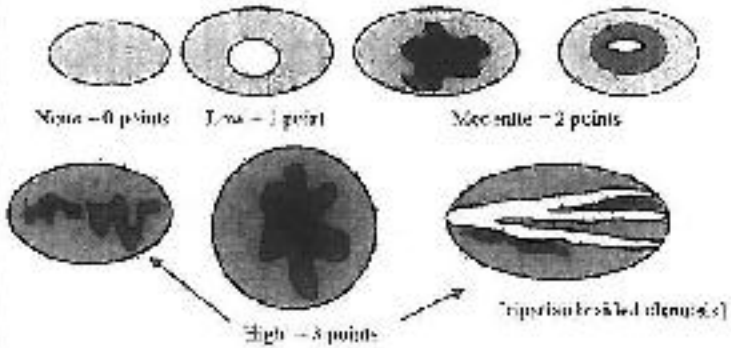
D	Depressional and Flats Wetlands WATER QUALITY FUNCTIONS – Indicators that the wetland is functioning to improve water quality	Points (circle one per group)
D	D 1. Does the wetland have the potential to improve water quality?	(circle one)
D	D 1.1 Characteristics of surface water flows out of the wetland unit Unit is depressional with no surface water flows leaving the unit — points = 4 Unit has seasonally flowing, or highly constricted, permanently flowing outlet — points = 2 Unit has permanently flowing but not highly constricted outlet — points = 1 Unit has "flow" through (Q.7 or Q.9 yes) but the flow is very, very slow, very permanent or has surface algal mat — points = 1 (Which is not permanently flowing, intermittently flowing?) Unit has a constricted, or highly constricted, outlet and is permanently flowing — points = 0 Put the points on drawing	Figure ____ 2
D	D 1.2 The soils 16 inches below the surface (or to a layer) in depth or organic. Use NRCS definitions. YES — points = 4 NO — points = 0	0
D	D 1.3 Characteristics of plants that slow water in the wetland unit Wetland is persistent, ungrazed, vegetation > 90% of area — points = 5 Wetland is persistent, ungrazed, vegetation > 50% of area — points = 3 Wetland is persistent, ungrazed, vegetation > 10% of area — points = 1 Wetland is not persistent, ungrazed, vegetation < 10% of area — points = 0 Map of Cowardin vegetation classes	Figure ____ 0
D	D1.4 Characteristics of seasonal ponding or inundation *This is the area that is ponded for at least 2 months, but does not saturate during the year. Do not count the area that is permanently ponded. Estimate average monthly extent to 2 out of 10 yrs.* Area seasonally ponded is > 50% total area of wetland — points = 4 Area seasonally ponded is > 25% total area of wetland — points = 2 Area seasonally ponded is < 25% total area of wetland — points = 0 Map of Hydroperiods	Figure ____ 4
D	Total for D 1 *Add the points in the boxes above*	5
D	D 2. Does the wetland have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in grounds water or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater or 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. ☒ Drainage in the wetland is within 1 mile of a 303(d) water ☐ Upgradient landcovers include agriculture, urban, or other pollutant sources ☐ Other hydrologic stressors exist (D1.0) that reduce water quality ☐ A permit or other evidence that the wetland receives stormwater, wastewater, or other pollutants Note: Verify, or at least hypothesize, the pollutants that are being improved by the wetland. ☐ Residential, urban, or agriculture within 150 ft of wetland ☐ Wetland is fed by groundwater high in pollutants or nutrients ☐ Other ____ ☒ YES — multiplier = 2 ☐ NO — multiplier = 1	(circle one) multiplier 2
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 *Add score to table on p. 1*	10

D	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and erosion	Points
	D 3. Does the wetland have the potential to reduce flooding and erosion?	(circle one)
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is depressional with no surface water flows leaving the unit — points = 7 Unit has seasonally flowing, or highly constricted, permanently flowing outlet — points = 2 Unit is the depression (Q.7 yes) or in the flats class, with persistent, ungrazed, vegetation and no visible outlet or outlet is at a much higher elevation than the bottom of the wetland — points = 1 (Which is not permanently flowing, intermittently flowing?) Unit has a unconstricted, or slightly constricted, outlet and is permanently flowing — points = 0	Figure ____ 2
D	D 3.2 Depth of storage during wet periods *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or the deepest part of the wetland.* Marks of ponding are 3 ft or more above the surface or bottom of outlet — points = 7 The outlet is a "weir" or has "flat" points = 0 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet — points = 5 Marks of ponding between 1 ft to < 2 ft from surface or bottom of outlet — points = 3 Wetland is flat (yes to Q.2 or Q.7 on map) but has small depressions on the surface that trap water — points = 1 Marks of ponding less than 0.5 ft — points = 0	Figure ____ 0
D	D 3.3 Contribution of wetland to storage in the watershed *Estimate the ratio of the area of upgradient basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of unit — points = 5 The area of the basin is 10 to 100 times the area of the unit — points = 3 The area of the basin is more than 100 times the area of the unit — points = 0 Entire unit is in the FLATS class — points = 3	Figure ____ 0
D	Total for D 3 *Add the points in the boxes above*	4
D	D 4. Does the wetland have the opportunity to reduce flooding and erosion? Answer YES if the wetland is in a location in the watershed where the flood storage or reduction in water velocity it provides helps reduce downstream property damage or resources from flooding or excessive erosive storm flows. Answer NO if the water coming into the wetland is coming from a "closed" basin, such as a lake, playa lake, reservoir, etc. Or you estimate that more than 90% of the water in the wetland is in or groundwater in areas where storm or groundwater flooding does not occur. *Note which of the following indicators of opportunity apply.* ☐ Wetland is in a floodplain that rarely causes flooding problems ☒ Wetland drains to a river or stream that has flooding problems ☐ Wetland has no outlet and impounds surface runoff water that might cause problems downstream ☐ Other ____ ☒ YES — multiplier is 2 ☐ NO — multiplier is 1	(circle one) multiplier 2
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 *Add score to table on p. 1*	8

Comments

These questions apply to wetlands of all HGM classes.	Points
HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat	
H 1. Does the wetland have the potential to provide habitat for many species?	
H 1.1. Vegetation structure *(see p. 72)*	Figure__
Check the types of vegetation classes present (as defined by Cowardin). Non-forested: for each class, it is 5 acres or more (that is 20% of the area if not in a class 2.4 acres).	
☐ aquatic bed	
☒ emergent plants	
☐ scrub/shrub (areas where shrubs have >30% cover)	
☐ forested (areas where trees have >30% cover)	
If the wetland is a forested class, check if:	0
☐ forested areas have 5 out of 5 strata (canopy, subcanopy, shrub, herb, moss/ground cover) that cover 20% within the forested polygon	
Add the number of vegetation types that qualify. If you have:	
4 types or more — points = 3	
3 types — points = 2	
2 types — points = 1	
1 type — points = 0	
Map of Cowardin vegetation classes	
H 1.2. Hydroperiods *(see p. 72)*	Figure
Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover at least 10% of the wetland or to zone in extent. (See text for description of hydroperiods.)	
☐ Permanently flooded or inundated — 4 or more types present — points = 3	
☒ Seasonally flooded or inundated — 3 types present — points = 2	
☐ Occasionally flooded or inundated — 2 types present — points = 1	2
☒ Saturated only	
☐ Permanently flowing stream or river in, or adjacent to, the wetland	
☒ Seasonally flowing stream or river in, or adjacent to, the wetland	
☐ Lake-fringe wetland – 2 points	
☐ *Freshwater tidal wetland – 3 points*	
H 1.3. Richness of plant species *(see p. 74)*	
Count the number of plant species in the wetland that cover at least 10 ft². (Different species of the same species can be combined to meet the size threshold.)	
You do not have to name the species.	
Do not include Harvestable, Invasive, Noxious, and Exotic species.	
If you counted: > 19 species — points = 2	
5 – 19 species — points = 1	
Not required unless it will make a difference — <5 species — points = 0	0

Total for page: 2

	Figure__
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 classes and non-vegetated areas (open water or mudflats) is: None, low, medium, high, or extreme.	
	
None = 0 points — Low = 1 point — Moderate = 2 points	
High = 3 points — Interspersion is skewed (depends)	
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**	
H 1.5. Special Habitat Features: *(see p. 77)*	
Check the boxes for features that are present in the wetland. The number of boxes is the number of points you put into the best column.	
☐ Large, downed, woody debris within the wetland (>6 in. (15 cm) diameter and 6 ft (1.8 m) long)	
☐ Standing snags (diameter at breast height (dbh) of 4 inches) in the wetland	
☐ Undercut banks are present for at least 6.6 ft. (2 m) and/or overhanging vegetation extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that are not to be eaten by beaver)	0
☐ At least 1/4 acre of fine-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structure for egg laying by amphibians)	
☐ Interspersion of habitats occurs over less than 25% of the wetland and in very small patches	
Note: The 25% criterion is only a portion of the overall acreage. It is an error.	
H 1. TOTAL Score – potential for providing habitat *Add the scores from H 1.1, H 1.2, H 1.3, H 1.4, H 1.5*	2

Comments:

H 2. Does the wetland have the opportunity to provide habitat for many species?

H 2.1 Buffers (*page 20*) — Figure ___

Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. Refer to definition of "undisturbed".

- ☐ 150 m (492 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No site clearing within the undisturbed part of buffer. (relatively undisturbed also means no grazing, no tilling, no cutting for hay or silage) — Points = 5
- ☐ 150 m (492 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% circumference. — Points = 4
- ☐ 50 m (164 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. — Points = 4
- ☐ 150 m (492 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference. — Points = 3
- ☐ 50 m (164 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for >50% circumference. — Points = 3

If buffer does not meet any of the three criteria above

- ☐ No paved areas (except paved trails) or buildings within 25 m (82 ft) of wetland >95% circumference. Light or moderate grazing, or hayfields OK. — Points = 2
- ☐ No paved areas or buildings within 50 m of wetland for >95% circumference. Light or moderate grazing, or hayfields OK. — Points = 2
- ☒ Heavy grazing in buffer. — Points = 1
- ☐ Vegetated buffers are <25 m wide (82 ft) for more than 95% of the circumference (e.g. roads, lawns, farmed fields, grazing, small backyards extend to edge of wetland). — Points = 1
- ☐ Buffer does not meet any of the criteria above. — Points = 1

Aerial photo showing buffers

H 2.2 Corridors and Connections (*page 21*)

H 2.2.1 Is the wetland part of a relatively undisturbed vegetated corridor (other riparian or upland) that is at least 150 ft wide, has at least 30% cover of native, undisturbed upland that connects to estuaries, other wetlands or undisturbed upland habitat that is at least 2.5 acres in size? (does not include riparian corridors *based on aerial photo, paved roads, and developed areas*)

☐ YES = 4 points (go to H 2.3) ☒ NO = H 2.2.2

H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (other riparian or upland) that is at least 50 ft wide, has at least 30% cover of native, undisturbed upland that connects to estuaries, other wetlands or undisturbed upland habitat that is at least 2.5 acres in size? OR a Table-Fringe wetland, if other criteria in H 2.2.1 are met?

☐ YES = 2 points (go to H 2.3) ☒ NO = H 2.2.3

H 2.2.3 Is the wetland

- Within 5 m (16 ft) of a beaverdam or ice water creek? OR
- Within 2 m of a large field or pasture (>40 acres)? OR
- Within 1 m of a lake greater than 20 acres?

☒ YES = 1 point ☐ NO = 0 points

Total for H 2 = 2

H 2.3 Is the wetland in a priority habitat or within 330 ft (100 m) of a priority habitat?

Attach a copy of the PHS report and mark the priority habitats within 330 ft (100 m) of the wetland on the PHS report. Indicate the relative priority of each habitat.

- ☐ 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 (*for descriptions see WDFW PHS report p. 182*).
- ☐ Herrmann's Bitter: Variable size patches of grass and forbs on shallow soils over bedrock.
- ☐ Old-growth/Mature forests: Take a walk into a local forest. Stands that have 2 tree canopy layers, including a multi-layered canopy with occasional small openings, with at least 20 trees/ha (8 trees/ac) > 81 cm (32 in) dbh or > 200 years of age (Mature forests). Stands with average diameters exceeding 53 cm (21 in) dbh or canopy cover may be less than 100%; canopy cover may be less than 60%; large dead standing 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 or stands of pure oak or oak-conifer associations where canopy coverage of the oak component is important (*for descriptions in WDFW PHS report p. 230*).
- ☐ 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, or forb-and grass-dominated 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 aquatic environment of physical, biological, and chemical processes that combine to provide functions and life history requirements for resident fish and wildlife resources.
- ☐ Nearshore: Relatively undisturbed nearshore habitats. Check include: Feeder Bluffs, Groundwater Seeps, Kelp, Eelgrass, Spawning Habitat, Juvenile Rearing Habitat, or Refugia (*full descriptions of priority habitats and the definition of "relatively undisturbed" in WDFW PHS report pp. 177-189 and glossary in Appendix A*).
- ☐ Caves: A naturally occurring cavity, void, or system of interconnected passages under the earth in soil, rock, ice, or other geological formations, sufficiently large to contain a human.
- ☐ Cliffs: Greater than 7.6 m (25 ft) high, and occurring in low density.
- ☐ Talus: Homogeneous area of accumulable material in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap, slope and cliff talus. May be associated with cliffs.
- ☐ Snags and Logs: These are considered a priority if they are found in the riparian zone, within or nearby conservation areas, or within a forested area. Priority snags have a diameter at breast height (dbh) > 51 cm (20 in) in western Washington and > 25 cm (9.8 in) in the east, priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

☐ Wetland has 3 or more priority habitats = 4 points
☐ Wetland has 2 priority habitats = 2 points
☐ Wetland has 1 priority habitat = 1 point No habitats = 0 points

Note: All vegetated wetlands may be considered priority habitats but are not rated as such here. Non-forested wetlands are addressed in question H 3.3.

Total for H 2 = 2

H 3.4 Wetland Landscape (*choose the one description of the landscape around the wetland that best fits*) (see p. 86) ☐ There are at least 3 other wetlands within ½ mile, and the connections between them are relatively unobstructed (light grazing between wetlands, fallows, fallows in a rotation with some heating, but connections should NOT be bisected by paved roads, fill, fields, or other development) points = 5 ☐ The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 4 ☒ There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 ☐ The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 3 ☐ There is at least 1 wetland within ½ mile. points = 2 ☐ There are no wetlands within ½ mile points = 0	3
H 2. TOTAL Score - opportunity for providing habitat *Add the scores in the column above*	5
TOTAL for H 1 from page 14	2
Total Score for Habitat Functions — add the points for H 1, H 2 and record the result on p. 1	7

Comments

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Approved July 2004 to increase accuracy and reproducibility in the system

Name of wetland (if known): Wetland "U" Date of site visit: 11/18/2009

Rated by A. Aberle Trained by Ecology? Yes ☒ No ☐ Date of Training: 10/2006

SECTION: 1 TOWNSHIP: 12N RANGE: 2W is SPR in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure _____ Estimated size 2,936 sf

DRAFT 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	4
Score for Hydrologic Functions	10
Score for Habitat Functions	12
TOTAL Score for Functions	26

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☐

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

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine	☐	Depressional	☐
Natural Heritage Wetland	☐	Riverine	☐
Bog	☐	Lake-fringe	☐
Mature Forest	☐	Slope	☒
Old Growth Forest	☐	Flats	☐
Coastal Lagoon	☐	Freshwater Tidal	☐
Interdunal	☐		
None of the above	☐	Check if unit has multiple HGM classes present	☐

Comments

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 Additional Protection (in addition to the protection recommended for its category)	YES	NO
SF1. *Has the wetland 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.	☐	☒
SF2. *Has the wetland not 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 1 Natural Heritage Wetlands (see p. 19 of data form).	☐	☒
SF3. *Does the wetland contain individuals of Priority species listed by the WDFW for the state?*	☐	☒
SF4. *Does the wetland have a local significance in addition to its function?* 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.	☐	☒

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Comments

Classification of Wetland Units in Western Washington

1. Are the water levels in the wetland mostly controlled by tides (i.e. except during floods)?

   ☒ NO – go to 2 ☐ YES – the wetland class is **Tidal Fringe**

   If yes, is the salinity of the water during periods of normal low flow below 0.5 ppt (parts per thousand)? ☐ YES – **Freshwater Tidal Fringe** ☐ NO – **Saltwater Tidal Fringe** (estuarine)

   If your wetland can be classified as a Freshwater Tidal Fringe use the Scores for Riverine wetlands. If it is Saltwater Tidal Fringe, it is treated as an Estuarine wetland. Wetlands that are under some tidal influence but are not in the tidal zone of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this category is being kept in this revision. To maintain consistency between editions, the term "estuarine" wetland is kept. Please note, however, that the characteristics that our Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is the only source (>95%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

   ☒ NO – go to 3 ☐ YES – The wetland class is **Flats**

   If your wetland can be classified as a "Flats" wetland, use the Scores for Depressional wetlands.

3. Does the wetland meet both of the following criteria?

   ☐ The vegetated parts 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 6.6 ft (2 m)?

   ☒ NO – go to 4 ☐ YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the wetland meet all of the following criteria?

   ☐ The wetland is on a slope (slope can be very gentle);

   ☐ The water flows through the wetland in one distinct channel, or several distinct channels. It may flow subsurface, as a narrow, or in a sample wetland the most times.

   ☐ 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 beaver dams. Wetland vegetation is usually OBL character and less than 3 feet tall.*

   ☒ NO – go to 5 ☐ YES – The wetland class is **Slope**

Comments

5. Is the entire wetland unit a result of the following criteria?

   ☐ The unit is in a valley, or a stream channel, where it is impossible to delineate hydrology apart from the stream or river.

   ☐ The overbank flooding from the stream or lake is the only way water comes and goes.

   NOTE: *For the wetland to qualify as a riverine, the only water in or out of the wetland must be from overbank flooding.*

   ☐ NO – go to 6 ☒ YES – The wetland class is **Riverine**

6. Is the wetland in a topographic depression in which water ponds or is saturated to the surface at some time of the year. *This may be the only wetland in a depression, or it may be one of several wetlands.*

   ☐ NO – go to 7 ☒ YES – The wetland class is **Depressional**

7. Is the wetland located in a very flat area with no obvious depression, and no overbank flooding. The unit contains ponded water to a depth of less than a few inches. The unit receives its water from high ground water in the area. The wetland may be ditched, but has no obvious natural outlet.

   ☐ NO – go to 8 ☐ YES – The wetland class is **Depressional**

8. If the wetland seems to be difficult to classify and probably contains several different HGM classes. For example, suppose the base of a slope may place the active floodplain of a small stream within a depressional wetland has a zone of flooding along its sides. DO 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 in 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 A is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the wetland.

If the classes within the wetland are based on:	Then Class is the following:
7 and 5	Riverine
5 and 6	Depressional
5 and 4 – slopes	Depressional Lake-fringe
Depressional + Riverine along stream within depression	Depressional
Depressional + Lake fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE or as wetlands with special characteristics

If you are not able to determine which of the above criteria apply to your wetland, or you have more than 3 HGM classes within a wetland (or more), classify the wetland as Depressional for the rating.

Comments :

S	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that wetland unit functions to improve surface water quality	Points (add to page total here)
S	S 1. Does the wetland have the potential to improve water quality?	(max pts 4)
S	S 1.1. Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope is a 1 foot vertical drop in elevation for every 100 feet of horizontal distance) ..... points = 3 Slope is 1% - 2% points = 2 Slope is 2% - 5% points = 1 Slope is greater than 5% points = 0	1
S	S 1.2. The soil 2 inches below the surface (A horizon) is organic (muck, peat, or mucky mineral) YES = 3 points NO = 0 points	0
S	S 1.3. Characteristics of the vegetation in the wetland that have reduced water velocities. (Choose the most appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Woody vegetation includes shrubs and trees. Herbaceous includes grasses, sedges, rushes, and other non-woody plants.) Dense, ungrazed, herbaceous vegetation > 90% of wetland area points = 6 Dense, ungrazed, herbaceous vegetation > half of area points = 5 Dense, woody vegetation > ½ of area points = 3 Dense, ungrazed, herbaceous vegetation > ½ of area points = 1 Does not meet any of the criteria above for vegetation points = 0 Add polygons to map with vegetation polygons	Points__
S	Total for S 1. Add the points in the boxes above	2
S	S 2. Does the wetland have the opportunity 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 source of pollutants. (You may have pollutants coming from several sources. Any single source would qualify as opportunity.) ☒ Housing in the wetland or within 100 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 100 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	(max pts 4) multiplier
S	TOTAL - Water Quality Functions - Multiply the score from S1 by S2. Add score to table on p. 1	4

Comments

S	Slope Wetlands HYDROLOGIC FUNCTIONS - Indicators that wetland unit functions to reduce flooding and stream erosion	Points (add to page total here)
S	S 3. Does the wetland have the potential to reduce flooding and erosion?	(max pts 6)
S	S 3.1. Characteristics of vegetation that reduce the velocity of surface flows during storms. (Choose the most appropriate for the description that best fits conditions in the wetland. Dense means you can't see through the vegetation to the ground or water surface.) Dense, uniform, rigid vegetation covers > 90% of area of the wetland. points = 6 Dense, uniform, rigid vegetation > ½ area of wetland points = 3 Dense, uniform, rigid vegetation > ¼ area of wetland points = 1 More than ¾ of area is grazed, mowed, tilled, or otherwise disturbed points = 0	3
S	S 3.2. Characteristics of slope wetland that holds back small amounts of flood flows. (A slope wetland has small surface depressions that can retain water over at least 10% of its area.) YES points = 2 NO points = 0	2
S	Add the points in the boxes above	5
S	S 4. Does the wetland have the opportunity to reduce flooding and erosion? 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 sediment erosive flows? Note which of the following conditions apply. ☑ Wetland has surface water that drains to a river or stream that has flooding problems ☐ Other Does at least ½ of the water source of water in wetland (for example, wetland is a slope wetland or on the downstream side of a dam) ☒ YES - multiplier is 3 ☐ NO - multiplier is 1	(max pts 9) multiplier
S	TOTAL - Hydrologic Functions - Multiply the score from S 3 by S 4. Add score to table on p. 1	10

Comments

Wetland name or ID: ____

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat	Points (circle one per section)
H 1. Does the wetland have the potential to provide habitat for many species?	
H 1.1 Vegetation structure (see p. 72) Check the types of vegetation classes present (as defined by Cowardin). Note the units for each class: is it more or more than 25% of the wetland? Use 2.5 acres. ☐ Aquatic bed ☒ Emergent plants ☒ Scrub/shrub (areas where shrubs have >30% cover) ☐ Forested (areas where trees have >30% cover) If the wetland has a forested area check if: ☐ Forested area has > 3 out of 5 strata (emergent, understory, shrubs, herbaceous, moss/ground cover) that each cover 20% within the forested polygon. Add the number of vegetation types that qualify. If you have: 4 types or more — points = 4; 3 types — points = 2; 2 types — points = 1; 1 type — points = 0. Map of Cowardin vegetation classes	Figure__ 1
H 1.2 Hydroperiods (see p. 73) Check the types of water regimes (hydroperiods) present within the wetland. The same regime has to cover more than 25% of the wetland to "count" (check with descriptions of hydroperiods). ☐ Permanently flooded or inundated ☒ Seasonally flooded or inundated ☐ Occasionally flooded or inundated ☒ Saturated only ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream or river in, or adjacent to, the wetland ☐ Lake-fringe wetland = 2 points ☐ Freshwater tidal wetland = 2 points. 4 or more types present: points = 3; 3 types present: points = 2; 2 types present: points = 1	Figure__ 1
H 1.3 Richness of plant species (see p. 75) Count the number of plant species in the wetland that cover at least 10 ft² (different parts of the same species can be combined to meet the size threshold). Not to include Reed canary grass, purple loosestrife, Canadian Thistle. If you counted: > 19 species — points = 2; 5 - 19 species — points = 1; < 5 species — points = 0. List species below if you want to:	Figure__ 1

Total for page 2

Wetland name or ID: ____

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 open water/aquatic bed (if it exists) is: none, low, moderate, high. Note: 0 points; Low = 1 point; Moderate = 2 points; High = 3 points. (riparian braided channels) NOTE: If you have two 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 to be entered. ☒ Large, downed, woody debris within the wetland (>4 in. diameter and 6 ft long) ☒ Standing snags (diameter at base > 4 inches) in the wetland ☐ Uncut, ungrazed herbaceous plants for at least 0.5 ft. (2m) around the perimeter of the wetland ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30 degrees slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not "aged" or weathered) ☐ At least 1/4 acre of thin-stemmed persistent vegetation or aquatic bed that are permanently or seasonally inundated areas for egg-laying by amphibians ☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants. Note: The 25% cover is only percentage of the natural overgrowth of an area.	2
H 1.6 TOTAL Score – potential for providing habitat (Add the scores from H 1.1, H 1.2, H 1.3, H 1.4, H 1.5)	7

Comments:

H 2. Does the wetland have the opportunity to provide habitat for many species?

	Figure
H 2.1 Buffers (see p. 86) *Choose the description that best represents condition of buffer of wetland. The buffer is comprised of native vegetation that appears to be undisturbed or to be healed in the setting. (See text for definition of "undisturbed".)* ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. No structures within 50 m (complete buffer). (Relatively undisturbed allows minimal grazing or bird hunting, no daily human use) Points = 5 ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >75% circumference. Points = 4 ☐ 50 m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% circumference. Points = 3 ☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference. Points = 2 ☐ 50 m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water 25 – 50% circumference. Points = 1 **If buffer does not meet any of the three criteria above** ☐ No paved areas (except paved trails) within buffer within 25 m (80 ft) of wetland >50% circumference. Light to moderate grazing, or lawns are OK. Points = 2 ☐ No paved areas or buildings within buffer of wetland for >50% of circumference. Light to moderate grazing or lawns are OK. Points = 1 ☒ Heavy grazing in buffer. Points = 1 ☐ Vegetated buffer less than 10 m wide (33 ft) for more than 50% of the circumference (e.g., a field, lawn, paving, beach, bedrock extend to edge of wetland.) Points = 0 ☐ Buffer does not meet any of the criteria above. Points = 0 **Total points standing buffer**	1
H 2.2 Corridors and Connectivity (see p. 87) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (other riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed upland habitat at least 250 acres in size? *(does not include corridors, heavily used grazed fields, paved roads, and residential areas in the corridor.)* ☐ YES = 4 points (go to H 2.3) ☒ NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (other riparian or upland) that is at least 50 ft 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? (HEP: a fringe wetland, if it does not have an unbroken buffer. Does it meet the question above? ☐ YES = 2 points (go to H 2.3) ☒ NO = H 2.2.3 H 2.2.3 Is the wetland within 5 mi (8 km) of a relatively undisturbed estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a site greater than 20 acres? ☒ YES = 1 point ☐ NO = 0 points	1

Total for page 2

	Figure
H 2.3 Near or adjacent to other priority habitats listed by WDFW (see p. 87) *Name the priority habitat and the species for which they are listed in the PHS report. Indicate if the site is a priority habitat.* Which of the following priority habitats are within 330 ft (100 m) of the wetland unit? (Note: the connection *does not have to be continuous or undisturbed*) ☐ Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 ac). ☐ Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native riparian or upland *wildlife (Volume 4 pp. 179 in WDFW PHS report p. 112)* ☐ 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 conifers at least 2 layers or species forming a canopy with occasional gaps or openings, with at least 20 trees/ha (8 trees/ac) > 51 cm (32 in) diameter > 200 years in age. (Mature forest) Stands with average diameter exceeding 53 cm (21 in) dbh, crown cover may be less than 100%, crown cover may be less than 100%, dead, downed woody 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 white oak/conifer associations where canopy coverage of the oak component is important. *(WDFW classification in WDFW PHS report p. 150)* ☐ Riparian: The zone adjacent to aquatic ecosystems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. ☐ Western Pondrose Ponderosa pine: Western plant communities that can either take the form of a dry prairie or a wet prairie *(for description in WDFW PHS report p. 167)* ☐ 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, Upper Zone Nearshore, and Puget Sound Nearshore. *(full descriptions of habitats and the definition of relatively undisturbed are in Volume 4 pages 187-189 and glossary in Appendix A)* ☐ Cavity: A natural or man-made hole, or cavity in a tree or other material (for example earth or soil, rock, ice, or other geological formations) and is large enough to contain a human. ☐ Cliffs: Greater than 7.6 m (25 ft) tall and occurring below 914 m (3000 ft). ☐ Talus: Homogeneous areas of rock rubble ranging in average size 0.15 - 2.6 m (0.5 - 8.5 ft), consisting of hard, durable, and stable rock, including lava rock, but not including lava flows. May be associated with cliffs. ☐ Snags and Logs: Trees are considered snags if they are dead or dying and contain at least one of the characteristics: crack, cavity, or cavities suitable for wildlife. Priority snags have a diameter at breast height > 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 larger end, and > 6 m (20 ft) long. If met criteria 3 or more priority habitats = 4 points If met criteria 2 priority habitats = 3 points If met criteria 1 priority habitat = 1 point No habitats = 0 points *Note: All species or habitat, are by definition priority habitat and are not listed in this list. Nearby wetlands are addressed in question H 2.4.*	0

Wetland name or number ___

H 2.4 Wetland Landscape (*Choose the one description of the landscape that is the wetland's [illegible] (page 84)* ☐ 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 like those with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development points = 5 ☐ The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5 ☒ There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 ☐ The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 3 ☐ There are at least 1 wetland within ½ mile points = 2 ☐ There are no wetlands within ½ mile points = 0	3
H 2 TOTAL: Form unspecialized for providing habitat *Add the scores in the column above*	5
TOTAL for H 1 from page 11	7
Total Score for Habitat Functions — add the points for H 1, H 2 and record the result on p. 1	12

Comments

Appendix D

DNR Water Type Modification Documentation

Water Type Modification (WRMF PC-26-10-10007) Type N Stream

DNR Water Type Modification Request (1-8-10)
DNR Water Type Modification Approval (1-13-10)
& Accompanying E-mail Approval From Pat Coleman, DNR (2-3-10)

Region Reference Number - DNR Use Only			
Region	WRIA	Year	Number
PC	26	10	0007
Comment Due Date 2/13/10			

Reviewer Comments
Water Type Modification

Attention Reviewers: DNR will make a decision by the Comment Due Date. Your comments only will be considered if they are received on or before the Comment Due Date. Return this completed form by mail, fax, or e-mail to the appropriate DNR Region office.

Reviewer's Name: _____ **Reviewer's Affiliation:** _____

Reviewer's Phone Number: _____ **Reviewer's E-Mail:** _____

☐ **Agree with proposed change(s)** ☐ **Disagree with proposed change(s)**

Reasons for Agreement or Disagreement *(add attachments if necessary)*:

Signature _____ **Date** _____
(Signatures are not necessary for e-mailed responses)

DNR Office Summary and Decision

Name of Reviewers	Agree	Disagree	Date Comment Received	No Reply
DNR Linda LaRoy / Pat Ohmann	X		See attached e-mail	
WDFW Scott Brummer				X
DOE Craig Graber				X
Tribe Cowlitz				X
Other Yakama				X
Other				

☑ Approve change ☐ Disapprove change

Reasons for disapproval:

Signature [signature] Date 2/4/2010

Proponent and reviewers notified of decision by Jacqui Spahr (Name) on 2/5/10 (Date)

CHANDLER, BRUCE (DNR)

From:	COLEMAN, PAT (DNR)
Sent:	Wednesday, February 03, 2010 [illegible]
To:	CHANDLER, BRUCE (DNR)
Cc:	LARDY, LINDA (DNR)
Subject:	WTMF PC-26-10-0007

I would like to approve the following WTMF with no additional comments.

PC-26-10-0007

Thank You

Pat Coleman
Curtis Unit Forester
Pacific Cascade Region
Washington State Department of Natural Resources (DNR)
Cell: 360-880-5805
pat.coleman@dnr.wa.gov
www.dnr.wa.gov

ECOLOGICAL LAND SERVICES, INC.

B-4-10-0007

RECEIVED
JAN 12 2010
DNR Dept. Parade Mayo

January 8, 2010

Washington Department of Natural Resources
Pacific Cascade Region
PO Box 280
Castle Rock, WA 98611-0280

Re: Water Type Modification Request

At the request of Ritchie Brothers, Ecological Land Services, Inc. (ELS) is requesting water type modifications on three separate drainages within Section 1, Township 12 North, Range 2 West, W.M.

Drainage "A"

It appears this drainage reach is more accurately classified as a wetland swale rather than a Type N stream due to the lack of a defined stream bed. Hydrology is primarily derived from point source run-off from Interstate 5 as well as from a culvert beneath Interstate 5 that appears to collect storm water from the eastern portions of Interstate 5. No fish were observed within this reach and are not likely to use this system reach due to numerous man-made blockages downstream as well as unsuitable stream habitat within the drainage. We wish to designate this drainage reach as a wetland only and remove the water type designation from the map.

Drainage "B"

It appears this drainage reach is more accurately classified as a wetland swale rather than a Type N stream due to the lack of a defined stream bed. This reach connects with Drainage "A". Hydrology is derived from sheet flow from adjacent hay fields. The uppermost (northern) portion has been modified by shallow excavation and grading to allow the area to be actively farmed. We wish to designate this drainage reach as a wetland only and remove the water type designation from the map.

Drainage "C"

This drainage reach has been severely ditched and a livestock pond constructed just upstream from the point where it flows beneath North Military Road. Hydrology is primarily derived by point source run-off from Interstate 5 as well as from a culvert beneath Interstate 5 that appears to collect storm water from the eastern portions of Interstate 5. Other excavated agricultural ditches provide hydrology during winter months. We wish to designate this drainage reach as and agricultural ditch and remove the water type designation from the map. If this is not possible our secondary wish would be to designate the reach a Type NP.

132 - 5th Avenue, Suite 220 • Longview, Washington 98632 (360) 848-1321 [illegible]

PC-26 -18-0007

Please call me at 360.578.1371 to arrange a site visit

Sincerely,

Timothy J. Haderly
Senior Ecologist/Principal

Attachments: Water Type Modification Form – Drainage "A"
Water Type Modification Form – Drainage "B"
Water Type Modification Form – Drainage "C"
Forest Practice Base Map
Photo Location Map
Photoplates

Washington State Department of Natural Resources

Water Type Modification Form
(For changes to the Water Type Map)

Check all that apply

[ ] *Adding streams/lakes
[x] *Removing streams/lakes
[ ] *Changing location of streams/lakes
[ ] Changing water type based on physical characteristics
[ ] Changing water type based on protocol survey
[ ] Other. Describe_____

Region Reference Number - DNR Use Only						
Region		WRIA	Year		Number	
P	C	26	10	0	0	07

1. *Water Reference Id	2. Name of Water	3. Tributary To	4. *Legal Description (Section, Township, Range E/W)
1228695465435	Drainage "A"	Olequa Creek	Section 1, T17N, R2W, W.M.

5. *County	6. Water Type Shown on Map	7. Proposed Water Type	8. *Date of Field Visit
Lewis	N	None	Dec. 2009

9. *Forest Practices Application Number(s) (if applicable)
N/A

10. Change is based on the following (check all that apply):
[ ] Fish found
[ ] No fish found
[x] Physical characteristics
[ ] Public water diversion
[ ] Fish hatchery diversion
[ ] Water feature exists, but does not meet WAC 222-16-031 definition

No stream channel, area is an emergent wetland fed by stormwater from Interstate 5.

11. Water levels in the survey area were: [ ] Above Normal [x] Normal [ ] Below Normal
Description:

Sheet flow through drainage from ditch and culvert from Interstate 5 to the east.

12. The water type break was determined by:
[ ] Stopping at last observed fish
[ ] Stopping at upper extent of fish habitat
[ ] Stopping at end of harvest or property boundary
[x] Other – Describe:

Physical characteristics at mapped intersection between Drainage "A" and Drainage "B".

13. Are there any fish passage barriers downstream of the surveyed stream segment(s):
[ ] Natural barriers: [ ] Falls [ ] Cascades [ ] Bedrock chutes If yes, what is the height _____
[ ] Temporary barriers (log jams)
[x] Man-made barriers (culverts)

Fish passage barriers were identified by: [ ] Maps [x] Field observation [ ] Other – describe:

14. Is there evidence of mass wasting or scouring events?
[ ] Yes. Describe how these affected current stream channel conditions and fish distribution in the stream.
[x] No

*Proponent name and signature	Organization name and address	Telephone number
Print Name: Timothy J. Haderly	SLS Inc. 1157 3rd Ave, Suite 220 Longview, WA 98632	(360) 578-1371
Surveyor name	Organization name and address	Telephone number

Washington State Department of Natural Resources

Water Type Modification Form
(For changes to the Water Type Map)

Check all that apply

[ ] *Adding streams/lakes
[x] *Removing streams/lakes
[ ] *Changing location of streams/lakes
[ ] Changing water type based on physical characteristics
[ ] Changing water type based on protocol survey
[ ] Other. Describe_____

Region Reference Number - DNR Use Only									
Region		WRA		Year		Number			
P	C	26	-	10	-	0	0	0	7

1. *Water Reference Id	2. Name of Water	3. Tributary To	4. *Legal Description (Section, Township, Range, E/W)
Tributary of 1228895405435	Drainage 'B'	Cowlitz Creek	Section 1, T12N, R2W, W.M.

5. *County	6. Water Type Shown on Map	7. Proposed Water Type	8. *Date of Field Visit
Lewis	N	None	Dec. 2009

9. *Forest Practices Application Number(s) (if applicable)
N/A

10. Change is based on the following (check all that apply)
[ ] Fish found
[ ] No fish found
[x] Physical characteristics
[ ] Public water diversion
[ ] Fish hatchery diversion
[ ] Water feature exists, but does not meet WAC 222-16-031 definition.

No stream channel, area is an emergent wetland fed by stormwater from Interstate 5.

11. Water levels in the survey area were: [ ] Above Normal [x] Normal [ ] Below Normal
Description:

Sheet flow through drainage from pasture land and agricultural ditch to the north.

12. The water type break was determined by:
[ ] Stopping at last observed fish
[ ] Stopping at upper extent of fish habitat
[ ] Stopping at end of harvest or property boundary
[x] Other – Describe:

Physical characteristics at mapped intersection between Drainage 'A' and Drainage 'B'.

13. Are there any fish passage barriers downstream of the surveyed stream segment(s)
[ ] Natural barriers: [ ] Falls [ ] Cascades [ ] Bedrock chutes. If yes, what is the height _____
[ ] Temporary barriers (log jams)
[x] Man-made barriers (culverts)

Fish passage barriers were identified by: [ ] Maps [x] Field observation [ ] Other – describe:

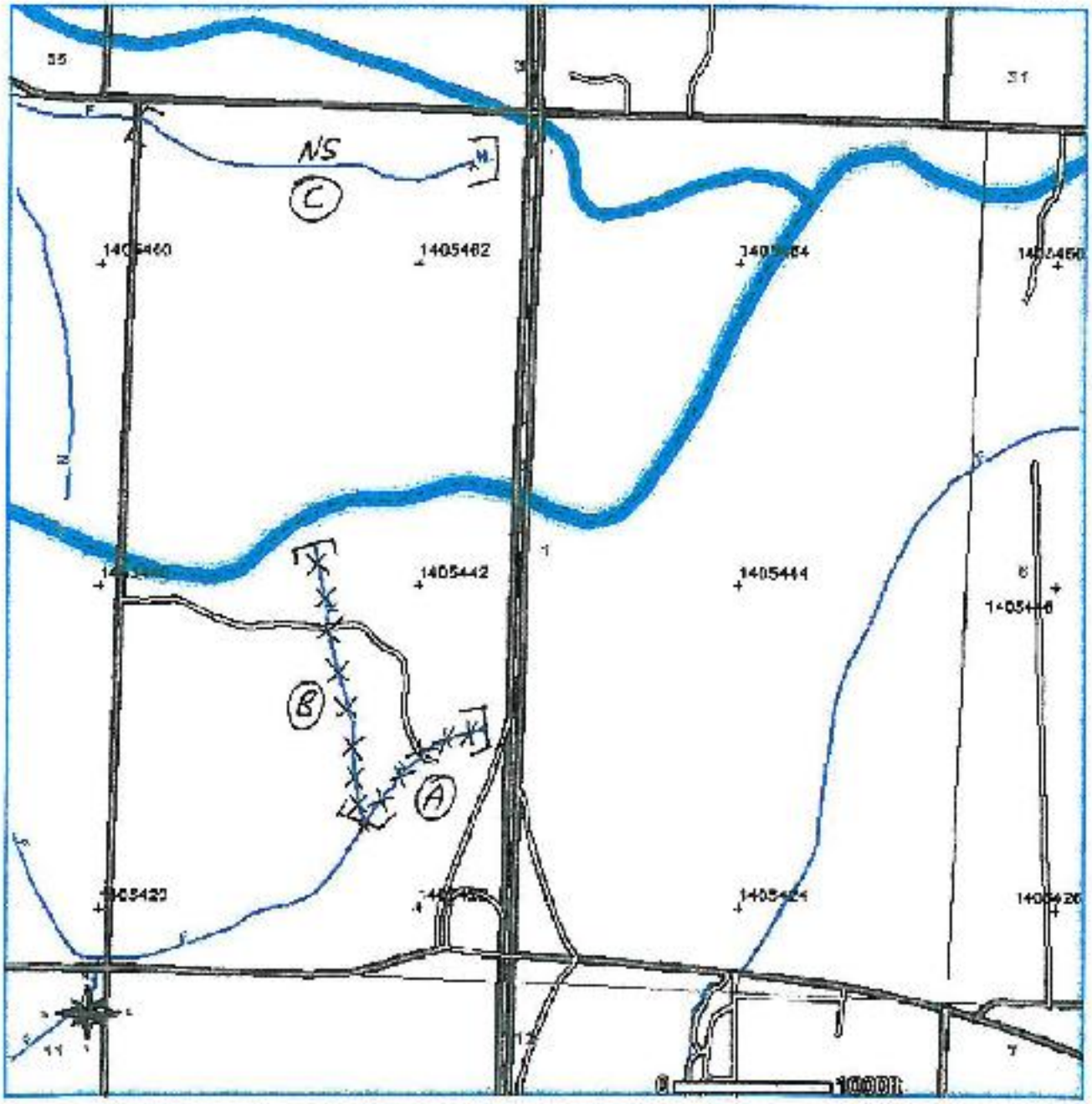
14. Is there evidence of mass wasting or scouring events?
[ ] Yes. Describe how these affected current stream channel conditions and fish distribution in the stream.
[x] No

*Proponent name and signature	Organization name and address	Telephone number
Print Name: Timothy J Hedely	ELS, INC. 1157 3rd Ave, Ste 220 Longview, WA 98632	(360) 578-1371
Surveyor name	Organization name and address	Telephone number

FOREST PRACTICE BASE MAP

TOWNSHIP 12 NORTH HALF C, RANGE 2 WEST (W.M.) HALF D, SECTION 1

Application #: PC-26-10-0007



Wednesday, December 30, 2009 11:23:10 AM
NAD 83
Contour Interval: 40 Feet

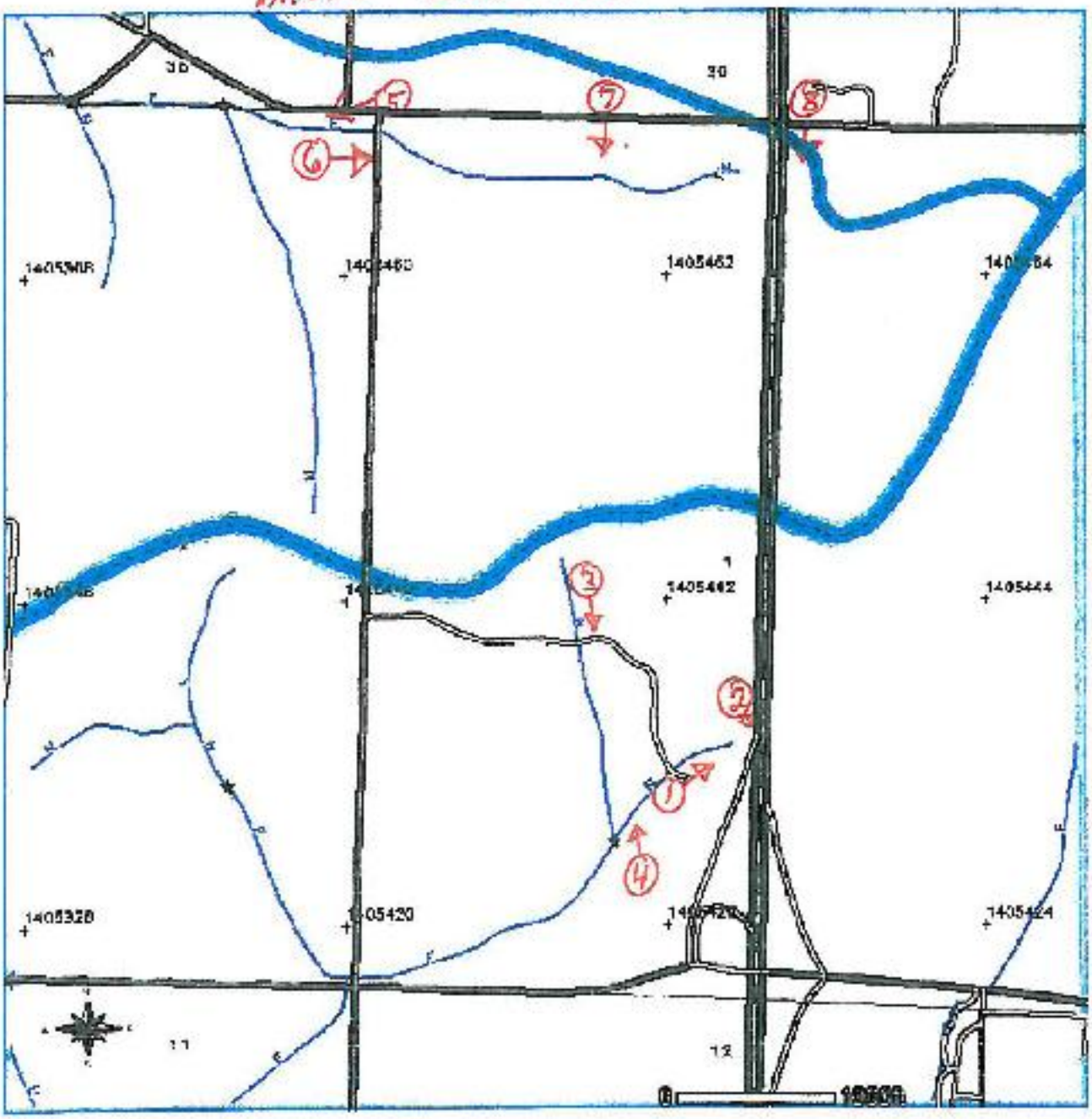
FOREST PRACTICE BASE MAP

TOWNSHIP 0 NORTH HALF undefined, RANGE 0 (W.M.) HALF undefined, SECTION 0

Application #: _____

Photo Locations

PC-26-10-0007



Friday, December 18, 2009 9:11:21 AM
NAD 83
Contour Interval: 40 Feet

1

Drainage "A" looking east. I5 in background.

2

Culvert Beneath I5. Drainage "A"

PC-26-10-0007

3

Drainage "B" Looking South.

4

Near intersection of Drainage "A" and Drainage "B"

Water Type Modification (WRMF PC-23-10-10008) Type F Stream

DNR Water Type Modification Disapproval (1-14-10)

- E-mail Correspondence, Pat Coleman - DNR (2-3-10)
- Informal Conference Note, Pat Coleman - DNR (2-3-10)

DNR Water Type Mocification Request (1-8-10)

WDFW E-mail Concurrence/Correspondence from Scott Brummer, WDFW (4-9-10)

Region Reference Number- DNR Use Only			
Region	WRIA	Year	Number
P C	2 3	1 0	0 0 0 8

Comment Due Date 1/14/2010

Reviewer Comments
Water Type Modification

Attention Reviewers: DNR will make a decision by the Comment Due Date. Your comments only will be considered if they are received on or before the Comment Due Date. Return this completed form by mail, fax, or e-mail to the appropriate DNR Region office.

Reviewer's Name: _____ Reviewer's Affiliation: _____

Reviewer's Phone Number: _____ Reviewer's E-Mail: _____

☐ Agree with proposed change(s) ☐ Disagree with proposed change(s)

Reasons for Agreement or Disagreement (add attachments if necessary):

Signature _____ Date _____
(Signatures are not necessary for e-mailed responses)

DNR Office Summary and Decision

Name of Reviewers	Agree	Disagree	Date Comment Received	No Reply
DNR: Pat Coleman		X	2/3/10 e-mail see ICN	attached
WDFW: Scott Brummer		X	2/3/10 (PC-ICN-10-120031)	
DOE: Craig Graber				
Tribe: Chehalis				
Other Tribe: Cowlitz				
Other Tribe: Quinault				

☐ Approve change ☒ Disapprove change

Reasons for disapproval

See ICN document (PC-ICN-10-120031)
Man-made blockages downstream - stream meets physical definition of "F" water.

Signature [signature] Date 2/4/2010

Proponent and reviewers notified of decision by Jacqui Spahr (Name) on 2/5/10 (Date)

CHANDLER, BRUCE (DNR)

From: COLEMAN, PAT (DNR)
Sent: Wednesday, February 03, 2010 2:14 PM
To: CHANDLER, BRUCE (DNR)
Subject: WTMF PC-23-10-0008

I would like to disapprove the WTMF with additional comments.

PC-23-10-0008

The stream associated with this modification meets the physical characteristics of a Type F stream. It has BFW of greater than two feet and a gradient of less than 16%. Therefore, shall not be downgraded to a Type N stream. See ICN # PC-ICN-10-120031.

ICN
-10-120031.doc

Thank You

Pat Coleman
Curtis Unit Forester
Pacific Cascade Region
Washington State Department of Natural Resources (DNR)
Cell: 360-880-5805
pat.coleman@dnr.wa.gov
www.dnr.wa.gov

WASHINGTON STATE DEPARTMENT OF
Natural Resources

Forest Practices

Informal Conference Note

PC-ICN-10-120031

ICN No.	Legal Subdivision	Section	TWP	RGE E/W	Application / Notification #	Class
PC-ICN-10-120031	N1/2NW1/4	1	12	02W	~~PC-23-10-0008~~ N/A	N/A

Landowner	Timber Owner	Operator
ELS Inc. c/o Timothy J. Faderly	Same as L/O	Same as L/O
Mailing Address 1157 3rd Ave, Suite 220	Mailing Address	Mailing Address
City, State (Province), Zip (Postal Code) Longview, WA 98632	City, State (Province), Zip (Postal Code)	City, State (Province), Zip (Postal Code)

Meeting Location	Telephone Conference	Date	Time	Region
Onsite	☐	2/3/10	1200	Pacific Cascade

Subjects Discussed:

Stream typing on the stream associated with Water Type Modification Form # PC-23-10-0008.

Decisions Made:

The entire stream segment (C) associated with WTMF # PC-23-10-0008 meets physical characteristics of an F stream, therefore, will remain typed as an F.

ECOLOGICAL LAND SERVICES, INC. PC-2310-0008

RECEIVED
JAN 12 2010
DNR Pacific Cascade Region

January 8, 2010

Washington Department of Natural Resources
Pacific Cascade Region
PO Box 280
Castle Rock, WA 98611-0280

Re: Water Type Modification Request

At the request of Ritchie Brothers, Ecological Land Services, Inc. (ELS) is requesting water type modifications on three separate drainages within Section 1, Township 12 North, Range 2 West, W.M.

Drainage "A"

It appears this drainage reach is more accurately classified as a wetland swale rather than a Type N stream due to the lack of a defined stream bed. Hydrology is primarily derived from point source run-off from Interstate 5 as well as from a culvert beneath Interstate 5 that appears to collect storm water from the eastern portions of Interstate 5. No fish were observed within this reach and are not likely to use this system reach due to numerous man-made blockages downstream as well as unsuitable stream habitat within the drainage. We wish to designate this drainage reach as a wetland only and remove the water type designation from the map.

Drainage "B"

It appears this drainage reach is more accurately classified as a wetland swale rather than a Type N stream due to the lack of a defined stream bed. This reach connects with Drainage "A". Hydrology is derived from sheet flow from adjacent hay fields. The uppermost (northern) portion has been modified by shallow excavation and grading to allow the area to be actively farmed. We wish to designate this drainage reach as a wetland only and remove the water type designation from the map.

Drainage "C"

This drainage reach has been severely ditched and a livestock pond constructed just upstream from the point where it flows beneath North Military Road. Hydrology is primarily derived by point source run-off from Interstate 5 as well as from a culvert beneath Interstate 5 that appears to collect storm water from the eastern portions of Interstate 5. Other excavated agricultural ditches provide hydrology during winter months. We wish to designate this drainage reach as and agricultural ditch and remove the water type designation from the map. If this is not possible our secondary wish would be to designate the reach a Type NP.

157 - 3rd Avenue, Suite 220 • Longview, Washington 98632 • (360) 578-1371 • Fax (360) 414-9305

PC-23-10-0008

Please call me at 360.378.1371 to arrange a site visit.

Sincerely,

Timothy J. Haderly
Senior Ecologist/Principal

Attachments: Water Type Modification Form – Drainage "A"
Water Type Modification Form – Drainage "B"
Water Type Modification Form – Drainage "C"
Forest Practice Base Map
Photo Location Map
Photoplates

WASHINGTON STATE DEPARTMENT OF
Natural Resources

Water Type Modification Form
(For changes to the Water Type Map)

Check all that apply
[ ] *Adding streams/lakes
[ ] *Removing streams/lakes
[ ] *Changing location of streams/lakes
[x] Changing water type based on physical characteristics
[ ] Changing water type based on protocol survey
[ ] Other. Describe_____

Region Reference Number - DNR Use Only								
Region		WRIA		Year		Number		
P	C	2	3	-	1	0	-	0 0 0 8

1. *Water Reference Id	2. Name of Water	3. Tributary To	4. *Legal Description (Section, Township, Range, E/W)
1228905465435	Ripple Creek Drainage "C"	Stearns Creek	Section 1, T12N, R2W, W.M.

5. *County	6. Water Type Shown on Map	7. Proposed Water Type	8. *Date of Field Visit
Lewis	F	NS	Dec. 2009

9. *Forest Practices Application Number(s) (if applicable)
N/A

10. Change is based on the following (check all that apply):
[ ] Fish found
[x] No fish found
[x] Physical characteristics
[ ] Public water diversion
[ ] Fish hatchery diversion
[ ] Water feature exists, but does not meet WAC 222-16-031 definition.

This drainage appears to be more accurately defined as an agricultural ditch than a Type F stream.

11. Water levels in the survey area were: [ ] Above Normal [x] Normal [ ] Below Normal
Description:

Sheet flow through drainage from pasture land and agricultural ditch to the south and north.

12. The water type break was determined by:
[ ] Stopping at last observed fish
[ ] Stopping at upper extent of fish habitat
[ ] Stopping at end of harvest or property boundary
[x] Other – Describe:

Physical characteristics from North Military Road east through the site.

13. Are there any fish passage barriers downstream of the surveyed stream segment(s):
[ ] Natural barriers: [ ] Falls [ ] Cascades [ ] Bedrock chutes. If yes, what is the height _____
[ ] Temporary barriers (log jams)
[x] Man-made barriers (culverts)

Fish passage barriers were identified by: [ ] Maps [x] Field observation [ ] Other – describe:

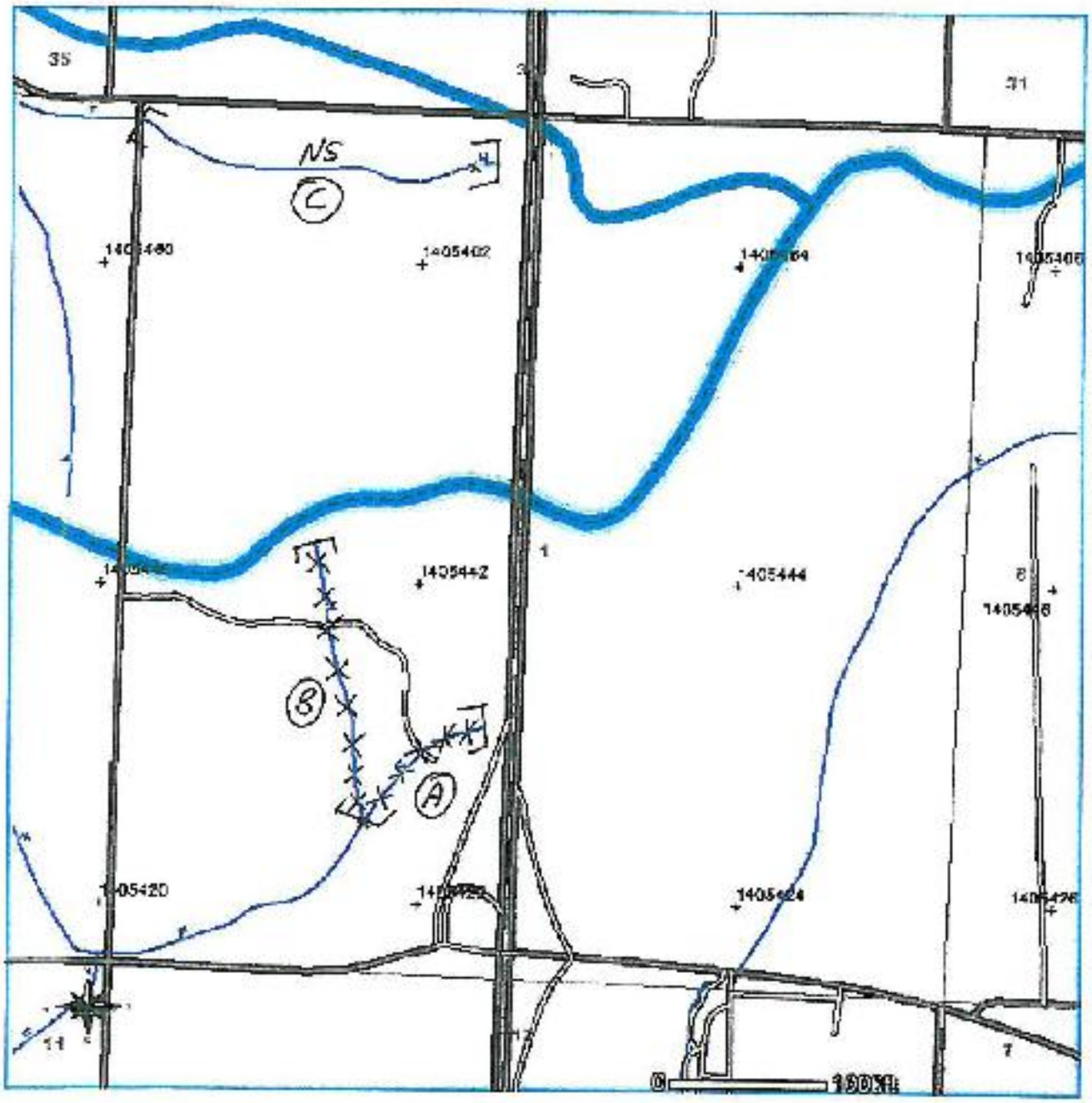
14. Is there evidence of mass wasting or scouring events?
[ ] Yes. Describe how these affected current stream channel conditions and fish distribution in the stream.
[x] No

*Proponent name and signature	Organization name and address	Telephone number
[signature] Print Name: Timothy J. Haderly	ELS Inc 1157 - 3rd Ave Suite 220 Longview, WA 98632	(360) 578-1371
Surveyor name	Organization name and address	Telephone number

FOREST PRACTICE BASE MAP

TOWNSHIP 12 NORTH HALF 0, RANGE 2 WEST (W.W.) HALF 0, SECTION 1

Application #: _____ -10-0008



Wednesday, December 22, 2009 11:29:40 AM
NAD 83
Contour Interval: 40 Feet

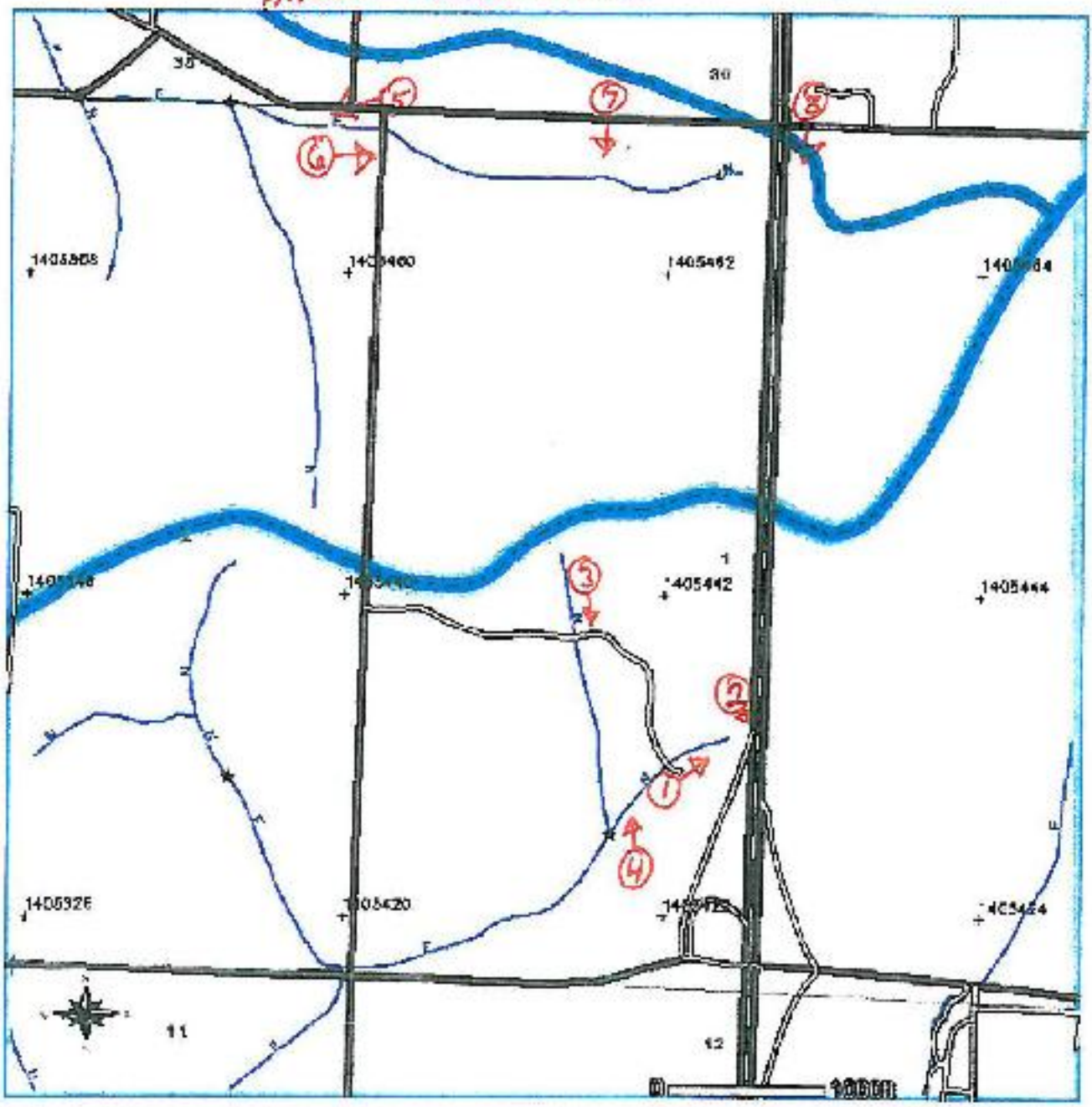
FOREST PRACTICE BASE MAP

TOWNSHIP 0 NORTH HALF undefined RANGE 0 (W.M.) HALF undefined SECTION 0

Application # _____

Photo Locations

PC-23-10-0008



Friday, December 10, 2009 8:11:21 AM
NAD 83
Contour Interval: 40 Feet

HC-23-10-0008

5

Drainage "C" Looking west along Koontz Road.

6

Drainage "C" looking East. An. Ditch and livestock pond.

PC-23-10-0008

7

Drainage "C" within site. Excavated by ditch.

8

"Upstream" of Drainage "E". East of I5.

Andrea Aberle

From: Brummer, Scott J (DFW) [Scott.Brummer@dfw.wa.gov]
Sent: Friday, April 09, 2010 9:23 AM
To: Andrea Aberle
Subject: RE: WRMF PC-26-10-0007

Your updated ELS map appears to be accurate as to the F water in the north we looked at. I did not review the stream channel to the south as it was said there was not defined channel or ditch that made connection to the F water that runs to Olequa Creek

It is my understanding that DNR made the review of the southern locations and approved the removal as defined stream channels. That is all you will need for the change in the mapping.

Scott Brummer
WDFW Area Habitat Biologist
Lewis County
360-785-0472 Office
360-520-6843 Cell
360-785-0473 Fax
brummsjb@dfw.wa.gov

Scott Brummer
WDFW Area Habitat Biologist
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360-785-0472 Office
360-520-6843 Cell
360-785-0473 Fax
brummsjb@dfw.wa.gov

From: Andrea Aberle [mailto:Andrea@cooland.com]
Sent: Wed 4/7/2010 9:59 AM
To: Brummer, Scott J (DFW)
Cc: Timothy Haderly
Subject: FW: WRMF PC-26-10-0007

Scott,
The documentation we have received from DNR in regards to the two water type modifications submitted on behalf of the Ritchie Brothers site (Exit 68, Lewis County) is not very specific. You also attended the site meeting on behalf of WDFW and provided comments on this issue. I would like to get your concurrence on the following statements in regards to the water type modifications submitted:

1. The two Type N streams currently mapped by DNR within the southern portion of the site do not meet the definition of a stream. The areas are to be considered wetland (Wetland A on ELS site map) or an agriculture ditch (AG Ditch 4 on ELS site map). (DNR has approved the WTM and will be removing these "streams" from the DNR Forest Practice Maps).
2. The Type F stream currently mapped by DNR within the northern portion of the site does meet the definition of a stream and therefore will remain as mapped by DNR.

Your reply via email is appreciated.

Thank You.

Andrea Aberle | Sr. Biologist

ECOLOGICAL LAND SERVICES, INC.

1137 3rd Avenue, Suite 220 | Longview, WA 98632
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From: COLEMAN, PAT (DNR) [mailto:pat.coleman@dnr.wa.gov]
Sent: Wednesday, April 07, 2010 8:13 AM
To: Andrea Aberle
Subject: RE: WRMF PC-26-10-0007

The concurrence on the water type modification should satisfy that on the two Type-N streams.
Thank You
Pat Coleman
Curtis Unit Forester
Pacific Cascade Region
Washington State Department of Natural Resources (DNR)
Cell: 360-880-5805
pat.coleman@dnr.wa.gov
www.dnr.wa.gov

From: Andrea Aberle [mailto:Andrea@eco-land.com]
Sent: Tuesday, April 06, 2010 3:30 PM
To: COLEMAN, PAT (DNR)
Cc: Timothy Haverly
Subject: FW: WRMF PC-26-10-0007

Pat,

ELS submitted two water type modifications on behalf of Ritchie Brothers for a site located west of I-5 at Exit 68. In reviewing the documentation we received back from you in February, an Informal Conference Note (ICN) was filled out for WRF PC 23-10-0008, January 14, 2010 (for the Type F stream in the northern portion of the site) with the following comments "man-made blockages downstream – stream meets physical definition of "F" water".

We did not receive an ICN for the second water type modifications submitted WRF PC-25-10-0007, which covered two Type N mapped streams within the southern portion of the site. A copy of an interoffice DNR email was provided by you stating "I would like to approve the following WTMF with no additional comments". Although you had no further comments, we would like documentation stating that the two mapped Type N streams (labeled Drainages A and B within the ELS WRM submittal) will be removed from DNR Forest Practice Base Maps and that the water type modifications are approved.

Please reply to this e-mail concurring with the attached "ELS Updated Site Map" reflecting the mapping change on the two Type N streams currently mapped in the southern portion of the site (and the Type F stream in the northern portion of the site).

Thank you for your assistance with this matter.

Andrea Aberle | Sr. Biologist

ECOLOGICAL LAND SERVICES, INC.

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