APPENDIX A

Wetland Delineation Data Forms

Note: Data plots 1 and 2 were located offsite and are not included in this report.

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

Project/Site: MT. SPOKANE City/County: SPOKANE Sampling Date: 7/3/[illegible]

Applicant/Owner: WASH. STATE PARKS State: WA Sampling Point: DP 2

Investigator(s): [illegible] Section, Township, Range: 16, T28N, R45E

Landform (hillslope, terrace, etc.): [illegible] Local relief (concave, convex, none): CONVEX Slope (%): 5-10%

Subregion (LRR): ROCKY MTN. FORESTS + RANGELAND Lat: [illegible] Long: [illegible] Datum: NAD83

Soil Map Unit Name: POWDER CREEK ASHY SILT LOAM / VAYWOOD MEDIAL SILT LOAM NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: [illegible] 3A WETLAND B

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size ____)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size 15' RAD)			
1 ALDER (ALNUS VIRIDIS)	45	X	FACW
2			
3			
4			
5			
	[illegible] = Total Cover		
Herb Stratum (Plot size 5' RAD)			
1 ENECID TRANSVLARIS	20	X	FACW
2 [illegible] (CYCLOSIRUM)	25	X	FAC
3 [illegible] (ACONITUM COLUMBIANUM)	20	X	FACW
4 CLOTSNIP SIBIRICA	20	X	FAC
5			
6			
7			
8			
9			
10			
11			
	85 = Total Cover		
Woody Vine Stratum (Plot size ____)			
1			
2			
	____ = Total Cover		

% Bare Ground in Herb Stratum: 15

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	____	x 1 =	____
FACW species	____	x 2 =	____
FAC species	____	x 3 =	____
FACU species	____	x 4 =	____
UPL species	____	x 5 =	____
Column Totals	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks

SOIL

Sampling Point DP-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
0-10	10YR 2/1						SILTY MUCK	
10-18	[illegible]						MUCK	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X 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 (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type ___

Depth (inches) ___

Hydric Soil Present? Yes X No ___

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- X 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 X No ___ Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

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

Remarks: PERIPHERAL WETLAND ON HILLSLOPE - DRAINS TO PERENNIAL STREAM 3a

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

Project/Site: MT. SPOKANE City/County: SPOKANE Sampling Date: 7/31/13
Applicant/Owner: WASH STATE PARKS State: WA Sampling Point: DP-4
Investigator(s): GRANGER, KUZIENSKY Section, Township, Range: 16, T28N, R45E
Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONVEX Slope (%): 1-5%
Subregion (LRR): PACKY MTN. FOREST + RANGELAND Lat: Long: Datum: NAD83
Soil Map Unit Name: BOULDER CREEK ASHY SILT LOAM NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___	No X	
Wetland Hydrology Present?	Yes ___	No X	

Remarks: UPLAND PLOT TO PLOT DP-3 – NEAR WETLAND B.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' RAD)	Absolute % Cover	Dominant Species?	Indicator Status
1 ABIES GRANDIS	10	X	FACU
2			
3			
4			
	10 = Total Cover		

Sapling/Shrub Stratum (Plot size: ___)			
1			
2			
3			
4			
5			
	= Total Cover		

Herb Stratum (Plot size: 5' RAD)			
1 SMILACINA RACEMOSA	10		NOL
2 GALIUM TRIFLORUM	5		FACU
3 GRASS – BROMUS SP	5		(FAC)
4 ATHYRIUM CYCLOSORUM	20	X	FAC
5 ACONITUM COLUMBIANUM	10		FAC
6 ACTAEA RUBRA	40	X	FACU
7			
8			
9			
10			
11			
	90 = Total Cover		

Woody Vine Stratum (Plot size: ___)			
1			
2			
	= Total Cover		

% Bare Ground in Herb Stratum: 10

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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	55	x 4 =	220
UPL species	10	x 5 =	50
Column Totals:	95 (A)		360 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (FAC) = ASSUMED FAC, UNKNOWN SPECIES NOT INCLUDED IN PREV INDEX CALC.
NOL = UPL

SOIL

Sampling Point: DP-4

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 3/1						SILT	

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

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

- ___ Histosol (A1)
- ___ 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 (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- ___ 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 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 ___ No X

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: MT SPOKANE SK, + SNOWBOARD Area City/County: SPOKANE Sampling Date: 7/31/13

Applicant/Owner: MS 2-009 State: WA Sampling Point: DP-5

Investigator(s): LUZICANSKY / GRANGER Section, Township, Range: 16, T28N, R45E

Landform (hillslope, terrace, etc.): PIP – DRAINAGE Local relief (concave, convex, none): CONCAVE Slope (%): 30+%

Subregion (LRR): ROCKY MTN FOREST + RANGELAND Lat: Long: Datum: NAD83

Soil Map Unit Name: VAYWOOD MEDIAL SILT LOAM NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No
Hydric Soil Present?	Yes X	No
Wetland Hydrology Present?	Yes X	No

Is the Sampled Area within a Wetland? Yes X No

Remarks: WETLAND LINE ESTABLISHED ALONG STEEP SLOPES AT LEVEL OF ORGANIC SOIL / VEGETATION = P.I.P 3A → [WETLAND C] ←

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 20' DIA)	Absolute % Cover	Dominant Species?	Indicator Status
1 Alnus viridis	5%	X	FACW
2 Sambucus racemosa	2%	X	FACU
3			
4			
5.			
	7	= Total Cover	

Herb Stratum (Plot size: 20' DIA)	Absolute % Cover	Dominant Species?	Indicator Status
1 Athyrium cyclosorum	50%	X	FAC
2 Senecio triangularis	30%	X	FACW
3 Sium suave	2%		OBL
4			
5.			
6			
7			
8.			
9			
10			
11.			
	82	= Total Cover	

Woody Vine Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
		= Total Cover	

% Bare Ground in Herb Stratum: 18

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		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: PRIMARILY EMERGENT, SHRUBS PRESENT AT UPPER LIMIT OF WETLAND (= P.I.P)

SOIL

Sampling Point DP-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
0-6	10YR2/1	100					Peat/muck	
6-18	10YR2/1	100					muck	Some silt/fine gravel

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

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

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- X 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 (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type ___

Depth (inches) ___

Hydric Soil Present? Yes X No ___

Remarks: TERRACE ALONG STREAM CORRIDOR - ORGANIC SOIL SATURATED BEHIND ROCK CHECK DAM.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- ___ 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 X No ___ Depth (inches) ~1"

Water Table Present? Yes X No ___ Depth (inches): 0"

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0"

Wetland Hydrology Present? Yes X No ___

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

Remarks: ROCK CHECK DAM ALONG STREAM CORRIDOR - CAUSING SURFACE WATER TO PONDED.

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

Project/Site: MT. SPOKANE City/County: SPOKANE Sampling Date: 8/1/13

Applicant/Owner: WA. STATE PARKS State: WA Sampling Point: DP-6

Investigator(s): KUZIENSKY Section, Township, Range: 16, T28N, R45E

Landform (hillslope, terrace, etc.): TERRACE ON HILLSLOPE Local relief (concave, convex, none): CONCAVE Slope (%): 0-1%

Subregion (LRR): ROCKY MTN FORESTS+RANGELAND Lat: Long: Datum: NAD83

Soil Map Unit Name: YAYWOOD MEDIAL SILT LOAM NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: PEM PORTION OF WETLAND A – ON TERRACE ON HILLSLOPE. PLOT ACTUALLY LOCATED JUST OUTSIDE STUDY AREA BNDY.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot size: 5' RAD)			
1. VERATRUM CALIFORNICUM	20	X	FAC
2. CINNA LATIFOLIA	30	X	FACW
3. SANGUISORBA CANADENSIS	20	X	FACW
4. SENECIO TRANSVERSUS	T		FACW
5. CAREX SCOPULORUM	20	X	OBL
6. POA SP.	10		(FAC)
7. EPILOBIUM SP.	T		
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
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	____	x 1 =	____
FACW species	____	x 2 =	____
FAC species	____	x 3 =	____
FACU species	____	x 4 =	____
UPL species	____	x 5 =	____
Column Totals	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (FAC) = ASSUMED FAC

SOIL

Sampling Point: DP-6

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						PEAT	
6-18	10YR 3/1						MUCKY SILT	

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

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

- ___ Histosol (A1)
- X 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 (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1) PONDING
- X High Water Table (A2)
- X 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- ___ 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 X No ___ Depth (inches) 1"

Water Table Present? Yes X No ___ Depth (inches) 12

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches) 0"

Wetland Hydrology Present? Yes X No ___

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

Remarks: SMALL SAMPLE AREA OF PONDING

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

Project/Site: MT. SPOKANE City/County: SPOKANE Sampling Date: 8/1/13
Applicant/Owner: WASH. STATE PARKS State: WA Sampling Point: DP-7
Investigator(s): KUZIENSKY, GRANGER Section, Township, Range: 16, T28N, R45E
Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONVEX Slope (%): ____
Subregion (LRR): ROCKY MTN FOREST & RANGELAND Lat: ____ Long: ____ Datum: NAD83
Soil Map Unit Name: VAYWOOD MEDIAL SILT LOAM NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: UPLAND PLOT NEAR CENTER OF WETLAND A

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot size 5' RAD.)			
1. PTERIDIUM AQUILINUM	40	X	FACU
2. THALICTRUM OCCIDENTALE	10	X	FACU
3. BROMUS SP	10	X	(FAC)
4. SENECIO TRIANGULARIS	5		FACW
5. SMILACINA RACEMOSA	10	X	NOL
6. GALIUM TRIFLORUM	5		FACU
7. TRAUTVETTERIA CAROLINIENSIS	10	X	FAC
8.			
9.			
10.			
11.			
	90 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum: 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	10	x 3 =	30
FACU species	55	x 4 =	220
UPL species	10	x 5 =	50
Column Totals:	80 (A)		310 (B)

Prevalence Index = B/A = 3.875

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ____ 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (FAC) = ASSUMED FAC - NOT USED IN PREVALENCE INDEX CALC.
NOL = UPL

SOIL

Sampling Point: DP-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
0-3							ORGANIC	/DUFF
3-18	7.5YR 3/2	100					SILT	

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

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

- ___ Histosol (A1)
- ___ 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 (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- ___ 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 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 ___ No X

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: MT. SPOKANE City/County: SPOKANE Sampling Date: 8/1/13

Applicant/Owner: WASH. STATE PARKS State: WA Sampling Point: D-6

Investigator(s): KOTIENSKY, GRANGER Section, Township, Range: 16, T28N, R45E

Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONCAVE Slope (%): ____

Subregion (LRR): ____ Lat: ____ Long.: ____ Datum: ____

Soil Map Unit Name: ____ NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ 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 X	No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: WETLAND PLOT NEAR CENTER OF WETLAND A

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size 30' RAD)	Absolute % Cover	Dominant Species?	Indicator Status
1. ABIES GRANDIS	10	X	FACU
2.			
3.			
4.			
	10 = Total Cover		
Sapling/Shrub Stratum (Plot size 15' RAD)			
1. ALNUS VIRIDIS	60	X	FACW
2.			
3.			
4.			
5.			
	60 = Total Cover		
Herb Stratum (Plot size 5' RAD)			
1. ATHYRIUM CYCLOSORUM	70	X	FAC
2. SENECIO TRIANGULARIS	10		FACW
3. VIOLA GLABELLA	5		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		
Woody Vine Stratum (Plot size ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum: 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ~67% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ____ 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks

SOIL

Sampling Point: DP-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[1]	Loc[2]	Texture	Remarks
0-3							ORGANIC LAYER	
3-16	7.5YR2.5/1	95	5YR 4/6	5	C	M	SANDY	SILT LOAM
								ORCS

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

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

- ___ Histosol (A1)
- ___ 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 (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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 (B9) (MLRA 1, 2, 4A, and 4B)
- ___ 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 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

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

Project/Site: MT. SPOKANE City/County: SPOKANE Sampling Date: 8/1/13
Applicant/Owner: WASH. STATE PARKS State: WA Sampling Point: DP-9
Investigator(s): KUZIENSKY, GRANGER Section, Township, Range: 16, T28N, R45E
Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONVEX Slope (%): 10-20%
Subregion (LRR): ROCKY MTN FOREST & RANGELAND Lat. Long. Datum: NAD83
Soil Map Unit Name: VAYWOOD MEDIAL SILT LOAM NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X

Remarks: UPLAND PLOT NEAR WETLAND A - ON SLOPE ABOVE PIP

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size 15' RAD)	Absolute % Cover	Dominant Species?	Indicator Status
1. SORBUS SCOPULINA	40	X	FACU
2. SAMBUCUS RACEMOSA	10	X	FACU
3.			
4.			
5.			
	50 = Total Cover		

Herb Stratum (Plot size: 5' RAD)	Absolute % Cover	Dominant Species?	Indicator Status
1. PTERIDIUM AQUILINUM	30	X	FACU
2. THALICTRUM OCCIDENTALE	30	X	FACU
3. CARDAMINE CONSTANCEI	20	X	NOL
4. SENECIO TRIANGULARIS	T		
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		

Woody Vine Stratum (Plot size ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum: 20

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	0	x 1 =	
FACW species	0	x 2 =	
FAC species	0	x 3 =	
FACU species	110	x 4 =	440
UPL species	20	x 5 =	100
Column Totals	130 (A)		540 (B)

Prevalence Index = B/A = 4.15

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ____ 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: DP-9

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
0-1							ORGANIC	MATERIAL
1-16	10YR 3/3	100					SILT	

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

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

- ___ Histosol (A1)
- ___ 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 (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- ___ 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 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 ___ No X

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: MT. SPOKANE City/County: SPOKANE Sampling Date: 8/1/13
Applicant/Owner: WASH. STATE PARKS State: WA Sampling Point: DP-10
Investigator(s): KUZIENSKY GRANGER Section, Township, Range: 16 T28N, R45E
Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONVEX Slope (%): 5-10%
Subregion (LRR): ROCKY MTN. FOREST + RANGELAND Lat: Long: Datum: NAD83
Soil Map Unit Name: VAYWOOD MEDIAL SILT LOAM NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: UPLAND PLOT - NE END OF WETLAND A

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size 30' RAD)	Absolute % Cover	Dominant Species?	Indicator Status
1. ABIES GRANDIS	10	X	FACU
2.			
3.			
4.			
	10 = Total Cover		
Sapling/Shrub Stratum (Plot size 15' RAD)			
1. SAMBUCUS RACEMOSA	20	X	FACU
2. RIBES LACUSTRE	25	X	FAC
3.			
4.			
5.			
	55 = Total Cover		
Herb Stratum (Plot size 5' RAD)			
1. ELYMUS GLAUCUS	25	X	FACU
2. PTERIDIUM AQUILINUM	30	X	FACU
3. SENECIO TRIANGULARIS	20	X	FACW
4. OSMORHIZA BERTERDI	15		FACU
5. CARDAMINE CONSTANCEI	10		NOL
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size ____)			
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: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	25	x 3 =	75
FACU species	95	x 4 =	380
UPL species	25	x 5 =	125
Column Totals:	165 (A)		620 (B)

Prevalence Index = B/A = 3.76

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ____ 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: NOL > UPL

SOIL

Sampling Point: DP-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
0-1								ORGANIC
1-16	10YR 3/3	100	N/A				SILT	ROCKY

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

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

- ___ Histosol (A1)
- ___ 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 (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- ___ 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 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 ___ No X

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: MT. SPOKANE City/County: SPOKANE Sampling Date: 8/1/13

Applicant/Owner: WASH. STATE PARKS State: WA Sampling Point: DP-1

Investigator(s): KUZIENSKY, GRANGER Section, Township, Range: 16, T28N, R45E

Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONCAVE Slope (%): 1-5%

Subregion (LRR): ROCKY MTN. FORESTS + RANGELAND Lat: ____ Long: ____ Datum: NAD83

Soil Map Unit Name: YAKWOOD MEDIAL SILT LOAM NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ____
Hydric Soil Present?	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks: WETLAND PLOT – NE END OF WETLAND A

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size ____)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size 15' RAD)	Absolute % Cover	Dominant Species?	Indicator Status
1 ALNUS VIRIDUS	80	X	FACW
2.			
3			
4			
5.			
	80 = Total Cover		

Herb Stratum (Plot size: 5' RAD)	Absolute % Cover	Dominant Species?	Indicator Status
1 SENECIO TRIANGULARIS	20	X	FACW
2. ACONITUM COLUMBIANUM	5		FACW
3. THALICTRUM OCCIDENTALE	10	X	FACU
4 PTERIDIUM AQUILINUM	20	X	FACU
5 CLINTONIA UNIFLORA	5		NOL
6			
7			
8			
9			
10			
11.			
	60 = Total Cover		

Woody Vine Stratum (Plot size ____)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
	____ = Total Cover		

% Bare Ground in Herb Stratum: 40

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 = 0
FACW species	105	x 2 = 210
FAC species	0	x 3 = 0
FACU species	30	x 4 = 120
UPL species	5	x 5 = 25
Column Totals:	140 (A)	355 (B)

Prevalence Index = B/A = 2.53

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ____ 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks

SOIL

Sampling Point DP-11

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
0-1							ORGANICS	
1-16	10YR 7.5YR 2.5/1							SOILS FAIRLY ORGS

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

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

- ___ Histosol (A1)
- ___ 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)
- X 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 (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: ___

Depth (inches) ___

Hydric Soil Present? Yes X No ___

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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 (B9) (MLRA 1, 2, 4A, and 4B)
- ___ 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 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 OXIDIZED RHIZOSPHERES PRESENT ON LIVING ROOTS

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

Project/Site: MT. SPOKANE City/County: SPOKANE Sampling Date: 7/30/13

Applicant/Owner: WASH. STATE PARKS State: WA Sampling Point: DP-12

Investigator(s): GRANGER, KUZIENSKY Section, Township, Range: 16, T28N, R45E

Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONCAVE Slope (%): 1-2

Subregion (LRR): ROCKY MTN. FORESTS + RANGELAND Lat: Long: Datum: NAD83

Soil Map Unit Name: VAYWOOD MEDIAL SILT LOAM NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X 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 X	No ____
Hydric Soil Present?	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks: HILLSLOPE SEEP WETLAND / ALDER GLADE – WETLAND E
CONNECTED TO STREAM 1 BY INTERMITTENT / EPHEMERAL DRAINAGE

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' RAD)			
1. ALNUS VIRIDIS	50	X	FACW
2. RIBES LACUSTRE	5		FAC
3. RHAMNUS ALNIFOLIA	5		FACW
4.			
5.			
	60 = Total Cover		
Herb Stratum (Plot size: 5' RAD)			
1. ATHYRIUM CYCLOSORUM	25	X	FAC
2. SENECIO TRIANGULARIS	20	X	FACW
3. MAIANTHEMUM STELLATUM	10		FAC
4. ACONITUM COLUMBIANUM	10		FACW
5. CLAYTONIA SP.	10		(FAC)
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum: 20

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 ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (FAC) = ASSUMED FAC

SOIL

Sampling Point: DP-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 Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	100					ORGANIC LAYER	
6-16	10YR 3/1	100					MUCK	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X 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 (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- ___ 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 X No ___ Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

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

Remarks: PSS WETLAND ON HILLSLOPE

APPENDIX B

Wetland Rating Forms

Wetland name or number

WETLAND RATING FORM – EASTERN WASHINGTON

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

Name of wetland (if known): A Date of site visit: 8/2/13

Rated by Bill Grossinger Trained by Ecology? Yes X No Date of training 7/2010

SEC: 18 TWNSHIP: 28 RNGE: 45E or STR in Appendix D? Yes No X

Map of wetland unit: *Figure* ____ Estimated size _____

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I___ II___ III X IV___

Category I – Score >70	
Category II – Score 51-69	
Category III – Score 30-50	
Category IV – Score < 30	

Score for "Water Quality" Functions	5
Score for Hydrologic Functions	6
Score for Habitat Functions	23
TOTAL score for functions	34

= CAT III

Category based on SPECIAL CHARACTERISTICS of wetland – See SC 5.3

I___ II X III___ **Does not Apply** ___

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

Summary of basic information about the wetland unit

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

Wetland name or number A

Classification of Vegetated Wetlands for Eastern Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

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

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

NO – go to Step 2 YES – The wetland class is **Lake-fringe (lacustrine fringe)**

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

X The wetland is on a slope (*slope can be very gradual*).

X The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

X The water leaves the wetland **without being impounded**?

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

NO – go to Step 4 YES – The wetland class is **Slope**

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

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

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

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

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

Wetland name or number A

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

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

Wetland name or number A

		Points (only 1 score per box)
S	**Slope Wetlands** WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	**S 1.0 Does the wetland have the potential to improve water quality?**	*(see p.56)*
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)* points = 3 Slope is between 1% and 2% points = 2 Slope is more than 2% but less than 5% points = 1 X Slope is 5% or greater points = 0	0
S	S 1.2 The soil 2 inches below the surface is clay or organic *(see NRCS definitions of soil types)* YES - 3 points NO - 0 points	3
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants *Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches.* Dense, ungrazed, herbaceous vegetation > 90% of the wetland unit points = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of unit points = 3 X Dense, woody, vegetation > 1/2 of unit points = 2 Dense, ungrazed, herbaceous vegetation > 1/4 of unit points = 1 Does not meet any of the criteria above for herbaceous vegetation points = 0 *Aerial photo or map with vegetation polygons*	Figure ___ 2
S	**Total for S 1** *Add the points in the boxes above*	5
S	**S 2.0 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 sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.* — Grazing in the wetland or within 150ft Wetland is a groundwater seep within the Reclamation Area - Untreated stormwater flows through the 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	*(see p.58)* multiplier 1
S	**TOTAL - Water Quality Functions** Multiply the score from S1 by the multiplier in S2 *Record score on p. 1 of field form*	5

Wetland name or number A

		Points (only 1 score per box)
S	**Slope Wetlands** **HYDROLOGIC FUNCTIONS** - Indicators that wetland functions to reduce flooding and stream degradation	
S	**S 3.0 Does the wetland unit have the potential to reduce flooding and stream erosion?**	*(see p.59)*
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms *Choose the points appropriate for the description that best fit conditions in the wetland. See question S 1.3 for definition of dense and uncut. Rigid means that the stems of plants should be thick enough (usually > 1-3in), or dense enough, to remain erect during surface flows.* X Dense, uncut, rigid vegetation covers > 90% of the area of the unit — points = 6 Dense, uncut, rigid vegetation > 1/2 - 90% area of unit — points = 3 Dense, uncut, rigid vegetation > 1/4 - 1/2 of unit — points = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid — points = 0	6
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 retain water over at least 10% of its area ~~YES~~ points = 3 NO points = 0	0
S	**Total for S3** — *Add the points in the boxes above*	6
S	**S 4.0 Does the wetland unit have the opportunity to reduce flooding and erosion?** *(see p.61)* *Answer NO if the major source of water is irrigation return flow (e.g. a seep that is on the downstream side of a dam or at the base of an irrigated field)* Answer YES if the wetland is in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. *Note which of the following conditions apply:* Wetland has surface runoff that can cause flooding problems downgradient -- Other **YES** multiplier is 2 — **NO** multiplier is 1	multiplier 1
S	**TOTAL - Hydrologic Functions** — Multiply the score from S3 by the multiplier in S4 ***Record score on p. 1 of field form***	6

Comments

Wetland name or number A

These questions apply to wetlands of all HGM classes.

Points (only 1 score per box)

HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat

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

H 1.1 Categories of vegetation structure *(see p.62)*

Check the vegetation classes (as defined by Cowardin) and heights of emergents present. Size threshold for each class or height category is ¼ acre or more than 10% of the area if unit is < 2.5 acres.

___ Aquatic bed

_Y_ Emergent plants 0-12 in (0 – 30 cm) high are the highest layer and have > 30% cover

_Y_ Emergent plants >12 – 40 in (>30 – 100cm) high are the highest layer with >30% cover

___ Emergent plants > 40 in (> 100cm) high are the highest layer with >30% cover

_Y_ Scrub/shrub (areas where shrubs have >30% cover)

___ Forested (areas where trees have >30% cover)

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

- 4-6 types — points = 3
- 3 types — points = 2
- 2 types — points = 1
- 1 type — points = 0

Map of Cowardin vegetation classes and areas with different heights of emergents

Figure ___ **2**

H 1.2 Is one of the vegetation types "aquatic bed" *(see p. 64)*

YES = 3 points ___ NO = 0 points

0

H 1.3. Surface Water *(see p.65)*

H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) over at least ¼ acre or 10% of its area during the spring (March – early June) OR in early fall (August – end of September)? *Note: answer YES for lake-fringe wetlands*

YES = 3 points & go to H 1.4 — NO = go to H 1.3.2

H 1.3.2 Does the unit have an intermittent or permanent stream within its boundaries, or along one side, over at least ¼ acre or 10% of its area, AND that has an unvegetated bottom *(answer yes only if H 1.3.1 is NO)*?

YES = 3 points — NO = 0 points

Map showing areas of open water

Figure ___ **0**

H 1.4 Richness of Plant Species *(see p. 66)*

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 Eurasian Milfoil, reed canary grass, purple loosestrife, Russian Olive, Phragmites, Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk)

If you counted:

- > 9 species — points = 2
- 4-9 species — points = 1
- < 4 species — points = 0 points

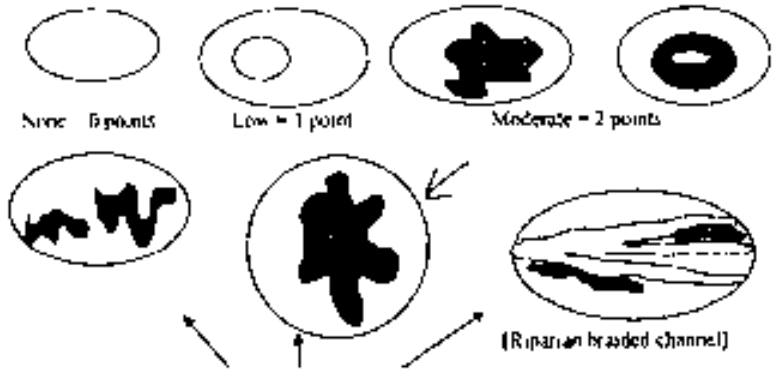
\# of species 12

List species below if you wish

2

See data sheets - 12 sp in data plots.

Wetland name or number 4

	Figure ___
H 1.5 Interspersion of habitats *(see p. 67)* Decided from the diagrams below whether interspersion between categories of vegetation (described in H 1.1), or categories and un-vegetated areas (can include open water or mudflats) is high, medium, low, or none  NOTE: If you have four or more vegetation categories or three vegetation categories and open water the rating is always "high". Use maps from H1.1 and H1.3	3
H 1.6 Special Habitat Features *(see p. 68)* *Check the habitat features that are present in the wetland unit. The number of checks is the number of points you put into the new column* __Loose rocks larger than 4" or large, downed, woody debris (>4in diameter) within the area of surface ponding or in stream Cattails or bulrushes are present within the unit X Standing snags (diameter at the bottom > 4 inches) in the wetland unit or within 30 m (100ft) of the edge. ____Emergent or shrub vegetation in areas that are permanently inundated/ponded. *The presence of "yellow flag" iris is a good indicator of vegetation in areas permanently ponded* Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) OR signs of recent beaver activity X Invasive species cover less than 20% in each stratum of vegetation *(canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)* *Maximum score possible = 6*	2
TOTAL Potential to provide habitat *Add the scores in the column above*	9

Comments

Wetland name or number A

H 2.0 Does the wetland have the opportunity to provide habitat for many species?

Figure ___

H 2.1 Buffers *(see p. 71)*

Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed". Relatively undisturbed also means no grazing, no landscaping, no daily human use, and no structures or paving within undisturbed part of buffer

X 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference **Points = 5**

— 330 ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference **Points = 4**

— 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference **Points = 4**

— 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, **Points = 3**
170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference **Points = 3**

If buffer does not meet any of the criteria above

No paved areas (except paved trails) or buildings within 800 (25 m) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK **Points = 2**

No paved areas or buildings within 170ft (50m) of wetland for >50% circumference. Light to moderate grazing, or lawns are OK **Points = 2**

Heavy grazing in buffer. **Points = 1**

Vegetated buffers are <6.60 wide (2m) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland). **Points = 0**

— Buffer does not meet any of the criteria above **Points = 1**

Aerial photo showing buffers

5

H 2.2 Wet Corridors *(see p. 72)*

H 2.2.1 Is the wetland unit part of a relatively undisturbed and unbroken, > 30 ft wide, vegetated corridor at least ¼ mile long with surface water or flowing water throughout most of the year (> 9 months/yr)? *(dams, heavily used gravel roads, paved roads, fields tilled to edge of stream, or pasture to edge of stream are considered breaks in the corridor.)*

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

H 2.2.2 Is the unit part of a relatively undisturbed and unbroken, > 30 ft wide, vegetated corridor, at least ¼ mile long with water flowing seasonally, OR a lake-fringe wetland without a "wet" corridor, OR a riverine wetland without a surface channel connecting to the stream?

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

H 2.2.3 Is the wetland within a 1/2 mile of any permanent stream, seasonal stream, or lake *(do not include man-made ditches)?*

YES = 1 point NO = 0 points

2

Wetland name or number A

H 2.3 Near or adjacent to other priority habitats listed by WDFW *(see p. 74)*
Which of the following priority habitats are within 330ft (100m) of the wetland unit?
NOTE: the connections do not have to be relatively undisturbed. These are DFW definitions
Check with your local DFW biologist if there are any questions

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

WDFW has changed the descriptions of priority habitats in 2008. Please access the latest list that should be used to answer this question at http://www.ecy.wa.gov/programs/sea/wetlands/ratingsystems/index.html

The link to the updated form is on this page as well as the WDFW definitions currently in use

Urban Natural Open Space: A priority species resides within or is adjacent to the open space and uses it for breeding and/or regular feeding, and/or the open space functions as a corridor connecting other *priority habitats*, especially those that would otherwise be isolated; and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development.

Aspen Stands: Pure or mixed stands of aspen greater than 0.8 ha (2 acres)

If wetland has 2 or more Priority Habitats = 4 points
If wetland has 1 Priority Habitat = 2 points
No Priority habitats = 0 points

2

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Priority wetlands are addressed in question H 2.4.

Comments

MATURE FOREST

Wetland name or number _____

H 2.4 Landscape *(choose the one description of the landscape around the wetland that best fits) (see p. 76)* The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures. *(Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs.)* points = 5 X There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing in the connection or an open water connection along a lake shore without heavy boat traffic are OK, but connections should NOT be bisected by paved roads, fill, fields, heavy boat traffic or other development) points = 5 — There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed? points = 2 There is at least 1 wetland within ½ mile points = 1 — Does not meet any of the four criteria above points = 0	5
H 2 TOTAL Score - opportunity for providing habitat *Add the scores in the column above*	14
H 3.0 Does the wetland unit have indicators that its ability to provide habitat is reduced?	
H 3 Indicator of reduced habitat functions *(see p. 75)* Do the areas of open water in the wetland unit have a resident population of carp (see text for indicators of the presence of carp)? *(NOTE: This question does not apply to reservoirs with water levels controlled by dams, such as the reservoirs on the Columbia and Snake Rivers)* YES = - 5 points NO = 0 points	*Points will be subtracted* 0
Total Score for Habitat Functions *add the points for H 1, H 2, and H 3 and record the result on p. 1*	23

Comments

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met*	Category
SC 1.0 Vernal pools *(see p. 79)* Is the wetland unit **less than 4000 ft²**, and does it meet at least **two** of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. *NOTE: If you find perennial, "obligate" wetland plants the wetland is probably NOT a vernal pool* — The soil in the wetland are shallow (< 1 ft deep (30 cm)) and is underlain by an impermeable layer such as basalt or clay — Surface water is present for less than 60 days during the "wet" season. YES – Go to SC 1.1 NO – *not a vernal pool* SC 1.1 Is the vernal pool relatively undisturbed in February and March? YES – Go to SC 1.2 NO – *not a vernal pool with special characteristics*	
SC 1.2 Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 miles (other wetlands, rivers, lakes etc.)? YES = Category II NO = Category III	Cat. II Cat. III
SC 2.0 Alkali wetlands *(see p. 81)* Does the wetland unit meets **one** of the following two criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 - 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as "alkali" species (see Table 2 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. **OR** does the wetland unit meets two of the following three sub-criteria? — Salt encrustations around more than 80% of the edge of the wetland — More than ½ of the plant cover consists of species listed on Table 2 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. YES = Category I NO = *not an alkali wetland*	Cat. I

Wetland name or number A

SC 3.0 Natural Heritage Wetlands *(see p. 81)*

Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.

SC 3.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)*

SCR information from Appendix D ___ or accessed from WNHP/DNR database ___

YES ___ contact WNHP/DNR (see p. 79) and go to SC 3.2 NO X

SC 3.2 Has DNR identified the wetland unit as a high quality undisturbed wetland or as or as a site with state threatened, endangered, or sensitive plant species? **Cat. I**

YES – Category I NO – *Not a natural heritage wetland*

SC 4.0 Bogs *(see p. 82)*

Does the wetland unit (or **any part of the wetland unit**) meet both the criteria for soils and vegetation in bogs. *Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions*

SC 4.1 Does the wetland unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)?

Yes - go to SC 4.3 No - go to SC 4.2

SC 4.2 Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond??

Yes - go to SC 4.3 No – *Is not a bog for rating*

SC 4.3. Does the wetland unit have more than 70% cover of mosses at ground level in any area within its boundaries, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? **Cat. I**

Yes Category I bog No - go to Q. 4.4

NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.

SC 4.4. Is the unit, or any part of it, forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann's spruce, or western white pine, **WITH** any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? **Cat. I**

Yes – Category I bog NO

Wetland name or number A

SC 5.0 Forested Wetlands *(see p. 85)* Does the wetland unit have an area of forest (*you should have identified a forested class, if present, in question H 1.1*) rooted within its boundary that meet **at least one** of the following three criteria? — The wetland is within the "100 year" floodplain of a river or stream aspen (*Populus tremuloides*) are a dominant or co-dominant of the "woody" vegetation. (*Dominants means it represents at least 50% of the cover of woody species, co-dominant means it represents at least 20% of the total cover of woody species*) — There is at least ¼ acre of trees (even in wetlands smaller than 2.5 acres) that are "mature" or "old-growth" according to the definitions for these priority habitats developed by WDFW *(see p. 83)* YES = go to SC 5.1 NO = *not a forested wetland with special characteristics*	
SC 5.1 Does the wetland unit have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees Slow growing trees are: western red cedar (*Thuja plicata*), Alaska yellow cedar (*Chamaecyparis nootkatensis*), pine spp. mostly "white" pine (*Pinus monticola*), western hemlock (*Tsuga heterophylla*), Englemann spruce (*Picea engelmannii*) YES = Category I NO = go to SC 5.2	Cat. I
SC 5.2 Does the unit have areas where aspen (*Populus tremuloides*) are a dominant or co-dominant species? YES Category I NO go to SC 5.3	Cat. I
SC 5.3 Does the wetland unit have areas with a forest canopy where more than 50% of the tree species (by cover) are fast growing species. Fast growing species are: Alders red (*Alnus rubra*), thin-leaf (*A. tenuifolia*) Cottonwoods – narrow-leaf (*Populus angustifolia*), black (*P. balsamifera*) Willows- pointed-leaf (*Salix amygdaloides*), Sitka (*S. sitchensis*), Pacific (*S. lasiandra*), Aspen - (*Populus tremuloides*), Water Birch (*Betula occidentalis*) YES = Category II NO go to SC 5.5	Cat. II
SC 5.5 Is the forested component of the wetland within the "100 year floodplain" of a river or stream? YES = Category II	Cat. II
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categories.* If you answered NO for all types enter "Not Applicable" on p.1	II

= Subcanopy dominated by Alders

Wetland name or number B

WETLAND RATING FORM – EASTERN WASHINGTON

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

Name of wetland (if known): B Date of site visit: 8/2/13

Rated by BILL GRAWAFER Trained by Ecology? (Yes) No___ Date of training 7/2010

SEC: 16 TWNSHP: 29 RNGE: 45E Is S/T/R in Appendix D? Yes___ No X

Map of wetland unit: Figure ____ Estimated size _____

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I___ II___ III___ IV___

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

Score for "Water Quality" Functions	5
Score for Hydrologic Functions	6
Score for Habitat Functions	16
TOTAL score for functions	27

= CAT IV

Category based on SPECIAL CHARACTERISTICS of wetland

I___ II X III___ **Does not Apply**___

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

– See SC 5.3

Summary of basic information about the wetland unit

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

Wetland name or number B

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

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

Check List for Wetlands That Need Special Protection, and That Are Not Included in the Rating	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
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).		X
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*		X
SP4. *Does the wetland unit 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.		X

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

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

Wetland name or number B

Classification of Vegetated Wetlands for Eastern Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

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

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

NO - go to Step 2 **YES** – The wetland class is **Lake-fringe (lacustrine fringe)**

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

___ The wetland is on a slope (*slope can be very gradual*).

___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

___ The water leaves the wetland **without being impounded**?

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

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

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

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

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

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

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

Wetland name or number B

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

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

Wetland name or number B

		Points (only 1 score per box)
S	**Slope Wetlands** WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	**S 1.0 Does the wetland have the potential to improve water quality?**	*(see p.56)*
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) points = 3 Slope is between 1% and 2% points = 2 Slope is more than 2% but less than 5% points = 1 X Slope is 5% or greater points = 0	0
S	S 1.2 The soil 2 inches below the surface is clay or organic (use NRCS definition of soil type) YES = 3 points NO = 0 points	3
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants *Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches* Dense, ungrazed, herbaceous vegetation > 90% of the wetland unit points = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of unit points = 3 X Dense, woody, vegetation > ½ of unit points = 2 Dense, ungrazed, herbaceous vegetation > 1/4 of unit points = 1 Does not meet any of the criteria above for herbaceous vegetation points = 0 Aerial photo or map with vegetation polygons	Figure ___ 2
S	Total for S 1 *Add the points in the boxes above*	5
S	**S 2.0 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? *Now 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.* — Grazing in the wetland or within 150 ft — Wetland is a groundwater seep within the Reclamation Area Untreated stormwater flows through the 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	*(see p.58)* multiplier 1
S	**TOTAL - Water Quality Functions** Multiply the score from S1 by the multiplier in S2 *Record score on p. 1 of field form*	5

Wetland name or number B

		Points (only 1 score per box)
S	**Slope Wetlands** HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation	
S	**S 3.0 Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?**	*(see p.59)*
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms *Choose the points appropriate for the description that best fit conditions in the wetland. See question S 1.3 for definition of dense and uncut. Rigid means that the stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows* X Dense, uncut, rigid vegetation covers > 90% of the area of the unit — points = 6 Dense, uncut, rigid vegetation > 1/2 – 90% area of unit — points = 3 Dense, uncut, rigid vegetation > 1/4 - 1/2 of unit — points = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid — points = 0	6
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 retain water over at least 10% of its area YES — points = 2 NO — points = 0	0
S	**Total for S3** *Add the points in the boxes above*	6
S	**S 4.0 Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion?** *(see p.61)* *Answer NO if the major source of water is irrigation return flow (e.g. a seep that is on the downstream side of a dam or at the base of an irrigated field* Answer YES if the wetland is in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. *Note which of the following conditions apply* — Wetland has surface runoff that can cause flooding problems downgradient Other YES — multiplier is 2 NO — multiplier is 1	multiplier 1
S	**TOTAL - Hydrologic Functions** Multiply the score from S3 by the multiplier in S4 ***Record score on p. 1 of field form***	6

Comments

Wetland name or number B

These questions apply to wetlands of all HGM classes.

Points (only 1 score per box)

HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat

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

H 1.1 Categories of vegetation structure *(see p.62)*

Check the vegetation classes (as defined by Cowardin) and heights of emergents present. Size threshold for each class or height category is ¼ acre or more than 10% of the area if unit is < 2.5 acres

Aquatic bed

Emergent plants 0-12 in. (0 - 30 cm) high are the highest layer and have > 30% cover

Emergent plants >12 - 40 in (>30 - 100cm) high are the highest layer with >30% cover

Emergent plants > 40 in (> 100cm) high are the highest layer with >30% cover

X Scrub/shrub (areas where shrubs have >30% cover)

__ Forested (areas where trees have >30% cover)

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

4-6 types	points = 3
3 types	points = 2
2 types	points = 1
1 type	points = 0

Map of Cowardin vegetation classes and areas with different heights of emergents

Figure ____ **0**

H 1.2 Is one of the vegetation types "aquatic bed"? *(see p.64)*

YES = 1 point NO = 0 points **0**

H 1.3. Surface Water *(see p.65)*

H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) over at least ¼ acre or 10% of its area during the spring (March – early June) OR in early fall (August - end of September)? *Note: answer YES for Lake-fringe wetlands*

YES = 3 points & go to H 1.4 NO = go to H 1.3.2

H 1.3.2 Does the unit have an intermittent or permanent stream within its boundaries, or along one side, over at least ¼ acre or 10% of its area, AND that has an unvegetated bottom *(answer yes only if H 1.3.1 is NO)*?

YES = 3 points NO = 0 points

Map showing areas of open water

Figure ____ **0**

H 1.4. Richness of Plant Species *(see p. 66)*

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 Eurasian Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Himalayan Blackberry, Canadian Thistle, Yellow flag Iris, and Salt Cedar (Tamarisk)

If you counted:

> 9 species	points = 2
4-9 species	points = 1
< 4 species	points = 0 points

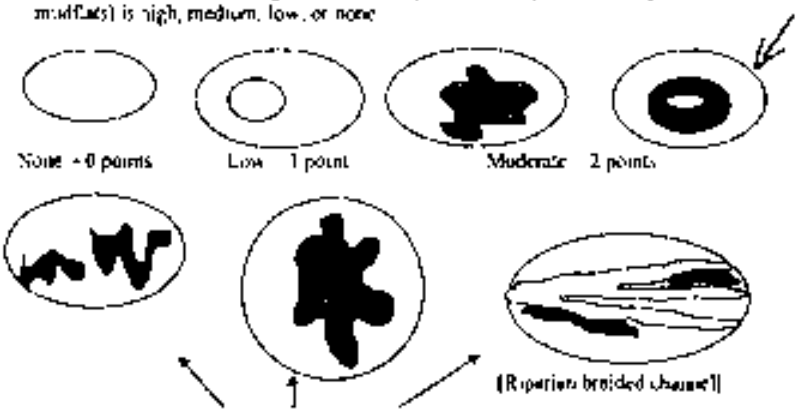
# of species 4

List species below if you wish

See data sheets - 4 sp in data plots

1

Wetland name or number B

	Figure ___
H 1.5 Interspersion of habitats *(see p. 67)* Decided from the diagrams below whether interspersion between categories of vegetation (described in H 1.1), or categories and un-vegetated areas (can include open water or mudflats) is high, medium, low, or none  NOTE: If you have four or more vegetation categories or three vegetation categories and open water the rating is always "high". Use maps from H1.1 and H1.3	2
H 1.6 Special Habitat Features. *(see p. 68)* *Check the habitat features that are present in the wetland unit. The number of checks is the number of points you put into the next column.* ___ Loose rocks larger than 4" or large, downed, woody debris (>4in diameter) within the area of surface ponding or in stream Cattails or bulrushes are present within the unit ___ Standing snags (diameter at the bottom > 4 inches) in the wetland unit or within 30 m (100ft) of the edge. ___ Emergent or shrub vegetation in areas that are permanently inundated/ponded. *The presence of 'yellow flag' Iris is a good indicator of vegetation in areas permanently ponded.* ___ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) OR signs of recent beaver activity X Invasive species cover less than 20% in each stratum of vegetation *(canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)* *Maximum score possible = 6*	1
TOTAL Potential to provide habitat *Add the scores in the column above*	4

Comments

Wetland name or number B

H 2.0 Does the wetland have the opportunity to provide habitat for many species?

Figure ___

H 2.1 Buffers *(see p. 71)*

Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed". Relatively undisturbed also means no grazing, no landscaping, no daily human use, and no structures or paving within undisturbed part of buffer

- X 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference **Points = 5**
- 330 ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference **Points = 4**
- — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference **Points = 4**
- — 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. . **Points = 3**
- — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference **Points = 3**

If buffer does not meet any of the criteria above

- — No paved areas (except paved trails) or buildings within 82ft (25 m) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. **Points = 2**
- — No paved areas or buildings within 170ft (50m) of wetland for >50% circumference. Light to moderate grazing, or lawns are OK **Points = 2**
  Heavy grazing in buffer **Points = 1**
- — Vegetated buffers are <6.6ft wide (2m) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) **Points = 0**
  Buffer does not meet any of the criteria above **Points = 1**

Aerial photo showing buffers

5

H 2.2 Wet Corridors *(see p. 72)*

H 2.2.1 Is the wetland unit part of a relatively undisturbed and unbroken, > 30 ft wide, vegetated corridor at least ½ mile long with surface water or flowing water throughout most of the year (> 9 months/yr)? *(dams, heavily used gravel roads, paved roads, fields tilled to edge of stream, or pasture to edge of stream are considered breaks in the corridor)*

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

H 2.2.2 Is the unit part of a relatively undisturbed and unbroken, > 30 ft wide, vegetated corridor, at least ½ mile long with water flowing seasonally, **OR** a lake-fringe wetland without a "wet" corridor **OR** a riverine wetland without a surface channel connecting to the stream?

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

H 2.2.3 Is the wetland within a 1/2 mile of any permanent stream, seasonal stream, or lake *(do not include man-made ditches)*?

YES = 1 point NO = 0 points

2

Wetland name or number B

H 2.3 Near or adjacent to other priority habitats listed by WDFW *(see p. 74)*

Which of the following priority habitats are within 330ft (100m) of the wetland unit?

NOTE: the connections do not have to be relatively undisturbed. These are DFW definitions. Check with your local DFW biologist if there are any questions

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

___ [illegible]

___ [illegible]

___ [illegible]

___ [illegible]

___ [illegible]

___ [illegible]

___ [illegible]

___ [illegible]

___ [illegible]

___ **Urban Natural Open Space**: A priority species resides within or is adjacent to the open space and uses it for breeding and/or regular feeding; and/or the open space functions as a corridor connecting other priority habitats, especially those that would otherwise be isolated, and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development

___ **Aspen Stands**: Pure or mixed stands of aspen greater than 0.8 ha (2 acres).

0

If wetland has 2 or more Priority Habitats = 4 points
If wetland has 1 Priority Habitat = 2 points
No Priority habitats = 0 points

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4.

Comments

None

Wetland name or number B

H 2.4 Landscape *(choose the one description of the landscape around the wetland that best fits) (see p. 76)* .... The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures. *(Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs.)* **points = 5** X There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing in the connection or an open water connection along a lake shore without heavy boat traffic are OK, but connections should NOT be bisected by paved roads, fill, fields, heavy boat traffic or other development) **points = 5** There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed? **points = 2** . There is at least 1 wetland within ½ mile, **points = 1** Does not meet any of the four criteria above **points = 0**	5
H 2 TOTAL Score – opportunity for providing habitat *Add the scores in the column above*	12
H 3.0 Does the wetland unit have indicators that its ability to provide habitat is reduced?	
H 3.1 Indicator of reduced habitat functions *(see p. 75)* Do the areas of open water in the wetland unit have a resident population of carp (see text for indicators of the presence of carp)? *(NOTE: This question does not apply to reservoirs with water levels controlled by dams, such as the reservoirs on the Columbia and Snake Rivers)* YES = - 5 **points** NO = 0 points	*Points will be subtracted* 0
Total Score for Habitat Functions *add the points for H 1, H 2, and H 3 and record the result on p. 1*	16

Comments

Wetland name or number B

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	Category
SC 1.0 Vernal pools *(see p. 79)* Is the wetland unit less **than 4000 ft²**, and does it meet at least **two** of the following criteria? · Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. *NOTE: If you find perennial, "obligate", wetland plants the wetland is probably NOT a vernal pool* The soil in the wetland are shallow (<1 ft deep (30 cm)) and is underlain by an impermeable layer such as basalt or clay Surface water is present for less than 120 days during the "wet" season. YES = Go to SC 1.1 NO = *not a vernal pool* SC 1.1 Is the vernal pool relatively undisturbed in February and March? YES = Go to SC 1.2 NO = *not a vernal pool with special characteristics*	
SC 1.2 Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 miles (other wetlands, rivers, lakes etc.)? YES = Category II NO = Category III	**Cat. II** **Cat. III**
SC 2.0 Alkali wetlands *(see p. 81)* Does the wetland unit meets **one** of the following two criteria? — The wetland has a conductivity > 3.0 mS/cm. - The wetland has a conductivity between 2.0 – 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as "alkali" species (see Table 2 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. **OR** does the wetland unit meets two of the following three sub-criteria? — Salt encrustations around more than 80% of the edge of the wetland More than ¾ of the plant cover consists of species listed on Table 2 A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. YES = Category I NO = *not an alkali wetland*	**Cat. I**

Wetland name or number B

SC 3.0 Natural Heritage Wetlands *(see p. 81)*

Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.

SC 3.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)*

S/T/R information from Appendix D ___ or accessed from WNHP/DNR database

YES____ – contact WNHP/DNR (see p. 79) and go to SC 3.2 NO X

SC 3.2 Has DNR identified the wetland unit as a high quality undisturbed wetland or as or as a site with state threatened, endangered, or sensitive plant species? **Cat. I**

YES Category I NO *not a natural heritage wetland*

SC 4.0 Bogs *(see p. 82)*

Does the wetland unit (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs. *Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions*

SC 4.1 Does the wetland unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)?

Yes - go to SC 4.3 No - go to SC 4.2

SC 4.2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?

Yes - go to SC 4.3 No - *It not a bog for rating*

SC 4.3. Does the wetland unit have more than 70% cover of mosses at ground level in any area within its boundaries, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? **Cat. I**

Yes – Category I bog No - go to Q. 4.4

NOTE. If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog

SC 4.4. Is the unit, or any part of it, forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? **Cat. I**

Yes – Category I bog NO

Wetland name or number B

SC 5.0 Forested Wetlands *(see p. 85)* Does the wetland unit have an area of forest (*you should have identified a forested class, if present, in question H 1.1*) rooted within its boundary that meet **at least one** of the following **three** criteria? — The wetland is within the "100 year" floodplain of a river or stream — aspen (*Populus tremuloides*) are a dominant or co-dominant of the "woody" vegetation. (*Dominant means it represents at least 50% of the cover of woody species, co-dominant means it represents at least 20% of the total cover of woody species*) — There is at least ¼ acre of trees (even in wetlands smaller than 2.5 acres) that are "mature" or "old-growth" according to the definitions for these priority habitats developed by WDFW *(see p. 83)* YES – go to SC 5.1 NO – *go a forested wetland with special characteristics*	
SC 5.1 Does the wetland unit have a layered canopy where more than 50% of the tree species (by cover) are slow growing native trees Slow growing trees are: western red cedar (*Thuja plicata*), Alaska yellow cedar (*Chamaecyparis nootkatensis*), pine spp. mostly "white" pine (*Pinus monticola*), western hemlock (*Tsuga heterophylla*), Englemann spruce (*Picea engelmannii*). YES – Category I NO = go to SC 5.2	Cat. I
SC 5.2 Does the unit have areas where aspen (*Populus tremuloides*) are a dominant or co-dominant species? YES = Category I NO = go to SC 5.3	Cat. I
SC 5.3 Does the wetland unit have areas with a layered canopy where more than 50% of the tree species (by cover) are fast growing species. Fast growing species are: Alders – red (*Alnus rubra*), thin-leaf (*A. tenuifolia*) Cottonwoods – narrow-leaf (*Populus angustifolia*), black (*P. balsamifera*) Willows- peach-leaf (*Salix amygdaloides*), Sitka (*S. sitchensis*), Pacific (*S. lasiandra*) Aspen - (*Populus tremuloides*), Water Birch (*Betula occidentalis*) YES = Category II NO = go to SC 5.5	Cat. II
SC 5.5 Is the forested component of the wetland within the "100 year floodplain" of a river or stream? YES = Category II	Cat. II
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categories.* If you answered NO for all types enter "Not Applicable" on p.1	II

= Subcanopy dominated by Alders

Wetland name or number C

WETLAND RATING FORM – EASTERN WASHINGTON

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

Name of wetland (if known): C Date of site visit: 8/2/13

Rated by BILL GRANGER Trained by Ecology? Yes X No Date of training 7/2010

SEC: 16 TWNSHP: 26N RNGE: 45E Is S/T/R in Appendix D? Yes___ No X

Map of wetland unit: Figure ___ Estimated size _____

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I___ II___ III___ IV___

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

Score for "Water Quality" Functions	4
Score for Hydrologic Functions	2
Score for Habitat Functions	21
TOTAL score for functions	27

= CAT III

Category based on SPECIAL CHARACTERISTICS of wetland

I___ II___ III___ **Does not Apply** X

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

Summary of basic information about the wetland unit

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

Wetland name or number C

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

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

Check List for Wetlands That Need Special Protection, and That Are Not Included in the Rating	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
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).		X
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*		X
SP4. *Does the wetland unit 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		X

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

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

Wetland name or number C

Classification of Vegetated Wetlands for Eastern Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

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

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

NO – go to Step 2 **YES – The wetland class is Lake-fringe (lacustrine fringe)**

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

____ The wetland is on a slope (*slope can be very gradual*),

____ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

The water leaves the wetland **without being impounded**?

NOTE: *Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 6 inches deep).*

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

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

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

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

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

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

Wetland name or number C

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

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

Wetland name or number C

		Points (only 1 score per box)
S	**Slope Wetlands** WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	**S 1.0 Does the wetland have the potential to improve water quality?**	*(see p.56)*
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)* points = 3 Slope is between 1% and 2% points = 2 Slope is more than 2% but less than 5% points = 1 X Slope is 5% or greater points = 0	0
S	S 1.2 The Soil 2 inches below the surface is clay or organic *(see NRCS definitions of soil types)* YES - 1 points NO - 0 points	3
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants *Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and ungrazed means not grazed or mowed and plants are higher than 6 inches* Dense, ungrazed, herbaceous vegetation > 90% of the wetland unit points = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of unit points = 3 Dense, woody, vegetation > 1/2 of unit points = 2 X Dense, ungrazed, herbaceous vegetation > 1/4 of unit points = 1 Does not meet any of the criteria above for herbaceous vegetation points = 0 Aerial photo or map with vegetation polygons	Figure ___ 1
S	**Total for S 1** *Add the points in the boxes above*	4
S	**S 2.0 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 sources of pollutants. A site may have pollutants coming from several sources, but any single source would qualify as opportunity.* Grazing in the wetland or within 150ft Wetland is a groundwater sump within the Reclamation Area - Untreated stormwater flows through the 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	*(see p.58)* multiplier 1
S	**TOTAL - Water Quality Functions** Multiply the score from S1 by the multiplier in S2 *Record score on p. 1 of field form*	4

Wetland name or number C

		Points (only 1 score per box)
S	**Slope Wetlands** **HYDROLOGIC FUNCTIONS** - Indicators that wetland functions to reduce flooding and stream degradation	
S	**S 3.0 Does the wetland unit have the potential to reduce flooding and stream erosion?**	*(see p.59)*
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms *Choose the points appropriate for the description that best fit conditions in the wetland. See question S 1.3 for definition of dense and uncut. Rigid means that the stems of plants should be thick enough (usually "woody", or dense enough) to remain erect during surface flows.* Dense, uncut, rigid vegetation covers > 90% of the area of the unit — points = 6 Dense, uncut, rigid vegetation > 1/2 - 90% area of unit — points = 3 Dense, uncut, rigid vegetation > 1/4 – 1/2 of unit — points = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid — points = 0	0
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	Total for S3 — *Add the points in the boxes above*	2
S	**S 4.0 Does the wetland unit have the opportunity to reduce flooding and erosion?** *(see p.61)* *Answer NO if the major source of water is irrigation return flow (e.g. a seep that is on the downstream side of a dam or at the base of an irrigated field.* Answer YES if the wetland is in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. *Note which of the following conditions apply.* → Wetland has surface runoff that can cause flooding problems downgradient: Other _____ YES multiplier is 2 — NO multiplier is 1	multiplier 1
S	**TOTAL - Hydrologic Functions** — Multiply the score from S3 by the multiplier in S4 *Record score on p. 1 of field form*	2

Comments

Wetland name or number C

These questions apply to wetlands of all HGM classes.

Points (only 1 score per box)

HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat

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

H 1.1 Categories of vegetation structure *(see p.62)*

Figure ___

Check the vegetation classes (as defined by Cowardin) and heights of emergents present. Size threshold for each class or height category is ¼ acre or more than 10% of the area of unit if < 2.5 acres

X Aquatic bed

X Emergent plants 0-12 in (0 - 30 cm) high are the highest layer and have > 30% cover

___ Emergent plants >12 – 40 in (>30 – 100cm) high are the highest layer with >30% cover

___ Emergent plants > 40 in (> 100cm) high are the highest layer with >30% cover

___ Scrub/shrub (areas where shrubs have >30% cover)

Forested (areas where trees have >30% cover)

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

4-6 types	points = 3
3 types	points = 2
2 types	points = 1
1 type	points = 0

1

headwater stream channel

Map of Cowardin vegetation classes and areas with different heights of emergents

H 1.2 Is one of the vegetation types "aquatic bed?" *(see p.64)*

YES – 1 point NO = 0 points

1

H 1.3. Surface Water *(see p.65)*

Figure ___

H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) over at least ¼ acre or 10% of its area during the spring (March – early June) OR in early fall (August – end of September)? *Note: answer YES for lake-fringe wetlands*

YES – 3 points & go to H 1.4 NO = go to H 1.3.2

H 1.3.2 Does the unit have an intermittent or ephemeral stream within its boundaries, or along one side, over at least ¼ acre or 10% of its area, AND that has an unvegetated bottom *(answer yes only if H 1.3.1 is NO)*

YES – 3 points NO = 0 points

Map showing areas of open water

3

H 1.4 Richness of Plant Species *(see p. 66)*

Count the number of plant species in the wetland that cover at least 10 ft^2. *(different patches of the same species can be combined to meet the size threshold)*

You do not have to name the species.

Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Phragmites, Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk)

If you counted	> 9 species	points = 2
	4-9 species	points = 1
# of species 5	< 4 species	points = 0 points

List species below if you wish

See datasheets – 5 species present in plots

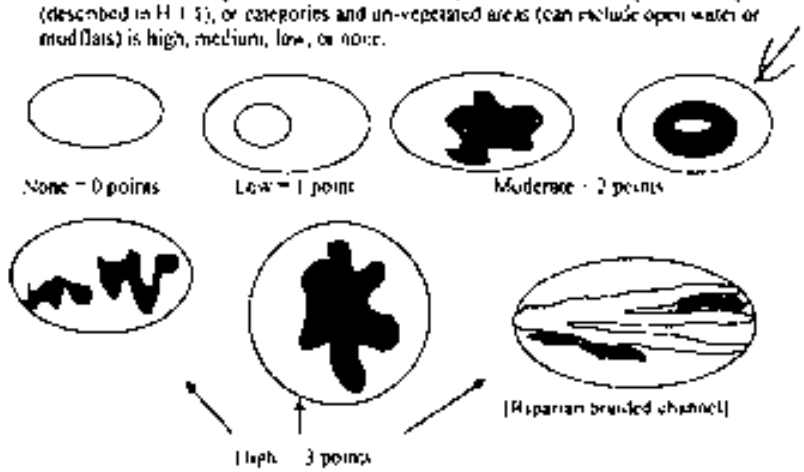
1

Wetland name or number C

H 1.5 Interspersion of habitats *(see p. 67)*

Decided from the diagrams below whether interspersion between categories of vegetation (described in H 1.1), or categories and un-vegetated areas (can include open water or mudflats) is high, medium, low, or none.

Figure ___



2

NOTE: If you have four or more vegetation categories or three vegetation categories and open water the rating is always "high". Use maps from H 1.1 and H 1.3.

H 1.6 Special Habitat Features *(see p. 68)*

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

____Loose rocks larger than 4" or large, downed, woody debris (>4in. diameter) within the area of surface ponding or in stream.

____Cattails or bulrushes are present within the unit

____Standing snags (diameter at the bottom > 4 inches) in the wetland unit or within 30 m (100ft) of the edge

Emergent or shrub vegetation in areas that are permanently inundated/ponded. *The presence of "yellow flag" iris is a good indicator of vegetation in areas permanently ponded*

____Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) OR signs of recent beaver activity

X Invasive species cover less than 20% in each stratum of vegetation *(canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)*

Maximum score possible = 6

1

TOTAL Potential to provide habitat
Add the scores in the column above

9

Comments

Wetland name or number C

H 2.0 Does the wetland have the opportunity to provide habitat for many species?

Figure ___

H 2.1 Buffers *(see p. 71)*

Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." Relatively undisturbed also means no grazing, no landscaping, no daily human use, and no structures or paving within undisturbed part of buffer.

- 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference **Points = 5**
- 330 ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. **Points = 4**
- 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference **Points = 4**
- 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. . **Points = 3**
- 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference **Points = 3**

If buffer does not meet any of the criteria above

- No paved areas (except paved trails) or buildings within 80ft (25 m) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK **Points = 2**
- No paved areas or buildings within 170ft (50m) of wetland for >50% circumference. Light to moderate grazing, or lawns are OK **Points = 2**
- Heavy grazing in buffer **Points = 1**
- Vegetated buffers are <6.6ft wide (2m) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) **Points = 0**
- Buffer does not meet any of the criteria above **Points = 1**

Aerial photo showing buffers

5

H 2.2 Wet Corridors *(see p. 72)*

H 2.2.1 Is the wetland unit part of a relatively undisturbed and unbroken, > 30 ft wide, vegetated corridor at least ¼ mile long with surface water or flowing water throughout most of the year (> 9 months/yr)? *(dams, heavily used gravel roads, paved roads, fields tilled to edge of stream, or pasture to edge of stream are considered breaks in the corridor).*

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

H 2.2.2 Is the unit part of a relatively undisturbed and unbroken > 30 ft wide, vegetated corridor, at least ¼ mile long with water flowing seasonally, **OR** a lake-fringe wetland without a "wet" corridor, **OR** a riverine wetland without a surface channel connecting to the stream?

YES 2 points (go to H 2.3) NO go to H 2.2.3

H 2.2.3 Is the wetland within a 1/2 mile of any permanent stream, seasonal stream, or lake *(do not include man-made ditches)*?

YES = 1 point NO = 0 points

2

Wetland name or number C

H 2.3 Near or adjacent to other priority habitats listed by WDFW *(see p. 74)*

Which of the following priority habitats are within 330ft (100m) of the wetland unit?

NOTE: The connections do not have to be relatively undisturbed. These are DFW definitions. Check with your local DFW biologist if there are any questions.

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

WDFW has changed the descriptions of priority habitats in 2008. Please access the latest list that should be used to answer this question at http://www.ecy.wa.gov/programs/sea/wetlands/ratingsystems/index.html

The link to the updated form is on this page as well as the WDFW definitions currently in use

___ **Urban Natural Open Space**: A priority species resides within or is adjacent to the open space and uses it for breeding and/or regular feeding, and/or the open space functions as a corridor connecting other *priority habitats*, especially those that would otherwise be isolated; and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development

___ **Aspen Stands**: Pure or mixed stands of aspen greater than 0.8 ha (2 acres).

If wetland has 2 or more Priority Habitats = 4 points
If wetland has 1 Priority Habitat = 2 points
No Priority habitats = 0 points

0

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)

Comments

None

Wetland name or number C

H 2.4 Landscape (choose the one description of the landscape around the wetland that best fits) *(see p. 76)* The wetland unit is in an area where annual rainfall is less than 12 inches and its water regime is not influenced by irrigation practices, dams, or water control structures. *(Generally this means outside boundaries of reclamation areas, irrigation district, or reservoirs.)* points = 5 X There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing in the connection or an open water connection along a lake shore without heavy boat traffic are OK, but connections should NOT be bisected by paved roads, fill, fields, heavy boat traffic or other development) points = 5 -- There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed? points = 2 -- There is at least 1 wetland within ½ mile. points = 1 — Does not meet any of the four criteria above points = 0	5
H 2. TOTAL Score - opportunity for providing habitat *Add the scores in the column above*	12
H 3.0 Does the wetland unit have indicators that its ability to provide habitat is reduced?	
H 3.1 Indicator of reduced habitat functions *(see p. 75)* Do the areas of open water in the wetland unit have a resident population of carp (see text for indicators of the presence of carp)? *(NOTE: This question does not apply to reservoirs with water levels controlled by dams, such as the reservoirs on the Columbia and Snake Rivers.)* YES -- **-5 points** NO = 0 points	*Points will be subtracted* 0
Total Score for Habitat Functions *Add the points for H 1, H 2, and H 3 and record the result on p. 1*	21

Comments

Wetland name or number C

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	Category
SC 1.0 Vernal pools *(see p. 79)* Is the wetland unit **less than 4000 ft²**, and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. *NOTE: If you find perennial, "obligate", wetland plants the wetland is probably NOT a vernal pool* — The soil in the wetland are shallow (<1ft deep (30 cm)) and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the "wet" season. YES = Go to SC 1.1 NO = *not a vernal pool* SC 1.1 Is the vernal pool relatively undisturbed in February and March? YES = Go to SC 1.2 NO = *not a vernal pool with special characteristics*	
SC 1.2 Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 miles (other wetlands, rivers, lakes etc.)? YES = Category II NO = Category III	**Cat. II** **Cat. III**
SC 2.0 Alkali wetlands *(see p. 81)* Does the wetland unit meets **one** of the following two criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 - 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as "alkali" species (see Table 2 for list of plants found in alkali systems). If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. **OR** does the wetland unit meets two of the following three sub-criteria? — Salt encrustations around more than 80% of the edge of the wetland More than ¾ of the plant cover consists of species listed on Table 2 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. YES = Category I NO = *not an alkali wetland*	**Cat. I**

Wetland name or number C

SC 3.0 Natural Heritage Wetlands *(see p. 81)* Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 3.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)* SEZR information from Append x D ___ or accessed from WNHP/DNR database YES____ – contact WNHP/DNR (see p. 79) and go to SC 3.2 NO X SC 3.2 Has DNR identified the wetland unit as a high quality undisturbed wetland or as or as a site with state threatened, endangered, or sensitive plant species? YES = Category I NO – *not a natural heritage wetland*	Cat. I
SC 4.0 Bogs *(see p. 82)* Does the wetland unit **(or any part of the wetland unit)** meet both the criteria for soils and vegetation in bogs. *Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.* SC 4.1. Does the wetland unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes – go to SC 4.3 No – go to SC 4.2 SC 4.2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – go to SC 4.3 No – *Is not a bog for rating* SC 4.3. Does the wetland unit have more than 70% cover of mosses at ground level in any area within its boundaries, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? Yes – Category I bog No – go to Q. 4.4 *NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.*	Cat. I
SC 4.4. Is the unit, or any part of it, forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann's spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? Yes – Category I bog NO	Cat. I

Wetland name or number C

SC 5.0 Forested Wetlands *(see p. 85)* Does the wetland unit have an area of forest (*you should have identified a forested class, if present, in question H 1.1*) rooted within its boundary that meet **at least one** of the following three criteria? The wetland is within the "100 year" floodplain of a river or stream — aspen (*Populus tremuloides*) are a dominant or co-dominant of the "woody" vegetation (*Dominants means it represents at least 50% of the cover of woody species, co-dominant means it represents at least 20% of the total cover of woody species*) — There is at least ¼ acre of trees (even in wetlands smaller than 2.5 acres) that are "mature" or "old-growth" according to the definitions for these priority habitats developed by WDFW *(see p. 83)* YES go to SC 5.1 NO *not a forested wetland with special characteristics*	
SC 5.1 Does the wetland unit have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees Slow growing trees are: western red cedar (*Thuja plicata*), Alaska yellow cedar (*Chamaecyparis nootkatensis*), pine spp. mostly "white" pine (*Pinus monticola*), western hemlock (*Tsuga heterophylla*), Englemann spruce (*Picea engelmannii*) YES Category I NO go to SC 5.2	Cat. I
SC 5.2 Does the unit have areas where aspen (*Populus tremuloides*) are a dominant or co-dominant species? YES – Category I NO – go to SC 5.3	Cat. I
SC 5.3 Does the wetland unit have areas with a forest canopy where more than 50% of the tree species (by cover) are fast growing species Fast growing species are: Alders – red (*Alnus rubra*), thin-leaf (*A. tenuifolia*) Cottonwoods – narrow-leaf (*Populus angustifolia*), black (*P. balsamifera*) Willows- peach-leaf (*Salix amygdaloides*), Sitka (*S. sitchensis*), Pacific (*S. lasiandra*) Aspen - (*Populus tremuloides*), Water Birch (*Betula occidentalis*) YES = Category II NO – go to SC 5.5	Cat. II
SC 5.5 Is the forested component of the wetland within the "100 year floodplain" of a river or stream? YES = Category II	Cat. II
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categories* If you answered NO for all types enter "Not Applicable" on p.1	N/A

Wetland name or number: D

WETLAND RATING FORM – EASTERN WASHINGTON

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

Name of wetland (if known): D Date of site visit: 8/2/13

Rated by BILL GRANGER Trained by Ecology? Yes X No___ Date of training 7/2010

SEC: 16 TWNSHP: 20N RNGE: 45E Is S/T/R in Appendix D? Yes___ No X

Map of wetland unit: Figure ____ Estimated size _____

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I___ II___ III___ IV___

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

Score for "Water Quality" Functions	4
Score for Hydrologic Functions	0
Score for Habitat Functions	21 = CAT IV
TOTAL score for functions	25

Category based on SPECIAL CHARACTERISTICS of wetland

I___ II___ III___ Does not Apply X

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

Summary of basic information about the wetland unit

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

Wetland name or number D

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

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

Check List for Wetlands That Need Special Protection, and That Are Not Included in the Rating	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered* ***animal or plant*** *species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
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).		X
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*		X
SP4 *Does the wetland unit 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.		X

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

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

Wetland name or number D

Classification of Vegetated Wetlands for Eastern Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

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

__1__ At least 30% of the open water area is deeper than 3 m (10 ft)?

NO – go to Step 2 YES – The wetland class is **Lake-fringe (lacustrine fringe)**

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

__ The wetland is on a slope (*slope can be very gradual*).

__ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

___ The water leaves the wetland **without being impounded**?

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

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

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

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

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

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

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

Wetland name or number D

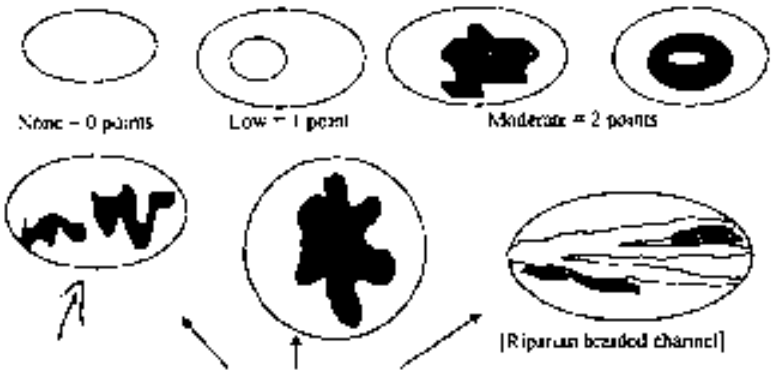
HGM Classes Within One Delineated Wetland Boundary	Class to Use for Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine (riverine is within boundary of depression)	Depressional
Depressional + Lake-fringe	Depressional

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

Wetland name or number D

These questions apply to wetlands of all HGM classes.	**Points** (only 1 score per box)
HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat	
H 1. Does the wetland unit have the potential to provide habitat for many species?	
H 1.1 Categories of vegetation structure *(see p. 61)* *Check the vegetation classes (as defined by Cowardin) and heights of emergents present. Size threshold for each class or height category is ½ acre or more than 10% of the area if unit is < 2.5 acres.* ___Aquatic bed ___Emergent plants 9-12 in (20 – 30 cm) high are the highest layer and have > 30% cover X Emergent plants >12 – 40 in (>30 – 100cm) high are the highest layer with >30% cover ___Emergent plants > 40 in (> 100cm) high are the highest layer with >30% cover ___Scrub/shrub (areas where shrubs have >30% cover) X Forested (areas where trees have >30% cover) *Add the number of vegetation types that qualify. If you have* 4-6 types points = 3 3 types points = 2 2 types points = 1 1 type points = 0 Map of Cowardin vegetation classes and areas with different heights of emergents	Figure ___ 1
H 1.2 Is one of the vegetation types "aquatic bed?" *(see p. 64)* YES 1 point NO 0 points	0
H 1.3 Surface Water *(see p. 65)* H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) over at least ½ acre or 10% of its area during the spring (March – early June) OR in early fall (August – end of September)? *Note: answer YES for Lake-fringe wetlands* YES = 3 points & go to H 1.4 NO go to H 1.3.2 H 1.3.2 Does the unit have an intermittent or permanent stream within its boundaries, or along one side, over at least ½ acre or 10% of its area, AND that has an unvegetated bottom (*answer yes only if H 1.3.1 is NO*)? YES 3 points NO 0 points Map showing areas of open water	Figure ___ 3 0
H 1.4 Richness of Plant Species *(see p. 66)* 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 Eurasian Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Phragmites, Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk)* If you counted > 9 species points = 2 X 4-9 species points = 1 # of species 8 < 4 species points = 0 points *List species below if you wish* See data sheets – 8 species in plots	1

Wetland name or number D

	Figure ___
H 1.5 Interspersion of habitats *(see p. 67)* Decided from the diagrams below whether interspersion between categories of vegetation (described in H 1.1), or categories and non-vegetated areas (can include open water or mudflats) is high, medium, low, or none  None = 0 points Low = 1 point Moderate = 2 points High = 3 points [Riparian bearded channel] NOTE: If you have four or more vegetation categories or three vegetation categories and open water the rating is always "high". Use maps from H1.1 and H1.3	3
H 1.6 Special Habitat Features. *(see p. 68)* *Check the habitat features that are present in the wetland unit. The number of checks is the number of points you put into the next column* ___ Loose rocks larger than 4" or large, downed, woody debris (>4in. diameter) within the area of surface ponding or in stream ___ Cattails or bulrushes are present within the unit X Standing snags (diameter at the bottom > 4 inches) in the wetland unit or within 30 m (100ft) of the edge. ___ Emergent or shrub vegetation in areas that are permanently inundated/ponded. *The presence of "yellow flag" iris is a good indicator of vegetation in areas permanently ponded* ___ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) OR signs of recent beaver activity X Invasive species cover less than 20% in each stratum of vegetation *(canopy, sub-canopy, shrubs, herbaceous, moss-ground cover)* *Maximum score possible = 6*	2
TOTAL Potential to provide habitat *Add the scores to the column above*	~~10~~ 7

Comments

Wetland name or number D

H 2.0 Does the wetland have the opportunity to provide habitat for many species?

H 2.1 Buffers *(see p. 71)*

Figure ___

Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." Relatively undisturbed also means no grazing, no landscaping, no daily human use, and no structures or paving within undisturbed part of buffer.

- 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference **Points = 5**
- 330 ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. **Points = 4**
- 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference **Points = 4**
- 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. **Points = 3**
- 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference **Points = 3**

If buffer does not meet any of the criteria above

- No paved areas (except paved trails) or buildings within 80ft (25 m) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK **Points = 2**
- No paved areas or buildings within 170ft (50m) of wetland for >50% circumference. Light to moderate grazing, or lawns are OK **Points = 2**
- Heavy grazing in buffer **Points = 1**
- Vegetated buffers are <6.6ft wide (2m) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland). **Points = 0**
- Buffer does not meet any of the criteria above **Points = 1**

5

Aerial photo showing buffers

H 2.2 Wet Corridors *(see p. 72)*

H 2.2.1 Is the wetland unit part of a relatively undisturbed and unbroken, > 30 ft wide, vegetated corridor at least ¼ mile long with surface water or flowing water throughout most of the year (> 9 months/yr)? *(dams, heavily used gravel roads, paved roads, fields tilled to edge of stream, or pasture to edge of stream are considered breaks in the corridor)*

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

H 2.2.2 Is the unit part of a relatively undisturbed and unbroken, > 30 ft wide, vegetated corridor, at least ¼ mile long with water flowing seasonally, OR a lake-fringe wetland without a "wet" corridor, OR a riverine wetland without a surface channel connecting to the stream?

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

2

H 2.2.3 Is the wetland within a 1/2 mile of any permanent stream, seasonal stream, or lake *(do not include man-made ditches)*?

YES = 1 point NO = 0 points

Wetland name or number D

H 2.3 Near or adjacent to other priority habitats listed by WDFW *(see p. 74)*
Which of the following priority habitats are within 330ft (100m) of the wetland unit?
NOTE: the connections do not have to be relatively undisturbed. These are DFW definitions.
Check with your local DFW biologist if there are any questions.

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

WDFW has changed the descriptions of priority habitats in 2008. Please access the latest list that should be used to answer this question at http://www.ecy.wa.gov/programs/sea/wetlands/ratingsystems/index.html

The link to the updated form is on this page as well as the WDFW definitions currently in use.

Urban Natural Open Space: A priority species resides within or is adjacent to the open space and uses it for breeding and/or regular feeding, and/or the open space functions as a corridor connecting other *priority habitats*, especially those that would otherwise be isolated, and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development.

____Aspen Stands: Pure or mixed stands of aspen greater than 0.8 ha (2 acres).

If wetland has 2 or more Priority Habitats = 4 points
If wetland has 1 Priority Habitat = 2 points
No Priority habitats = 0 points

2

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)

Comments

MATURE FOREST

Wetland name or number 0

H 2.4 Landscape *(choose the one description of the landscape around the wetland that best fits) (see p. 76)* — The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures *(Generally, this means outside boundaries of reclamation areas, irrigation district, or reservoirs)* points = 5 X There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing in the connection or an open water connection along a lake shore without heavy boat traffic are OK, but connections should NOT be bisected by paved roads, fill, fields, heavy boat traffic or other development) points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed* points = 2 -- There is at least 1 wetland within ½ mile. points = 1 -- Does not meet any of the four criteria above points = 0	5
H 2 TOTAL Score - opportunity for providing habitat *Add the scores in the column above*	14
H 3.0 Does the wetland unit have indicators that its ability to provide habitat is reduced?	
H 3.1 Indicator of reduced habitat functions *(see p. 75)* Do the areas of open water in the wetland unit have a resident population of carp (see text for indicators of the presence of carp)? *(NOTE: This question does not apply to reservoirs with water levels controlled by dams, such as the reservoirs on the Columbia and Snake Rivers)* YES -- -5 points NO = 0 points	*Points will be subtracted* 0
Total Score for Habitat Functions *add the points for H 1, H 2, and H 3 and record the result on p. 1*	21

Comments

Wetland name or number R

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	Category
SC 1.0 Vernal pools *(see p. 79)* Is the wetland unit less than 4000 ft², and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. *NOTE: If you find perennial, "obligate", wetland plants the wetland is probably NOT a vernal pool* — The soil in the wetland are shallow (<10" deep (39 cm)) and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than (20) days during the "wet" season YES = Go to SC 1.1 NO = *not a vernal pool* SC 1.1 Is the vernal pool relatively undisturbed in February and March? YES = Go to SC 1.2 NO = *not a vernal pool with special characteristics*	
SC 1.2 Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 miles (other wetlands, rivers, lakes etc.)? YES = Category II NO = Category III	**Cat. II** **Cat. III**
SC 2.0 Alkali wetlands *(see p. 81)* Does the wetland unit meets one of the following two criteria? — The wetland has a conductivity > 3.0 mS/cm — The wetland has a conductivity between 2.0 - 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as "alkali" species (see Table 2 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. **OR** does the wetland unit meets two of the following three sub-criteria? — Salt encrustations around more than 80% of the edge of the wetland — More than ⅔ of the plant cover consists of species listed on Table 2 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands YES = Category I NO = *not an alkali wetland*	**Cat. I**

Wetland name or number D

SC 3.0 Natural Heritage Wetlands *(see p. 81)*

Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.

SC 3.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)*

S/T/R information from Appendix D or accessed from WNHP/DNR database

YES____ – contact WNHP/DNR (see p. 79) and go to SC 3.2 NO X

SC 3.2 Has DNR identified the wetland unit as a high quality undisturbed wetland or as or as a site with state threatened, endangered, or sensitive plant species? — Cat. I

YES = Category I NO – *not a natural heritage wetland*

SC 4.0 Bogs *(see p. 82)*

Does the wetland unit (**or any part of the wetland unit**) meet both the criteria for soils and vegetation in bogs. *Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.*

SC 4.1. Does the wetland unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)?

Yes - go to SC 4.3 No - go to SC 4.2

SC 4.2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond??

Yes - go to SC 4.3 No - *Is not a bog for rating*

SC 4.3. Does the wetland unit have more than 70% cover of mosses at ground level in any area within its boundaries, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? — Cat. I

Yes Category I bog No - go to Q. 4.4

NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.

SC 4.4. Is the unit, or any part of it, forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover *(> 30% coverage of the total shrub/herbaceous cover)?* — Cat. I

Yes Category I bog NO

Wetland name or number D

SC 5.0 Forested Wetlands *(see p. 83)* Does the wetland unit have an area of forest (*you should have identified a forested class, if present, in question H 1.1*) rooted within its boundary that **meet at least one** of the following three criteria? — The wetland is within the "100 year" floodplain of a river or stream — aspen (*Populus tremuloides*) are a dominant or co-dominant of the "woody" vegetation. (*Dominant means it represents at least 50% of the cover of woody species, co-dominant means it represents at least 20% of the total cover of woody species*) — There is at least ¼ acre of trees (even in wetlands smaller than 2.5 acres) that are "mature" or "old-growth" according to the definitions for these priority habitats developed by WDFW *(see p. 83)* YES go to SC 5.1 NO = not a forested wetland with special characteristics	
SC 5.1 Does the wetland unit have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees Slow growing trees are: western red cedar (*Thuja plicata*), Alaska yellow cedar (*Chamaecyparis nootkatensis*), pine spp. mostly "white" pine (*Pinus monticola*), western hemlock (*Tsuga heterophylla*), Englemann spruce (*Picea engelmannii*). YES Category I NO = go to SC 5.2	Cat. I
SC 5.2 Does the unit have areas where aspen (*Populus tremuloides*) are a dominant or co-dominant species? YES = Category I NO = go to SC 5.3	Cat. I
SC 5.3 Does the wetland unit have areas with a forest canopy where more than 50% of the tree species (by cover) are fast growing species. Fast growing species are: Alders red (*Alnus rubra*), thin-leaf (*A. tenuifolia*) Cottonwoods narrow-leaf (*Populus angustifolia*), black (*P. balsamifera*) Willows- peach-leaf (*Salix amygdaloides*) Sitka (*S. sitchensis*), Pacific (*S. lasiandra*), Aspen - (*Populus tremuloides*), Water Birch (*Betula occidentalis*) YES Category II NO = go to SC 5.5	Cat. II
SC 5.5 Is the forested component of the wetland within the "100 year floodplain" of a river or stream? YES Category II	Cat. II
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categories.* If you answered NO for all types enter "Not Applicable" on p.1	N/A

Hemlock = 35%

Wetland name or number:

WETLAND RATING FORM – EASTERN WASHINGTON

Version 2 – Updated June 2006 to increase accuracy and repeatability among users

Name of wetland (if known): E _____ Date of site visit: 8/2/13

Rated by BILL GRANDOZZ Trained by Ecology? Yes X No_ Date of training 7/2010

SEC: 16 TWNSHP: 28N RNGE: 45E Is S/T/R in Appendix D? Yes ___ No X

Map of wetland unit: Figure ___ Estimated size _____

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I___ II___ III___ IV X

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

Score for "Water Quality" Functions	5
Score for Hydrologic Functions	6
Score for Habitat Functions	16
TOTAL score for functions	27

= CAT IV

Category based on SPECIAL CHARACTERISTICS of wetland

I___ II X III___ Does not Apply___

Final Category (choose the "highest" category from above) II - See Sec 5.3

Summary of basic information about the wetland unit

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

Wetland name or number BE

Classification of Vegetated Wetlands for Eastern Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

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

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

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

NO - go to Step 2 YES – The wetland class is **Lake-fringe (lacustrine fringe)**

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

__The wetland is on a slope (*slope can be very gradual*).

The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

The water leaves the wetland without being impounded?

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

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

– DRAINS TO RIVER VIA CHANNEL – THIS WETLAND IS ABOVE THE R.P.

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

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

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

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

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

Wetland name or number E

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

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

Check List for Wetlands That Need Special Protection, and That Are Not Included in the Rating	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
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 1 Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*		X
SP4. *Does the wetland unit 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.		X

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. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 20 for more detailed instructions on classifying wetlands.

Wetland name or number E

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

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

Wetland name or number E

S	**Slope Wetlands** WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	**Points** (only 1 score per box)
S	**S 1.0 Does the wetland have the potential to improve water quality?**	*(see p.56)*
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)* points = 3 Slope is between 1% and 2% points = 2 Slope is more than 2% but less than 5% points = 1 Slope is 5% or greater points = 0	0
S	S 1.2 The soil 2 inches below the surface is clay or organic *(use NRCS definitions of soil types)* YES 3 points NO = 0 points	3
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants. *Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches.* Dense, ungrazed, herbaceous vegetation > 90% of the wetland unit points = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of unit points = 3 Dense, woody, vegetation > ½ of unit points = 3 Dense, ungrazed, herbaceous vegetation > 1/4 of unit points = 1 Does not meet any of the criteria above for herbaceous vegetation points = 0 Aerial photo or map with vegetation polygons	Figure ___ 2
S	**Total for S 1** *Add the points in the boxes above*	5
S	**S 2.0 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 sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.* — Grazing in the wetland or within 150ft — Wetland is a groundwater seep within the Reclamation Area — Untreated stormwater flows through the 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 = 1	*(see p.58)* multiplier 1
S	**TOTAL - Water Quality Functions** Multiply the score from S1 by the multiplier in S2 *Record score on p. 1 of field form*	5

Wetland name or number E

		Points (only 1 score per box)
S	**Slope Wetlands** **HYDROLOGIC FUNCTIONS** - Indicators that wetland functions to reduce flooding and stream degradation	
S	**S 3.0 Does the wetland unit have the potential to reduce flooding and stream erosion?**	*(see p.59)*
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms *Choose the points appropriate for the description that best fit conditions in the wetland. See question S 1.5 for definition of dense and uncut. Rigid means that the stems of plants should be thick enough (usually > 1/8 in) or dense enough to remain erect during surface flows.* Dense, uncut, rigid vegetation covers > 90% of the area of the unit — points = 6 Dense, uncut, rigid vegetation > 1/2 - 90% area of unit — points = 3 Dense, uncut, rigid vegetation > 1/4 - 1/2 of unit — points = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid — points = 0	6
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 retain water over at least 10% of its area. Yes — points = 2; No — points = 0	2
S	**Total for S3** — *Add the points in the boxes above*	6
S	**S 4.0 Does the wetland unit have the opportunity to reduce flooding and erosion?** *(see p.63)* *Answer NO if the major source of water is irrigation return flow (e.g. a seep that is on the downstream side of a dam or at the base of an irrigated field.* Answer YES if the wetland is in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and or erosive flows. *Note which of the following conditions apply.* - Wetland has surface runoff that can cause flooding problems downgradient Other _____ YES multiplier is 2 — NO multiplier is 1	multiplier 1
S	**TOTAL - Hydrologic Functions** — Multiply the score from S3 by the multiplier in S4 *Record score on p. 1 of field form*	6

Comments

Wetland name or number F

These questions apply to wetlands of all HGM classes.

Points (only 1 score per box)

HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat

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

H 1.1 Categories of vegetation structure *(see p.62)* — Figure ___

Check the vegetation classes (as defined by Cowardin) and heights of emergents present. Size threshold for each class or height category is ¼ acre or more than 10% of the area if unit is < 2.5 acres

___ Aquatic bed
___ Emergent plants 0-12 in (0 – 30 cm) high are the highest layer and have > 30% cover
___ Emergent plants >12 – 40 in (>30 – 100cm) high are the highest layer with >30% cover
___ Emergent plants > 40 in (> 100cm) high are the highest layer with >30% cover
X Scrub/shrub (areas where shrubs have >30% cover)
___ Forested (areas where trees have >30% cover)

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

4-6 types	points = 3
3 types	points = 2
2 types	points = 1
1 type	points = 0

0

Map of Cowardin vegetation classes and areas with different heights of emergents

H 1.2 Is one of the vegetation types "aquatic bed"? *(see p.64)*

YES – 1 point NO – 0 points — 0

H 1.3. Surface Water *(see p.65)* — Figure ___

H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) over at least ¼ acre or 10% of its area during the spring (March – early June) OR in early fall (August – end of September)? *Note: answer YES for lake fringe wetlands*

YES = 3 points & go to H 1.4 NO – go to H 1.3.2

H 1.3.2 Does the unit have an intermittent or permanent stream within its boundaries, or along one side, over at least ¼ acre or 10% of its area, AND that has an unvegetated bottom? *(answer yes only if H 1.3.1 is NO)*

YES = 3 points NO – 0 points — 0

Map showing areas of open water

H 1.4. Richness of Plant Species *(see p. 66)*

Count the number of plant species in the wetland that cover at least 10 ft^2. *(different patches of the same species can be combined to meet the size threshold)*

You do not have to name the species

Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Himalayan Blackberry, Canadian Thistle, Yellow flag Iris, and Salt Cedar (Tamarisk)

If you counted	> 9 species	points = 2
	X 4-9 species	points = 1
# of species	< 4 species	points = 0 points

List species below if you wish

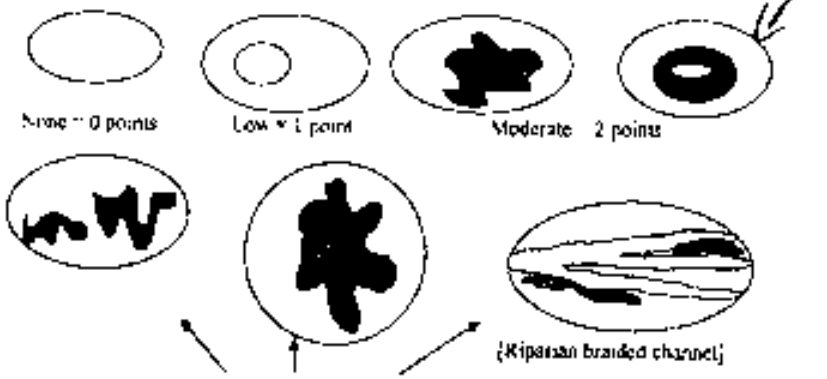
1

Wetland name or number E

H 1.5 Interspersion of habitats *(see p. 67)*

Decided from the diagrams below whether interspersion between categories of vegetation (described in H 1.1), or categories and un-vegetated areas (can include open water or mudflats) is high, medium, low, or none

Figure ___



2

NOTE: If you have four or more vegetation categories or three vegetation categories and open water the rating is always "high". Use maps from H 1.1 and H 1.3

H 1.6 Special Habitat Features: *(see p. 68)*

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

___ Loose rocks larger than 4" or large, downed woody debris (>4in diameter) within the area of surface ponding or in stream

___ Cattails or bulrushes are present within the unit

___ Standing snags (diameter at the bottom > 4 inches) in the wetland unit or within 30 m (100ft) of the edge

___ Emergent or shrub vegetation in areas that are permanently inundated/ponded. *The presence of "yellow flag" iris is a good indicator of vegetation in areas permanently ponded*

___ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) OR signs of recent beaver activity

X Invasive species cover less than 20% in each stratum of vegetation *(canopy, sub-canopy, shrubs, herbaceous, moss ground cover)*

Maximum score possible = 6

1

TOTAL Potential to provide habitat
Add the scores in the column above

4

Comments

Wetland name or number E

H 2.0 Does the wetland have the opportunity to provide habitat for many species?

H 2.1 Buffers *(see p. 71)*

Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." Relatively undisturbed also means no grazing, no landscaping, no daily human use, and no structures or paving within undisturbed part of buffer.

Figure ___

X 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference **Points = 5**

330 ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference **Points = 4**

170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. **Points = 4**

— 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, **Points = 3**

— 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference **Points = 3**

5

If buffer does not meet any of the criteria above

— No paved areas (except paved trails) or buildings within 80ft (25 m) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK **Points = 2**

— No paved areas or buildings within 170ft (50m) of wetland for >50% circumference Light to moderate grazing, or lawns are OK **Points = 2**

Heavy grazing in buffer **Points = 1**

— Vegetated buffers are >6.6ft wide (2m) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) **Points = 0**

Buffer does not meet any of the criteria above **Points = 1**

Aerial photo showing buffers

H 2.2 Wet Corridors *(see p. 72)*

H 2.2.1 Is the wetland unit part of a relatively undisturbed and unbroken, > 30 ft wide, vegetated corridor at least ½ mile long with surface water or flowing water throughout most of the year (> 9 months/yr)? *(dams, heavily used gravel roads, paved roads, fields tilled to edge of stream, or pasture to edge of stream are considered breaks in the corridor)*

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

H 2.2.2 Is the unit part of a relatively undisturbed and unbroken > 30 ft wide, vegetated corridor, at least ½ mile long with water flowing seasonally, **OR** a lake-fringe wetland without a "wet" corridor **OR** a riverine wetland without a surface channel connecting to the stream?

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

2

H 2.2.3 Is the wetland within a 1/2 mile of any permanent stream, seasonal stream, or lake *(do not include man-made ditches)*?

YES = 1 point NO = 0 points

Wetland name or number _____

H 2.3 Near or adjacent to other priority habitats listed by WDFW *(see p. 74)*

Which of the following priority habitats are within 330ft (100m) of the wetland unit?

NOTE: the connections do not have to be relatively undisturbed. These are DFW definitions. Check with your local DFW biologist if there are any questions

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

WDFW has changed the descriptions of priority habitats in 2008. Please access the latest list that should be used to answer this question at http://www.dfw.wa.gov/programs/sea/wetlands/ratingsystems/index.html

The link to the updated form is on this page as well as the WDFW definitions currently in use.

___ **Urban Natural Open Space.** A priority species resides within or is adjacent to the open space and uses it for breeding and/or regular feeding, and/or the open space functions as a corridor connecting other *priority habitats*, especially those that would otherwise be isolated; and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development

___ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.8 ha (2 acres)

0

If wetland has 2 or more Priority Habitats = 4 points
If wetland has 1 Priority Habitat = 2 points
No Priority habitats 0 points

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)

Comments

None

Wetland name or number 7

		Points (circle one score per box)
S	**Slope Wetlands** WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	**S 1.0 Does the wetland have the potential to improve water quality?**	*(see p.56)*
S	S 1.1 Characteristics of average slope of wetland Slope is 1% or less *(a 1% slope has a 1 foot vertical drop or elevation for every 100 ft horizontal distance)* points = 3 Slope is between 1% and 2% points = 2 X Slope is more than 2% but less than 5% points = 1 Slope is 5% or greater points = 0	1
S	S 1.2 The soil 2 inches below the surface is clay or organic *(use NRCS definitions of soil types)* YES - 3 points NO - 0 points	3
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants. *Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and ungrazed means not grazed or mowed and plants are higher than 6 inches* Dense, ungrazed, herbaceous vegetation > 90% of the wetland unit points = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of unit points = 3 Dense, woody, vegetation > ½ of unit points = 2 Dense, ungrazed, herbaceous vegetation > 1/4 of unit points = 1 X Does not meet any of the criteria above for herbaceous vegetation points = 0 Aerial photo or map with vegetation polygons	Figure ___ 0
S	**Total for S 1** *Add the points in the boxes above*	4
S	**S 2.0 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 sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.* Grazing in the wetland or within 150ft Wetland is a groundwater seep within the Reclamation Area Untreated stormwater flows through the 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	*(see p.58)* multiplier 1
S	**TOTAL - Water Quality Functions** Multiply the score from S1 by the multiplier in S2 *Record score on p. 1 of field form*	4

Wetland name or number D

		Points (only 1 score per box)
S	**Slope Wetlands** HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation	
S	**S 3.0 Does the wetland unit have the potential to reduce flooding and stream erosion?**	*(see p.59)*
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms *Choose the points appropriate for the description that best fit conditions in the wetland. See question S 1.3 for definition of dense and uncut. Rigid means that the stems of plants should be thick enough (usually > 1/8in) or dense enough, to remain erect during surface flows* Dense, uncut, rigid vegetation covers > 90% of the area of the unit — points = 6 Dense, uncut, rigid vegetation > 1/2 – 90% area of unit — points = 3 Dense, uncut, rigid vegetation > 1/4 – 1/2 of unit — points = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid — points = 0	0
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 retain water over at least 10% of its area. YES — points = 2 NO — points = 0	0
S	**Total for S3** — *Add the points in the boxes above*	0
S	**S 4.0 Does the wetland unit have the opportunity to reduce flooding and erosion?** *(see p.61)* *Answer NO if the major source of water is irrigation return flow (e.g. a seep that is on the downstream side of a dam or at the base of an irrigated field* Answer YES if the wetland is in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. *Note which of the following conditions apply.* — Wetland has surface runoff that can cause flooding problems downgradient — Other _____ YES — multiplier is 2 / NO — multiplier is 1	multiplier 1
S	**TOTAL - Hydrologic Functions** — Multiply the score from S3 by the multiplier in S4 *Record score on p. 1 of field form*	0

Comments

Wetland name or number E

H 2.4 Landscape *(choose the one description of the landscape around the wetland that best fits) (see p. 76)* — The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures. *(Generally, this means outside boundaries of reclamation areas, irrigation district, or reservoirs.)* **points = 5** X There are at least 5 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing in the connection or an open water connection along a lake shore without heavy boat traffic are OK, but connections should NOT be bisected by paved roads, fill, fields, heavy boat traffic or other development) **points = 5** There are at least 5 other wetlands within ½ mile, BUT the connections between them are disturbed? **points = 2** — There is at least 1 wetland within ½ mile. **points = 1** — Does not meet any of the four criteria above **points = 0**	5
H 2 TOTAL Score - opportunity for providing habitat; *Add the scores in the column above*	12
H 3.0 Does the wetland unit have indicators that its ability to provide habitat is reduced?	
H 3.1 Indicator of reduced habitat functions *(see p. 75)* Do the areas of open water in the wetland unit have a resident population of carp (see text for indicators of the presence of carp)? *(NOTE: This question does not apply to reservoirs with water levels controlled by dams, such as the reservoirs on the Columbia and Snake Rivers.)* YES = - 5 points ____ NO = 0 points	*Points will be subtracted* 0
Total Score for Habitat Functions *add the points for H 1, H 2 and H 3 and record the result on p. 1*	16

Comments

Wetland name or number E

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	Category
SC 1.0 Vernal pools *(see p. 79)* Is the wetland unit less than 4000 ft², and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. *NOTE: If you find perennial, "obligate", wetland plants the wetland is probably NOT a vernal pool* — The soil in the wetland are shallow (<1ft deep (30 cm)) and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the "wet" season YES – Go to SC 1.1 NO – *not a vernal pool* SC 1.1 Is the vernal pool relatively undisturbed in February and March? YES – Go to SC 1.2 NO – *not a vernal pool with special characteristics*	
SC 1.2 Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 miles (other wetlands, rivers, lakes etc.)? YES = Category II NO = Category III	Cat. II Cat. III
SC 2.0 Alkali wetlands *(see p. 81)* Does the wetland unit meets one of the following two criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 - 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as "alkali" species (see Table 2 for list of plants found in alkali systems) If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. **OR** does the wetland unit meets two of the following three sub-criteria? · Salt encrustations around more than 80% of the edge of the wetland — More than ½ of the plant cover consists of species listed on Table 2 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. YES – Category I NO – *not an alkali wetland*	Cat. I

Wetland name or number E

SC 3.0 Natural Heritage Wetlands *(see p. 81)*

Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.

SC 3.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)*

S/T/R information from Appendix D ___ or accessed from WNHP/DNR database ___

YES ___ – contact WNHP/DNR (see p. 79) and go to SC 3.2 NO X

SC 3.2 Has DNR identified the wetland unit as a high quality undisturbed wetland or as or as a site with state threatened, endangered, or sensitive plant species?

YES – Category I NO – *not a natural heritage wetland*

Cat. I

SC 4.0 Bogs *(see p. 82)*

Does the wetland unit (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs. *Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.*

SC 4.1 Does the wetland unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)?

Yes - go to SC 4.3 No - go to SC 4.2

SC 4.2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond??

Yes - go to SC 4.3 No - *Is not a bog for rating*

SC 4.3. Does the wetland unit have more than 70% cover of mosses at ground level in any area within its boundaries, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?

Yes – Category I bog No - go to Q. 4.4

Cat. I

NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.

SC 4.4. Is the unit, or any part of it, forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover *(> 30% coverage of the total shrub/herbaceous cover)*?

Yes – Category I bog NO

Cat. I

Wetland name or number E

SC 5.0 Forested Wetlands *(see p. 85)* Does the wetland unit have an area of forest *(you should have identified a forested class, if present, in question H 1.1)* rooted within its boundary that meet at least one of the following three criteria? - The wetland is within the "100 year" floodplain of a river or stream - aspen (*Populus tremuloides*) are a dominant or co-dominant of the "woody" vegetation *(Dominant means it represents at least 50% of the cover of woody species, co-dominant means it represents at least 20% of the total cover of woody species)* — There is at least ½ acre of trees (even in wetlands smaller than 2.5 acres) that are "mature" or "old-growth" according to the definitions for these priority habitats developed by WDFW *(see p. 83)* YES – go to SC 5.1 NO – not a forested wetland with special characteristics	
SC 5.1 Does the wetland unit have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees Slow growing trees are: western red cedar (*Thuja plicata*), Alaska yellow cedar (*Chamaecyparis nootkatensis*), pine spp. mostly "white" pine (*Pinus monticola*), western hemlock (*Tsuga heterophylla*), Engelmann spruce (*Picea engelmannii*). YES – Category I NO – go to SC 5.2	Cat. I
SC 5.2 Does the unit have areas where aspen (*Populus tremuloides*) are a dominant or co-dominant species? YES – Category I NO – go to SC 5.3	Cat. I
SC 5.3 Does the wetland unit have areas with a forest canopy where more than 50% of the tree species (by cover) are fast growing species Fast growing species are: Alders – red (*Alnus rubra*), thin-leaf (*A. tenuifolia*) Cottonwoods – narrow-leaf (*Populus angustifolia*), black (*P. balsamifera*) Willows- pussy-leaf (*Salix scouleriana*), Sitka (*S. sitchensis*), Pacific (*S. lasiandra*), Aspen - (*Populus tremuloides*), Water Birch (*Betula occidentalis*) YES – Category II NO – go to SC 5.5	Cat. II
SC 5.5 Is the forested component of the wetland within the "100 year floodplain" of a river or stream? YES – Category II	Cat. II
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categories.* If you answered NO for all types enter "Not Applicable" on p.1	II

= Alder Glade