

Note: All fields and metrics are strongly encouraged to be assessed. However, fields and metrics with * are the minimum required to propose a new WHCV. If only doing the minimum do not complete the 'Roll-up Calculation' table on page 9. Contact joe.rocchio@dnr.wa.gov for questions.

***Site Name** _____ ***AA Name (if >1 AAs)** _____

***Observer(s):** _____ ***Date:** _____ ***County:** _____

VegPlot(s): _____ ***TRS:** _____ **Photos:** _____

EOID: _____ **FeatureID:** _____ **Owner(s):** _____

***LAT/LONG:** _____ ***AA Size (ac):** _____

***Site Description** (note landscape setting, topography, vegetation patterns, human and natural disturbance, etc.; *additional space provided on last page*):

Environmental (page 13 in EIA manual) **Slope (deg/%):** _____ **Aspect (downslope):** _____

***Landscape Position (check):**

<input type="checkbox"/> Depression	<input type="checkbox"/> Lacustrine	<input type="checkbox"/> Riparian terrace (outside seasonal flooding)	<input type="checkbox"/> Swale
<input type="checkbox"/> Headwater stream/spring	<input type="checkbox"/> Beaver pond/natural impoundment	<input type="checkbox"/> Saddle/drainage divide	<input type="checkbox"/> Streambank
<input type="checkbox"/> Kettle	<input type="checkbox"/> Riparian - Depression	<input type="checkbox"/> Seasonal floodplain	<input type="checkbox"/> Point bar
<input type="checkbox"/> Oxbow	<input type="checkbox"/> Seep/groundwater discharge site	Other: _____	

Comments:

***Water Source (check and label "P" for primary and "S" for secondary)**

<input type="checkbox"/> Direct precipitation	<input type="checkbox"/> Groundwater discharge	<input type="checkbox"/> Irrigation via seepage	<input type="checkbox"/> Pipes (directly feeding wetland)
<input type="checkbox"/> Overbank flooding	<input type="checkbox"/> Natural surface flow	<input type="checkbox"/> Irrigation via tail water run-off	<input type="checkbox"/> Snowmelt
<input type="checkbox"/> Alluvial aquifer	<input type="checkbox"/> Irrigation via direct application	<input type="checkbox"/> Urban run-off/culverts	<input type="checkbox"/> Tidal

Comments:

***Hydrological Regime (check):**

Nontidal			Saltwater Tidal	Freshwater Tidal
<input type="checkbox"/> B Saturated	<input type="checkbox"/> G Intermittently exposed	<input type="checkbox"/> K Artificially flooded	<input type="checkbox"/> L Subtidal	<input type="checkbox"/> S Temporarily flooded-tidal
<input type="checkbox"/> E Seasonally saturated	<input type="checkbox"/> F Semipermanently flooded		<input type="checkbox"/> M Irregularly exposed	<input type="checkbox"/> R Seasonally flooded-tidal
<input type="checkbox"/> H Permanently flooded	<input type="checkbox"/> C Seasonally flooded	<input type="checkbox"/>	<input type="checkbox"/> N Regularly flooded	<input type="checkbox"/> T Semipermanently flooded-tidal
<input type="checkbox"/> A Temporarily flooded	<input type="checkbox"/> J Intermittently flooded	<input type="checkbox"/>	<input type="checkbox"/> P Irregularly flooded	<input type="checkbox"/> V Permanently flooded-tidal

Comments:

Hydrodynamics: Stagnant Sluggish Mobile Dynamic Very Dynamic

***Soil Type:** Mineral Organic (sapric - vonPost 7-10) Organic (hemic – vonPost 4-6) Organic (fibric – vonPost 1-3)

Mineral Soil Texture: _____ pH: _____ Conductivity: _____ Temp: _____

Instrument: _____ Sample source: _____

*von Post index (peatlands only): _____

Classification (page 18 in EIA manual)

*HGM Class: _____

Cowardin:

System	Subsystem	Class	Subclass	Water Regime	Water chemistry	Soil	Special

*NVC Formation: _____

*NVC Subgroup: _____

*NVC Plant Association: _____

Association Global/State Rank: _____ Subgroup State Rank _____

***Vegetation Cover by Stratum**

(page 19 in EIA manual)

Plot type (circle): relevé, transect, site-walkthrough;
Other (specify): _____

Plot size/dimension: _____

	Native cover		Nonnative Cover		Total Cover	
	Cover	Hght (m)	Cover	Hght (m)	Cover	Hght (m)
Tree (> 5m tall; include epiphytes, vines)						
Shrubs (0.5 to 5m tall; include epiphytes vines)						
<i>Tree Regeneration (trees < 5m tall)</i>						
<i>Tall Shrubs (> 0.5m)</i>						
Herb (includes dwarf-shrubs)						
<i>Dwarf-shrubs (< 0.5m tall)</i>						
<i>Graminoids</i>						
<i>Forbs</i>						
<i>Aquatic plants (floating & submerged)</i>						
Ground Strata (Nonvascular)						
<i>Sphagnum spp.</i>						
<i>Other moss</i>						
<i>Lichen</i>						
Bare soil	<i>n/a</i>		<i>n/a</i>			
Litter	<i>n/a</i>		<i>n/a</i>			
TOTAL COVER						

Landscape Context

LAN1 Contiguous Natural Land Cover (page 21 in EIA manual)

Metric Rating	Overall NLC (0 - 500 m)	Subzones		Comments
		Inner Landscape: 0-100 m	Outer Landscape (100-500m)	
EXCELLENT (A)				
GOOD (B)				
FAIR (C)				
POOR (D)				

LAN2 Land Use Index (page 23 in EIA manual) (use table below to calculate score then check rank)

<input type="checkbox"/> EXCELLENT (A) Avg. LU score = 9.5-10	<input type="checkbox"/> GOOD (B) Avg. LU score = 8.0-9.4	<input type="checkbox"/> FAIR (C) Avg. LU score = 4.0-7.9	<input type="checkbox"/> POOR (D) Avg. LU score = < 4.0
--	--	--	--

Worksheet : Land Use Categories	Weight	Inner Landscape (0-100 m)		Outer Landscape (100-500m)	
		% Area (0 to 1.0)	Score	% Area (0 to 1.0)	Score
Paved roads / parking lots	0				
Domestic, commercial, or publicly developed buildings and facilities (non-vegetated)	0				
Gravel pit / quarry / open pit / strip mining	0				
Unpaved roads (e.g., driveway, tractor trail, 4-wheel drive, logging roads)	1				
Agriculture: tilled crop production	2				
Intensively developed vegetation (golf courses, lawns, etc.)	2				
Vegetation conversion (chaining, cabling, roto-chopping, clearcut)	3				
Agriculture: permanent crop (vineyard, orchard, nursery, hayed pasture, etc.)	4				
Intense recreation (ATV use / camping / popular fishing spot, etc.)	4				
Military training areas (armor, mechanized)	4				
Heavy grazing by livestock on pastures or native rangeland	4				
Heavy logging or tree removal (50-75% of trees >30 cm dbh removed)	5				
Commercial tree plantations / holiday tree farms	5				
Recent old fields and other disturbed fallow lands dominated by ruderal and exotic species	5				
Dam sites and flood disturbed shorelines around water storage reservoirs and boating	5				
Moderate grazing of native grassland	6				
Moderate recreation (high-use trail)	7				
Mature old fields and other fallow lands with natural composition	7				
Selective logging or tree removal (<50% of trees >30 cm dbh removed)	8				
Light grazing or haying of native rangeland	9				
Light recreation (low-use trail)	9				
Natural area / land managed for native vegetation	10				
Total Land Use Score					
Score/rating conversion: A = ≥9.5, B = 8.0-9.4, C = 4.0-7.9, D = <4.0		Multiple by Weight		x 0.6	X 0.4
		Weighted Score			
		Total Score (Inner + Outer score)			
Comments:					

Buffer

BUF1 Perimeter with Natural Buffer (page 26 in EIA manual)

<input type="checkbox"/> EXCELLENT (A)	<input type="checkbox"/> GOOD (B)	<input type="checkbox"/> FAIR (C)	<input type="checkbox"/> POOR (D)
Comments:			

BUF2 Width of Natural Buffer (page 27 in EIA manual)

<input type="checkbox"/> EXCELLENT (A)	<input type="checkbox"/> GOOD (B)	<input type="checkbox"/> FAIR (C)	<input type="checkbox"/> POOR (D)
Segment 1 _____ Segment 2 _____ Segment 3 _____ Segment 4 _____ Segment 5 _____ Segment 6 _____			
Segment 7 _____ Segment 8 _____ Total Width _____ Avg. Width _____			

***BUF3 Condition of Natural Buffer** (page 33 in EIA manual)

<input type="checkbox"/> EXCELLENT (A)	<input type="checkbox"/> GOOD (B)	<input type="checkbox"/> FAIR (C)	<input type="checkbox"/> POOR (D)
Comments:			

Vegetation

***VEG1 Native Plant Species Cover (Relative)** (page 34 in EIA manual; use worksheet below)

Metric Rating	Native Plant Species Cover	Submetric: Tree Stratum	Submetric: Shrub / Herb Stratum	Comments
Excellent (A)				
Very Good (A-)				
Good (B)				
Fair (C)				
Poor (D)				
Strata	Native Cover	Non-native Cover	Total Cover (native + nonnative)	Relative Cover of Native Plants (native cover / total cover)*100
Tree Strata				
Shrub/Herb Strata				
Totals				

***VEG2 Invasive Nonnative Plant Species Cover (absolute)** (page 35 in EIA manual)

<input type="checkbox"/> EXCELLENT (A)	<input type="checkbox"/> GOOD (B)	<input type="checkbox"/> FAIR (C)	<input type="checkbox"/> FAIR/POOR (C-)	<input type="checkbox"/> POOR (D)
List invasive species:				

VEG3 Native Plant Species Composition (page 37 in EIA manual) (based on vegetation table above)

Metric Rating	Native Plant Species Composition	Submetric: Diagnostic Species	Submetric: Native Increasers	Submetric: Native Decreasers	Comments
Excellent (A)					
Good (B)					
Fair (C)					
Poor (D)					

***VEG4 Vegetation Structure** (page 39 in EIA manual)

Metric Version: _____

<input type="checkbox"/> EXCELLENT (A)	<input type="checkbox"/> GOOD (B)	<input type="checkbox"/> FAIR (C)	<input type="checkbox"/> POOR (D)
Comments:			

VEG5 Woody Regeneration (page 42 in EIA manual)

<input type="checkbox"/> EXCELLENT (A)	<input type="checkbox"/> GOOD (B)	<input type="checkbox"/> FAIR (C)	<input type="checkbox"/> POOR (D)
Comments:			

VEG6 Coarse Woody Debris (page 43 in EIA manual)

Metric Version: _____

<input type="checkbox"/> EXCELLENT (A)	<input type="checkbox"/> GOOD (B)	<input type="checkbox"/> FAIR (C)	<input type="checkbox"/> POOR (D)
Comments:			

Hydrology

***HYD1 Water Source** (page 46 in EIA manual)

Metric Version: _____

<input type="checkbox"/> EXCELLENT (A)	<input type="checkbox"/> GOOD (B)	<input type="checkbox"/> FAIR (C)	<input type="checkbox"/> POOR (D)
Comments:			

***HYD2 Hydroperiod** (page 49 in EIA manual; see worksheets on next page)

Metric Version: _____

<input type="checkbox"/> EXCELLENT (A)	<input type="checkbox"/> GOOD (B)	<input type="checkbox"/> FAIR (C)	<input type="checkbox"/> POOR (D)
Comments:			

***HYD3 Hydrological Connectivity** (page 56 in EIA manual)

Metric Version: _____

<input type="checkbox"/> EXCELLENT (A)	<input type="checkbox"/> GOOD (B)	<input type="checkbox"/> FAIR (C)	<input type="checkbox"/> POOR (D)
Comments:			

Soil / Substrate

***SOI1 Soil Condition** (page 58 in EIA manual)

Metric Version: _____

<input type="checkbox"/> EXCELLENT (A)	<input type="checkbox"/> GOOD (B)	<input type="checkbox"/> FAIR (C)	<input type="checkbox"/> POOR (D)
Comments:			

Size

SIZ1 Comparative Size (Patch Type) (page 60 in EIA manual)

Patch Type: _____

<input type="checkbox"/> EXCELLENT (A)	<input type="checkbox"/> GOOD (B)	<input type="checkbox"/> FAIR (C)	<input type="checkbox"/> POOR (D)
Comments:			

SIZ2 Change in Size (=Relative Size; optional) (page 62 in EIA manual)

<input type="checkbox"/> EXCELLENT (A)	<input type="checkbox"/> GOOD (B)	<input type="checkbox"/> FAIR (C)	<input type="checkbox"/> POOR (D)
Spatial Pattern Type = _____		Estimated Size (ac/ha): _____	
Comments:			

Condition	Hydroperiod Field Indicators for Evaluating Tidal Wetlands (Estuarine) (check all that apply)
Tidal Prism	<input type="checkbox"/> Changes in the relative abundance of plants indicative of either high or low marsh. <input type="checkbox"/> A preponderance of shrink cracks or dried pannes is indicative of decreased hydroperiod. <input type="checkbox"/> Inadequate tidal flushing may be indicated by algal blooms or by encroachment of freshwater vegetation. <input type="checkbox"/> Dikes, levees, ponds, ditches, and tide control structures are indicators of an altered hydroperiod resulting from management for flood control, salt production, waterfowl hunting, boating, etc.
Condition	Hydroperiod Field Indicators for Evaluating Riverine Wetlands (check all that apply)
Channel Equilibrium	<input type="checkbox"/> The channel (or multiple channels in braided systems) has a well-defined usual high water line, or bankfull stage that is clearly indicated by an obvious floodplain, topographic bench that represents an abrupt change in the cross-sectional profile of the channel throughout most of the site. <input type="checkbox"/> The usual high water line or bankfull stage corresponds to the lower limit of riparian vascular vegetation. <input type="checkbox"/> The channel contains embedded woody debris of the size and amount consistent with what is available in the riparian area. <input type="checkbox"/> There is little or no active undercutting or burial of riparian vegetation.
Active Degradation (Erosion)	<input type="checkbox"/> Portions of the channel are characterized by deeply undercut banks with exposed living roots of trees or shrubs. There are abundant bank slides or slumps, or the banks are uniformly scoured and unvegetated. <input type="checkbox"/> Riparian vegetation may be declining in stature or vigor, and/or riparian trees and shrubs may be falling into the channel. <input type="checkbox"/> The channel bed lacks any fine-grained sediment. <input type="checkbox"/> Recently active flow pathways appear to have coalesced into one channel (i.e., a previously braided system is no longer braided).
Active Aggradation (Sedimentation)	<input type="checkbox"/> The channel through the site lacks a well-defined usual high water line. <input type="checkbox"/> There is an active floodplain with fresh splays of sediment covering older soils or recent vegetation. <input type="checkbox"/> There are partially buried tree trunks or shrubs. <input type="checkbox"/> Cobbles and/or coarse gravels have recently been deposited on the floodplain. <input type="checkbox"/> There are partially buried, or sediment-choked, culverts.
Condition	Hydroperiod Field Indicators for Evaluating Non-Riverine, Non-tidal Freshwater Wetlands (check all that apply)
Reduced Extent and Duration of Inundation or Saturation	<input type="checkbox"/> Upstream spring boxes, diversions, impoundments, pumps, ditching, or draining from the wetland. <input type="checkbox"/> Evidence of aquatic wildlife mortality. <input type="checkbox"/> Encroachment of terrestrial vegetation. <input type="checkbox"/> Stress or mortality of hydrophytes. <input type="checkbox"/> Compressed or reduced plant zonation. <input type="checkbox"/> Organic soils occurring well above contemporary water tables.
Increased Extent and Duration of Inundation or Saturation	<input type="checkbox"/> Berms, dikes, or other water control features that increase duration of ponding (e.g., pumps). <input type="checkbox"/> Diversions, ditching, or draining into the wetland. <input type="checkbox"/> Late-season vitality of annual vegetation. <input type="checkbox"/> Recently drowned riparian or terrestrial vegetation. <input type="checkbox"/> Extensive fine-grain deposits on the wetland margins.
Condition	Hydroperiod Field Indicators for Evaluating Organic Soil Flat (check all that apply)
Reduced Extent and Duration of Saturation	<input type="checkbox"/> Upstream spring boxes, diversions, impoundments, pumps, ditching, or draining from the wetland. <input type="checkbox"/> Water withdrawal (regional or local wells) <input type="checkbox"/> Evidence of aquatic wildlife mortality. <input type="checkbox"/> Encroachment of terrestrial vegetation. <input type="checkbox"/> Encroachment of young, tall, vigorous trees <input type="checkbox"/> Stress or mortality of hydrophytes. <input type="checkbox"/> Drying or mortality of non-vascular species (e.g. <i>Sphagnum</i>) <input type="checkbox"/> Compressed or reduced plant zonation. <input type="checkbox"/> Dense, tall shrubs shading out underlying mosses <input type="checkbox"/> Organic soils occurring well above contemporary water tables.
Increased Extent and Duration of Saturation	<input type="checkbox"/> Berms, dikes, or other water control features that increase duration of ponding (e.g., pumps). <input type="checkbox"/> Diversions, ditching, or draining into the wetland. <input type="checkbox"/> Late-season vitality of annual vegetation. <input type="checkbox"/> Recently drowned riparian or terrestrial vegetation (e.g. Beaver created impoundment)

Roll-up Calculations		Rating	Score (TABLE 1)
LAN1. Contiguous Natural Land Cover			
LAN2. Land Use Index			
LAN MEF Score = (LAN1+LAN2)/2 (TABLE 2)			
BUF1. Perimeter with Natural Buffer			
BUF2. Width of Natural Buffer			
BUF3. Condition of Natural Buffer			
BUF MEF Score = (((BUF1*BUF2)^{1/2})*BUF3)^{1/2} [Note: ½ exponent = square root] (TABLE 2)			
LANDSCAPE CONTEXT FACTOR SCORE = (BUF Score*0.67)+(LAN Score*0.33) (TABLE 2)			
VEG1. Native Plant Species Cover			
VEG2. Invasive Nonnative Plant Species Cover			
VEG3. Native Plant Species Composition			
VEG4. Vegetation Structure			
VEG5. Woody Regeneration			
VEG6. Coarse Woody Debris			
VEG (non-forested) MEF Score = (VEG1+VEG2+VEG3+VEG4)/4 (TABLE 2)			
VEG (forested) MEF Score = (VEG1+VEG2+VEG3+VEG4+VEG5+VEG6)/6 (TABLE 2)			
HYD1. Water Source			
HYD2. Hydroperiod			
HYD3. Hydrological Connectivity			
HYD MEF Score = (HYD1+HYD2+HYD3)/3 (TABLE 2)			
SOI1. Soil Condition			
SOI MEF Score = SOI1			
CONDITION FACTOR SCORE = (VEG Score*0.55)+(HYD Score*0.35)+(SOI Score*0.1) (TABLE 2)			
EIA SCORE = (Condition Factor Score*0.7)+(Landscape Context Factor Score*0.3) (TABLE 2)			
SIZ1. Comparative Size			
SIZ2. Change in Size (optional)			
SIZ MEF Score = SIZ1 OR (SIZ1+SIZ2)/2 (TABLE 2)			
SIZE Points (TABLE 3)			
ELEMENT OCCURRENCE RANK (EORANK) = EIA Score + SIZE Points (TABLE 2)			

Table 1. Metric Rank / Score Conversions

Rank	A	A-	B	C	C-	D
Score	4	3.5	3	2	1.5	1

Table 2. Score / Rank Conversions for MEF, EIA and EORANK calculations

Rank	A+	A-	B+	B-	C+	C-	D
Score	3.8 - 4.00	3.5 - 3.79	3.0 - 3.49	2.5 - 2.99	2.0 - 2.49	1.5 - 1.99	1 - 1.49

Table 3. Point Contribution of Size Primary Factor Score

Size Primary Factor Rating	Very Small/Small Patch	Large Patch	Matrix
A = Size meets A ranked rating	+ 0.75	+ 1.0	+1.5
B = Size meets B ranked rating	+ 0.25	+ 0.33	+0.5
C = Size meets C ranked rating	- 0.25	- 0.33	-0.5
D = Size meets D ranked rating	- 0.75	-1.0	-1.5

Determine Whether AA Meets WHCV Criteria

EORANK	Global Rank	G1S1, G2S1, GNRS1,	G2S2, GNRS2, G3S1,	GUS3, GNRS3, G3S3, G4S1,	G4S3, G4S4, G5S3, G5S4, G5S5,
	State Rank	GUS1	G3S2, GUS2	G4S2, G5S1, G5S2, any SNR	GNRS4, GNRS5, GUS4, GUS5
A+ (3.8 to 4.0)		EO	EO	EO	EO
A- (3.5 to 3.79)		EO	EO	EO	EO
B+ (3.0 to 3.49)		EO	EO	EO	Not an Element Occurrence
B- (2.5 to 2.99)		EO	EO	EO	
C+ (2.0 to 2.49)		EO	EO		
C- (1.5 to 1.99)		EO	Not an Element Occurrence	Not an Element Occurrence	
D (1.0 to 1.49)		EO	Not an Element Occurrence		

Site Description (continued):

Other notes: