

## Basic Information Sheet: Slope Wetlands

<b>Assessment Area Name:</b>	
<b>Project Name:</b>	
<b>Assessment Area ID#:</b>	
<b>Project ID#:</b>	<b>Date</b>
<b>Assessment Team Members for This AA:</b>	
<b>Assessment Area Size:</b>	
<b>Surface water present during the assessment?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Flowing?</b>	
<b>Briefly describe the hydrology of the AA (e.g., water sources, channels, swales, etc.)</b>	
<p><b>AA Category:</b></p> <p> <input type="checkbox"/> Pre-Restoration      <input type="checkbox"/> Post-Restoration      <input type="checkbox"/> Pre-Mitigation      <input type="checkbox"/> Post-Mitigation  <input type="checkbox"/> Pre-Impact      <input type="checkbox"/> Post-Impact      <input type="checkbox"/> Ambient      <input type="checkbox"/> Reference  <input type="checkbox"/> Training      <input type="checkbox"/> Other: </p>	
<p><b>Which best describes the type of wetland?</b></p> <p> <input type="checkbox"/> Channeled Wet Meadow (assoc. with a fluvial channel)      <input type="checkbox"/> Non-Channeled Wet Meadow  <input type="checkbox"/> Forested Slope      <input type="checkbox"/> Seep or Spring </p>	
<b>Are peat soils present in the AA?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>AA Encompasses:</b>	
<input type="checkbox"/> entire wetland <input type="checkbox"/> portion of the wetland	
<p><b>Which best describes the dominant hydrologic state of the AA at the time of assessment?</b></p> <p> <input type="checkbox"/> ponded/inundated      <input type="checkbox"/> saturated soil, but no surface water      <input type="checkbox"/> moist      <input type="checkbox"/> dry </p>	
<p><b>What is the apparent hydrologic regime of the wetland?</b></p> <p><i>Perennial</i> slope wetlands contain surface water year-round, <i>seasonal</i> slope wetlands support surface water for 4-11 months of the year (in &gt; 5 out of 10 years.) <i>Temporarily flooded</i> slope wetlands possess surface water between 2 weeks and 4 months of the year.</p> <p> <input type="checkbox"/> perennial      <input type="checkbox"/> seasonal      <input type="checkbox"/> temporarily flooded </p>	

**Photo Identification Numbers and Description:**

	<b>Photo ID No.</b>	<b>Description</b>
1		Looking North into the AA
2		Looking South into the AA
3		Looking East into the AA
4		Looking West into the AA
5		
6		
7		
8		
9		
10		

**Site Location Description** (including County and USGS Topographic Quadrangle if known):

**Comments:**

### Scoring Sheet: Slope Wetlands

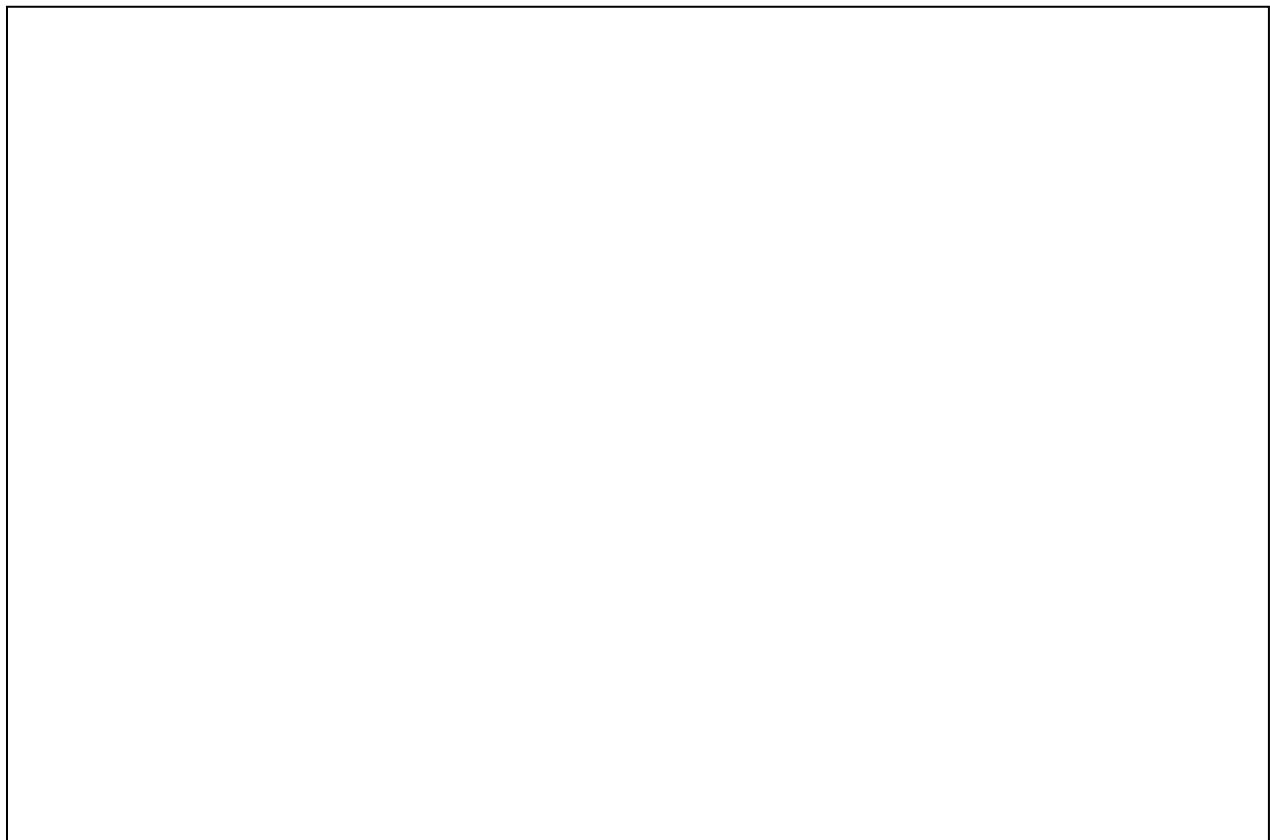
<b>AA Name:</b>			<b>Date</b>		
<b>Attribute 1: Buffer and Landscape Context</b>			<b>Comments</b>		
Aquatic Area Abundance Score (D)	Alpha	Numeric			
Buffer					
<i>Buffer submetric A: Percent of AA with Buffer</i>			Alpha	Numeric	
<i>Buffer submetric B: Average Buffer Width</i>					
<i>Buffer submetric C: Buffer Condition</i>					
<b>Raw Attribute Score = <math>D + [C \times (A \times B)^{1/2}]^{1/2}</math></b> (do not round)			<b>Final Attribute Score =</b> <b>(Raw Score/24) x 100</b>		
<b>Attribute 2: Hydrology</b>					
Water Source	Alpha	Numeric			
Hydroperiod					
Hydrologic Connectivity (all but Channeled)					
<i>Hydro Connectivity submetric A: Bank Height Ratio</i>	Alpha	Numeric			
<i>Hydro Connectivity submetric B: Percent Dewatered</i>					
Hydrologic Connectivity for Channeled ( <i>avg. of submetrics A-B</i> )					
<b>Raw Attribute Score = sum of numeric scores</b>			<b>Final Attribute Score =</b> <b>(Raw Score/36) x 100</b>		
<b>Attribute 3: Physical Structure</b>					
Structural Patch Richness	Alpha	Numeric			
Topographic Complexity					
<b>Raw Attribute Score = sum of numeric scores</b>			<b>Final Attribute Score =</b> <b>(Raw Score/24) x 100</b>		
<b>Attribute 4: Biotic Structure</b>					
Plant Community Composition (submetric A is not applicable for Non-Channeled meadows)					
<i>Plant Community submetric A: Number of plant layers</i>	Alpha	Numeric			
<i>Plant Community submetric B: Number of Co-dominant species</i>					
<i>Plant Community submetric C: Percent Invasive species</i>					
<i>Plant Community submetric D: Number of Encroachment groups</i>					
Plant Comm. Composition ( <i>avg. of submetrics A-D or B-D</i> )					
Horizontal Interspersion	Alpha	Numeric			
Plant Life Forms					
<b>Raw Attribute Score = sum of numeric scores</b>			<b>Final Attribute Score =</b> <b>(Raw Score/36) x 100</b>		
<b>Overall AA Score (average of four final Attribute Scores)</b>					

**Worksheet for Aquatic Area Abundance Metric**

<b>Percentage of Transect Lines that Contains Wetland Habitat of Any Kind</b>	
<b>Segment Direction</b>	<b>Percentage of Transect Length That is an Aquatic Feature</b>
North	
South	
East	
West	
Average Percentage of Transect Length That Is an Aquatic Feature	

**Percent of AA with Buffer Worksheet.**

In the space provided on the datasheet, make a quick sketch of the AA, or perform the assessment directly on the aerial imagery; indicate where buffer is present, estimate the percentage of the AA perimeter providing buffer functions, and record the estimate amount in the space provided.



**Worksheet for calculating Average Buffer Width of AA**

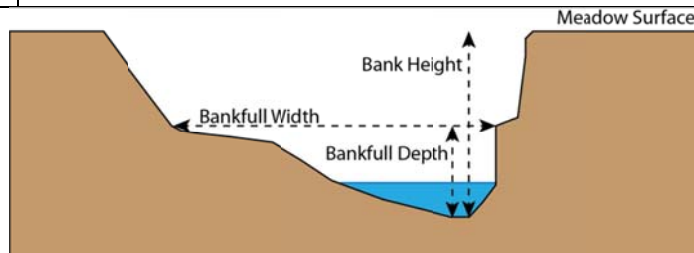
Line	Buffer Width (m)
A	
B	
C	
D	
E	
F	
G	
H	
<b>Average Buffer Width</b>	

**Submetric A: Bank Height Ratio**

**Channeled Wet Meadow Wetland Bank Height Calculation Worksheet**

The following 4 steps should be conducted for each of 3 cross-sections located in the AA at the approximate midpoints along straight riffles or glides, away from deep pools or meander bends. An attempt should be made to place them at the top, middle, and bottom of the AA.

Steps	Replicate Cross-sections →	TOP	MID	BOT
<b>1</b> Estimate bankfull width.	This is a critical step requiring familiarity with field indicators of the bankfull contour. Measure the distance between the right and left bankfull contours.			
<b>2:</b> Estimate max. bankfull depth.	Imagine a level line between the right and left bankfull contours; measure the height of the line above the thalweg (the deepest part of the channel).			
<b>3:</b> Estimate max. bank height	Identify the location of the top of bank. Measure the height between the thalweg and the top of bank location.			
<b>4:</b> Calculate bank height ratio.	Divide the bank height (Step 3) by the bankfull depth (Step 2).			
<b>5:</b> Calculate average bank height ratio.	Calculate the average results for Step 4 for all 3 replicate cross-sections. Enter the average result here and use it in Table 14.			



**Figure 12:** Diagram of bank height measurements. Bank height ratio is measured as maximum bank height divided by bankfull depth.

### Structural Patch Type Worksheet for Slope Wetlands

Check each type of patch that is observed in the AA and use the total number of observed patches in Table 17 below.

<b>STRUCTURAL PATCH TYPE (circle for presence)</b>	<b>Slope Wetland</b>
<b>Minimum Patch Size</b>	<b>3 m<sup>2</sup></b>
Abundant wrack, organic debris, or thatch in channel, or across wetland plain	
Active fluvial channel(s)	
Animal mounds and burrows, or vole trails	
Bank slumps or undercut banks in channels	
Beaver dams or lodges	
Boulders or bedrock outcrop	
Concentric or parallel high water marks	
Cutoff channels or oxbows	
Filamentous macroalgae or algal mats	
Gravel or cobble	
Large woody debris	
Moss	
Non-vegetated flats or bare ground (scars, scalds, etc.)	
Pannes or pools on wetland surface	
Plant hummocks and/or tussocks	
Sediment mounds around the bases of shrubs or trees	
Sediment splays	
Soil cracks	
Springs or upwelling groundwater	
Standing snags (at least 3 m tall)	
Submerged vegetation (in channels or open water)	
Swales	
Variegated, convoluted, or crenulated upland edge (not broadly arcuate or mostly straight)	
<b>Total Possible</b>	<b>23</b>
<b>No. Observed Patch Types (enter here and use in Table 17 below)</b>	

**Worksheet for AA Topographic Complexity**

Complete a field sketch of the topographic profile of the AA along a cross section perpendicular to the overall slope of wetland within the AA. Draw the section to include both AA boundaries. Note AA boundaries, important topographic features, and vegetation roughness.

**Plant Community Metric Worksheet: Co-dominant species richness for Channeled Wet Meadow, Forested Slope wetlands, and Seeps and Springs**  
 (A dominant species represents  $\geq 10\%$  *relative* cover)

Floating or Canopy-forming	Invasive?	Short (<0.3 m)	Invasive?
Medium (0.3-1.0 m)	Invasive?	Tall (1.0-3.0 m)	Invasive?
Very Tall (>3.0 m)	Invasive?	Total number of co-dominant species for all layers combined (enter here and use in Table 23)	
		Percent Invasion (enter here and use in Table 23)	

**Worksheet for Co-dominant Plant Species for Non-Channeled Wet Meadows.**

**Note:** A dominant species represents  $\geq 10\%$  *relative* cover. Count species only once when calculating any Plant Community sub-metric. Invasive species are listed in Appendix IV of the User's Manual.

Co-dominant Species	Check if Invasive
<b>Total Number of Co-dominants</b>	
<b>Total Number of Invasive Co-dominant species</b>	
<b>Percent Invasive Species (round to nearest integer)</b>	

**Worksheet for Number of Upland Encroachment Groups.**

**Note:** Each group must comprise at least 5% relative cover of the AA

Group	Present?
Conifers	
Deciduous Trees	
Upland Shrubs	
Vines	
Upland Grasses	
<b>Total</b>	



### Horizontal Interspersion Worksheet

Use the spaces below to make a quick sketch of the AA in plan view, outlining the major plant zones (this should take no longer than 10 minutes). Assign the zones names and record them on the right. Based on the sketch, choose a single profile from Figure 16 that best represents the AA overall.

	<p><b>Assigned zones:</b></p> <p>1)</p> <p>2)</p> <p>3)</p> <p>4)</p> <p>5)</p> <p>6)</p>
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#### Vertical Structure Metric: Plant Life Forms.

Life Form	Present in > 5% of AA?
Herbs/Forbs	
Grasses	
Sedges/Rushes	
Shrubs	
Deciduous Trees	
Coniferous Trees	
Bryophytes (mosses, liverworts, hornworts)	
Lichens or Fungi	
<b>Total Number of life forms</b>	

### Wetland disturbances and conversions

Has a major disturbance occurred at this wetland?	Yes	No		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affect site next 3-5 years	likely to affect site next 1-2 years	
Has this wetland been converted from another type? If yes, then what was the previous type?	depressional	vernal pool	vernal pool system	
	non-confined riverine	confined riverine	seasonal estuarine	
	perennial saline estuarine	perennial non-saline estuarine	wet meadow	
	lacustrine	seep or spring	playa	

### Worksheet: Stressor Checklist

<b>HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)</b>	<b>Present</b>	<b>Present and likely to have significant negative effect on AA</b>
Point Source (PS) discharges (POTW, other non-stormwater discharge)		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)		
Flow diversions or unnatural inflows		
Dams (reservoirs, detention basins, recharge basins)		
Flow obstructions (culverts, paved stream crossings)		
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees		
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
<b>Comments</b>		

<b>PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)</b>	<b>Present</b>	<b>Present and likely to have significant negative effect on AA</b>
Filling or dumping of sediment or soils <b>(N/A for restoration areas)</b>		
Grading/ compaction <b>(N/A for restoration areas)</b>		
Plowing/Discing <b>(N/A for restoration areas)</b>		
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management		
Excessive sediment or organic debris from watershed		
Excessive runoff from watershed		
Nutrient impaired (PS or Non-PS pollution)		
Heavy metal impaired (PS or Non-PS pollution)		
Pesticides or trace organics impaired (PS or Non-PS pollution)		
Bacteria and pathogens impaired (PS or Non-PS pollution)		
Trash or refuse		
<b>Comments</b>		

<b>BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)</b>	<b>Present</b>	<b>Present and Likely to Have Significant negative effect on AA</b>
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., <i>Virginia opossum</i> and domestic predators, such as feral pets)		
Tree cutting/sapling removal		
Removal of woody debris		
Treatment of non-native and nuisance plant species		
Pesticide application or vector control		
Biological resource extraction or stocking (fisheries, aquaculture)		
Excessive organic debris in matrix (for vernal pools)		
Lack of vegetation management to conserve natural resources		
Lack of treatment of invasive plants adjacent to AA or buffer		
<b>Comments</b>		

<b>BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)</b>	<b>Present</b>	<b>Present and likely to have significant negative effect on AA</b>
Urban residential		
Industrial/commercial		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries		
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor		
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)		
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		
<b>Comments</b>		