

Montana Ecological Integrity Assessment Field Form 2010

ASSESSMENT AREA INFORMATION												
Site ID				Visit #				Date				
Site Name						Observer(s)						
Level 4 Ecoregion												
Land Ownership						Is this a mitigation wetland? Y N						
USGS Quad Name						Pre-construction Visit # _____						
HUC4/HUC5/HUC6						Post-construction Visit # _____						
GPS Coordinates of the original point (UTMs)						Notes on movement and shape of the AA center:						
Waypoint ID				Accuracy (m)				AA is: ____ Centered at point ____ Not centered at point ____ Shifted but within 60 m of the original point				
Datum				Elevation (m)								
Easting (X)												
Northing (Y)												
Slope 1 (°)			Aspect 1 (°)			Dimensions of AA: ____ 40 m radius circle ____ Rectangle, width _____ length _____ ____ Other, describe below and take a GPS track						
Slope 2 (°)			Aspect 2 (°)									
Comments:			Comments:									
If AA is not centered at the point, record GPS coordinate information below:												
AA Center		Waypoint ID		Easting (X)			Northing(Y)			Accuracy (m)		
AA Corner #1												
AA Corner #2												
AA Corner #3												
AA Corner #4												
AA Track		Track Name:				Comments:						
General AA description, including surrounding uplands						Directions to AA and Access Comments:						
Topographic Position (check one)				Amount of AA Covered by Standing Water (check one)				Estimated Depth of Standing Water (check one)				Surface Water Permanence (check one)
slope		floodplain		none		51-75%		< 0.5 m		1-2 m		Permanent
toeslope		valley bottom		1-25%		76-100%		0.5 - < 1 m		> 2 m		
basin floor				26-50%								Temporary
Assessment Area Photos-Taken from the center of the AA in the four cardinal directions												
Photo #		N		Description								
Photo #		E										
Photo #		S										
Photo #		W										
Site Overview Photo #		Aspect										
Additional Photos:												

CLASSIFICATION

Ecological System (check one--use Key to Ecological Systems):

- | | |
|---|---|
| <input type="checkbox"/> GP Prairie Pothole | <input type="checkbox"/> RM Fen |
| <input type="checkbox"/> WGP Saline Depression | <input type="checkbox"/> RM Wet Meadow |
| <input type="checkbox"/> WGP Open Depression | <input type="checkbox"/> LM Riparian Woodland and Shrubland |
| <input type="checkbox"/> WGP Closed Depression | <input type="checkbox"/> RM Riparian Shrubland |
| <input type="checkbox"/> W. N. Am. Emergent Marsh | <input type="checkbox"/> RM Riparian Woodland |
| <input type="checkbox"/> NWGP Riparian/Floodplain | <input type="checkbox"/> NRM Wooded Vernal Pool |
| <input type="checkbox"/> Other | |

Confidence Level:

- | | |
|------------------------------------|---------------------------------|
| <input type="checkbox"/> Very High | <input type="checkbox"/> Medium |
| <input type="checkbox"/> High | <input type="checkbox"/> Low |
- Reason for selecting confidence level:

Dominant Plant Species:

HGM Class (check one-use Key to Hydrogeomorphic Classes):

- | | |
|---------------------------------------|---|
| <input type="checkbox"/> Slope | <input type="checkbox"/> Lacustrine Fringe |
| <input type="checkbox"/> Depressional | <input type="checkbox"/> Riverine (floodplain)* |
| <input type="checkbox"/> Flat | Specific classification and metrics apply to the Riverine HGM Class |

Confidence Level:

- | | | |
|------------------------------------|---------------------------------|---|
| <input type="checkbox"/> Very High | <input type="checkbox"/> Medium | <u>Reason for selecting confidence level:</u> |
| <input type="checkbox"/> High | <input type="checkbox"/> Low | |

Has the wetland been anthropogenically altered (impounded, diked, ditched, drained, etc.)?

Is this an artificially created wetland?

Cowardin Classification:

Cowardin System

- | |
|--|
| <input type="checkbox"/> Palustrine (P) |
| <input type="checkbox"/> Lacustrine Littoral (L2) |
| <input type="checkbox"/> Riverine Lower Perennial (R2) |
| <input type="checkbox"/> Riverine Upper Perennial (R3) |

Cowardin Class

- | | |
|---|---|
| <input type="checkbox"/> Aquatic Bed (AB) | <input type="checkbox"/> Scrub-Shrub (SS) |
| <input type="checkbox"/> Moss Lichen (ML) | <input type="checkbox"/> Unconsolidated Bottom (UB) |
| <input type="checkbox"/> Emergent (EM) | <input type="checkbox"/> Unconsolidated Shore (US) |
| <input type="checkbox"/> Forested (FO) | |

Cowardin Water Regime

Permanently Flooded (H):
water covers surface all year every year

Intermittently Exposed (G):
surface water is present all year except in years of extreme drought

Semipermanently Flooded (F):
surface water persists throughout the growing season in most years; if surface water absent, water table at/near the surface

Artificially Flooded (K):
amount and duration of flooding completely controlled by artificial means (dikes, dams, pumps)

Seasonally Flooded (C): surface water is present early in the growing season, but absent by the end of the season in most years; if surface water absent, water table is often near the surface

Saturated (B): saturated to the surface during the growing season; surface water seldom present

Temporarily Flooded (A): surface water present for brief periods early in the growing season; water table lies well below the surface for most of the growing season; both upland and wetland plants present

Intermittently Flooded (J): substrate usually exposed; flooded for variable periods without detectable seasonal periodicity; may have weeks, months, years between inundation periods

Cowardin Special Modifiers

- | |
|---|
| <input type="checkbox"/> Beaver (b) |
| <input type="checkbox"/> Excavated (x) |
| <input type="checkbox"/> Partially ditched/draind (d) |
| <input type="checkbox"/> Diked/impounded (h) |
| <input type="checkbox"/> Farmed (f) |

Confidence Level:

- | | |
|------------------------------------|---------------------------------|
| <input type="checkbox"/> Very High | <input type="checkbox"/> Medium |
| <input type="checkbox"/> High | <input type="checkbox"/> Low |

Reason for selecting confidence level:

Cowardin Code	% of AA	Cowardin Code	% of AA

ASSESSMENT AREA DRAWING (add north arrow, document plant zones, indicate direction of drainage into or out of wetland, and include sketch of vegetation plot and soil pit placement). ALSO INDICATE ALL PLANT ZONES ON AERIAL PHOTO, IF POSSIBLE



Notes:



Identify and describe the plant zones that occur within the assessment area. Identify the dominant plant species within each stratum. To be considered a separate plant zone, it must make up more than 5% of the AA (e.g., 250 m² for an AA of 0.5 ha).

Plant Zones in Entire Assessment Area							
Height Scale for Each Plant Zone				Cover Scale for Each Plant Zone			
1	<0.5 m	6	10-15 m	1	Trace	6	10-<25%
2	0.5-1 m	7	15-20 m	2	<1%	7	25-<50%
3	1-2 m	8	20-35 m	3	1-<2%	8	50-<75%
4	2-5 m	9	35-50 m	4	2-<5%	9	75-<95%
5	5-10 m	10	>50 m	5	5-<10%	10	>95%

Stratum	
(FW) Forest/Woodland (Trees/Shrubs > 5 m)	(V) Vines
(SH) Shrubland (Shrubs >0.5-5 m)	(SF) Submerged/Floating (Rooted or floating-exclude emergent)
(DS) Dwarf Shrubland (<0.5 m)	(SV) Sparsely Vegetated (including bare ground)
(H) Herbaceous (e.g., Graminoids, Forbs, Ferns)	(CW) Coarse Woody Debris (≥ 7.6 cm in diameter)
(NV) Nonvascular (Bryophytes, cryptogamic crusts)	(FW) Fine Woody Debris (≤ 7.5 cm in diameter)

Plant Zone #1 (indicate location on site drawing)				
Stratum	Dominant Species	Height Class	Cover Class	Comments

Plant Zone #2 (indicate location on site drawing)				
Stratum	Dominant Species	Height Class	Cover Class	Comments

Plant Zone #3 (indicate location on site drawing)				
Stratum	Dominant Species	Height Class	Cover Class	Comments

Plant Zone #4 (indicate location on site drawing)				
Stratum	Dominant Species	Height Class	Cover Class	Comments

Plant Zone #5 (indicate location on site drawing)				
Stratum	Dominant Species	Height Class	Cover Class	Comments

Percent of Each Plant Zone Within the AA		
Plant Zone	% of AA	Comments
1		
2		
3		
4		
5		

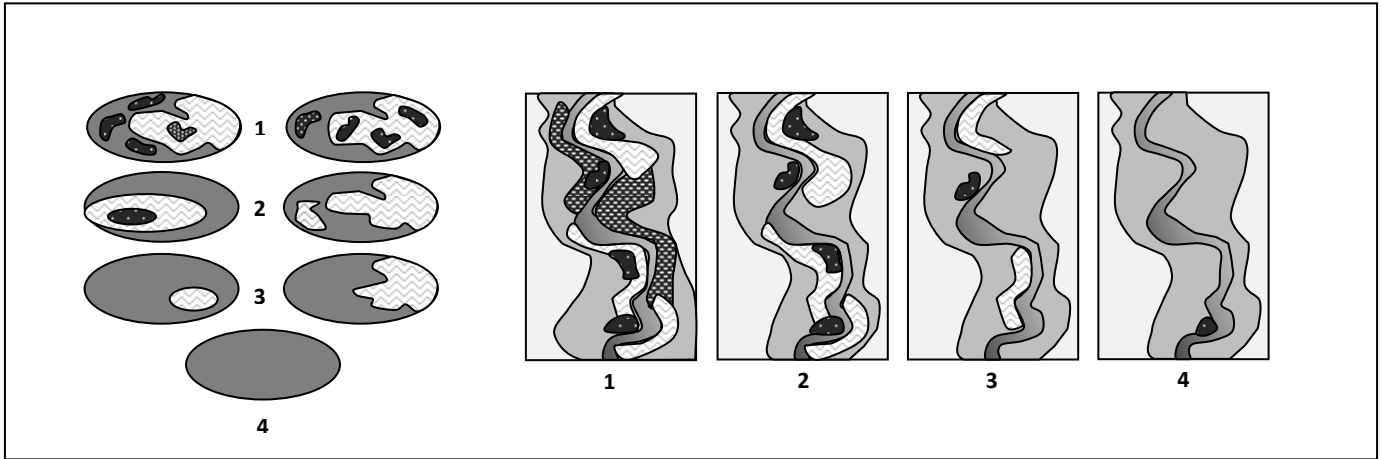
1. Landscape Context Metrics —Circle the applicable number

LANDSCAPE CONTEXT			
Landscape Connectivity within 200 m of the AA perimeter			
<i>For non-riverine wetlands, select the statement that best describes the landscape connectivity within a 200 m envelope around the AA perimeter (refer to site map).</i>	Intact: AA embedded in >90-100% unfragmented, natural landscape.		1
	Variegated: AA embedded in >75-90% unfragmented, natural landscape.		2
	Fragmented: AA embedded in >50-75% unfragmented, natural landscape.		3
	Severely fragmented: AA embedded in 25-50% unfragmented, natural landscape.		4
	Relictual: AA embedded in <25 % unfragmented, natural landscape.		5
<i>For riverine wetlands, select the statement that best describes the landscape connectivity within a 200 m envelope upstream and downstream of the AA perimeter (refer to the site map).</i>	Intact: AA embedded in >90-100% unfragmented, natural landscape.		1
	Variegated: AA embedded in >75-90% unfragmented, natural landscape.		2
	Fragmented: AA embedded in >50-75% unfragmented, natural landscape.		3
	Severely fragmented: AA embedded in 25-50% unfragmented, natural landscape.		4
	Relictual: AA embedded in <25 % unfragmented, natural landscape.		5
Buffer Length			
<i>Select the statement that best describes the buffer length around the AA perimeter.</i>	A buffer of at least 30 m occurs around 76-100% of the AA perimeter.		1
	A buffer of at least 30 m occurs around 51-75% of the AA perimeter.		2
	A buffer of at least 30 m occurs around 25-50% of the AA perimeter.		3
	A buffer of at least 30 m occurs around <25% of the AA perimeter, OR NO BUFFER EXISTS.		4
Buffer Width: Select the statement that best describes the buffer width of the AA. Estimate width up to 200 m from AA perimeter at eight evenly spaced intervals. Draw a 'pie' on your aerial photo and determine buffer width for each section.			
N	S	Average buffer width between edge of the AA and the edge of the buffer is >200 m.	1
NE	SW	Average buffer width between edge of AA and the edge of the buffer is >100-200 m.	2
E	W	Average buffer width between edge of the AA and the edge of the buffer is 50-100 m.	3
SE	NW	Average buffer width between edge of the AA and the edge of the buffer is <50 m, OR no buffer exists.	4
Average Buffer Width: _____			
Buffer Condition within 200 m of the AA perimeter			
<i>Select the statement that best describes the plant species composition within a 200 m envelope around the AA perimeter.</i>	Abundant (>95%) native vegetation cover and little or no (<5%) cover of non-native plants.		1
	Substantial (>75–95%) native vegetation cover and low (5–25%) cover of non-native plants.		2
	Moderate (50-75%) native vegetation cover.		3
	Low (<50%) cover of native vegetation, OR NO BUFFER EXISTS.		4
<i>Select the statement that best describes the extent of soil disturbance composition within a 200 m envelope around the AA perimeter.</i>	Soils are intact.		1
	Soils are slightly to moderately disturbed.		2
	Soils are moderately to extensively disturbed.		3
	Soils are highly disturbed OR ground is unnaturally bare, OR NO BUFFER EXISTS.		4
<i>Select the statement that best describes the extent of trash or evidence of human visitation within 200 m of the AA perimeter.</i>	No trash present OR no evidence of human visitation or recreation.		1
	Little trash OR evidence of minor human visitation or recreation.		2
	Moderate or greater amounts of trash OR evidence of moderate human visitation/recreation.		3
	Excessive amounts of trash OR evidence of high intensity human visitation/recreation, OR NO BUFFER EXISTS.		4

2. Vegetation Metrics—Circle the applicable number

VEGETATION		
Relative cover of native plant species within the AA		
<i>Select the statement that best describes the relative cover of native plant species within the AA.</i>	>99% of the vegetation cover within the AA is comprised of native vegetation.	1
	95-99% of the vegetation cover within the AA is comprised of native vegetation.	2
	80-94% of the vegetation cover within the AA is comprised of native vegetation.	3
	<80% of the vegetation cover within the AA is comprised of native vegetation.	4
	<50% of the vegetation cover within the AA is comprised of native vegetation.	5
Relative cover of listed noxious weed species within the AA (see State Noxious Weed list)		
<i>Select the statement that best describes the relative cover of listed noxious weed species within the AA.</i>	<1% of the vegetation cover within the AA is comprised of noxious weed species.	1
	1-3% of the vegetation cover within the AA is comprised of noxious weed species.	2
	>3-5% of the vegetation cover within the AA is comprised of noxious weed species.	3
	>5% of the vegetation cover within the AA is comprised of noxious weed species.	4
Relative cover of highly tolerant native plant species within the AA		
<i>Select the statement that best describes the relative cover of highly tolerant native plant species within the AA.</i>	<5% of the vegetation cover within the AA is comprised of highly tolerant native plant species.	1
	5-10% of the vegetation cover within the AA is comprised of highly tolerant native plant species.	2
	>10-25% of the vegetation cover within the AA is comprised of highly tolerant native plant species.	3
	>25% of the vegetation cover within the AA is comprised of highly tolerant native plant species.	4
Herbaceous Litter/Woody Debris Accumulation within the AA		
<i>Select the statement that best describes the herbaceous litter accumulation of the site.</i>	Site has moderate amount of fine litter/woody debris. New growth is more prevalent than previous years' growth. Layers of litter in pools or areas of topographic lows are thin.	1
	Site is characterized by small amounts of litter/woody debris, with little plant recruitment, OR litter/woody debris is somewhat excessive.	2
	Site has scant litter/woody debris OR litter/woody debris is excessive and is blocking plant recruitment.	3
Interspersion of Plant Zones within the AA		
<i>Select the statement that best describes the patch interspersion of the site (use the associated schematics).</i>	Horizontal structure consists of a very complex array of nested or interspersed irregular biotic patches with no single dominant type.	1
	Horizontal structure consists of a moderately complex array of nested or interspersed irregular biotic patches with no single dominant type.	2
	Horizontal structure consists of a simple array of nested or interspersed irregular biotic patches with no single dominant type.	3
	Horizontal structure consists of one dominant patch type with no interspersion.	4

Plant Zone Interspersion Schematic



Woody Species Establishment and Regeneration within the AA		
<i>Select the statement that best describes woody species establishment and regeneration within the AA.</i>	All age classes of native woody species present OR woody species are naturally uncommon or absent.	1
	Middle age group(s) absent. All other well-represented.	2
	Seedlings and saplings absent and stand comprised of mainly mature species.	3
	Woody species predominately consist of relictual or dying individuals or AA has a > 5% canopy cover of Russian Olive and/or Salt Cedar.	4
Utilization of Trees and Shrubs with the AA		
<i>Select the statement that best describes the utilization of trees and shrubs in the AA.</i>	0-5% of the available second year and older stems are browsed OR woody species are naturally uncommon or absent.	1
	>5%-25% of the available second year and older stems are browsed.	2
	>25%-50% of the available second year and older stems are browsed.	3
	More than 50% of the available second year and older stems are browsed.	4

3. Physicochemical Metrics—Circle the applicable number.

PHYSICOCHEMICAL		
Soil Surface Integrity within the AA		
<i>Select the statement that describes the soil surface integrity within the AA.</i>	Soil disturbance is limited to naturally caused disturbances such as flood deposition or game trails.	1
	Soil disturbance due to human causes (including livestock) is present but minimal. Depth of disturbance is limited to a few inches and does not show evidence of ponding or channeling water. Site will recover within a few years after disturbance removal.	2
	Soil disturbance due to human causes is common and will be slow to recover. Damage is not excessive and the site will recover with the removal of degrading human influences and moderate recovery times.	3
	Soil disturbance is widespread and substantially degrades the site. Water, if present, would be channeled or ponded. The site will not recover without restoration and/or long recovery times.	4

Physical Patch Types	How many physical patch types occur within the site (refer to physical patch type table below)?	
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List of Physical Patch Types within the Assessment Area

PHYSICAL PATCH TYPE	Present in AA	Percent Cover within AA	Description
Cover Classes 1: trace 2: <1% 3: 1-<2% 4: 2-<5% 5: 5-<10% 6: 10-<25% 7: 25-<50% 8: 50-<75% 9: 75-<95% 10: >95%			
Open water-pond or lake			Medium to large natural water body
Open water -pools			Areas that hold stagnant or slow moving water from groundwater discharge but are not associated with a defined channel.
Open water-river/stream			Areas of flowing water associated with a sizeable channel.
Open water-oxbow/backwater channel			Areas holding stagnant or slow moving water that have been partially or completely disassociated from the primary river channel.
Open water-tributary/secondary channel			Areas of flowing water entering the main channel from a secondary source.
Open water-beaver pond			Areas that hold stagnant or slow moving water behind a beaver dam.
Active beaver dam			Debris damming a stream clearly constructed by beaver (note gnawed ends of branches)
Beaver canals			Canals cut through emergent vegetation by beaver.
Braided stream channel			Stream channel consisting of a network of small channels separated by small and often temporary islands or bars.
Adjacent or onsite springs/seeps			Localized point of emerging groundwater, often on or at the base of a sloping hillside.
Debris jams/woody debris			Aggregated woody debris in a stream channel deposited by high flows.
Pool/riffle complex			Deep, slow-moving pools alternating with shallow, fast-moving riffles along the relatively straight course of a stream or river.
Point bars			A low ridge of sediment (sand or gravel) formed on the inner bank of a meandering stream.
Bank slumps or undercut banks in channel or along shoreline			A bank slump is the portion of a stream or other wetland bank that has broken free from the rest of the bank but has not eroded away. Undercut banks are areas along the bank or shoreline of a wetland that have been excavated by waves or flowing water.
Mudflats			An accumulation of mud at the edge of shallow waters, such as a lake or pond. Often intermittently flooded or exposed.
Salt flat/alkali flat			Dry open area of fine-grained sediment and accumulated salts. Often wet in the winter months or with heavy precipitation.
Animal mounds or burrows			Mounds or holes associated with animal foraging, denning, predation, or other behaviors.
Plant hummocks			A mound composed of plant material resulting in a raised pedestal of persistent roots or rhizomes.
Water tracks/hollows			Depressions between hummocks or mounds that remain permanently saturated or inundated with slow moving surface water.
Floating mat			Mats of peat held together by roots and rhizomes of sedges. Floating mats are underlain by water and /or very loose peat.
Marl/limonite beds			Marl is a calcium carbonate precipitate often found in calcareous fens. Limonite forms in iron-rich fens when iron precipitates from the groundwater incorporating organic matter.
Other:			

Water Quality: Select the statements that best describe the following water quality indicators within the AA.		
<i>Algae</i>	No visual evidence of degraded water quality. Water is clear with minimal algae growth.	1
	Some negative water quality indicators are present, but algae are limited to small and localized areas within the wetland. Water may have a minimal greenish tint, cloudiness, or sheen.	2
	Algal growth occurs in large patches throughout the AA. Sources of water quality degradation are apparent. Water may have a moderate greenish tint or sheen.	3
	Algal mats may be extensive, blocking light to the bottom. Sources of water quality degradation are typically apparent. Water has strong greenish tint, sheen, or turbidity. The bottom is difficult to see during the growing season.	4
<i>Plants</i>	No visual evidence of degraded water quality. Wetland plant species that respond to high nutrient levels are minimally present, or absent.	1
	Wetland plant species that respond to high nutrient levels occur in trace amounts.	2
	Wetland species that respond to high nutrient levels are common. Sources of water quality degradation are apparent.	3
	Plant species that respond to high nutrient levels are dominant features of the wetland, or there is widespread evidence of other negative water quality indicators.	4
<i>Turbidity</i>	No visual evidence of degraded water quality.	1
	Water is slightly cloudy, but there is no obvious source of sedimentation	2
	Water is cloudy, but the bottom is still visible. Sources of water quality degradation are apparent.	3
	Water is milky and/or muddy. The bottom is no longer visible. There is an obvious source of water quality degradation.	4

4. Hydrologic Metrics—Circle the applicable number.

HYDROLOGY		
Water Inputs into the AA		
<i>Select the statement that best describes the water sources into the AA during the growing season.</i>	Sources are precipitation, groundwater, and/or natural runoff, or natural flow from an adjacent freshwater body, or the AA naturally lacks water in the dry season.	1
	Sources are mostly natural but can include occasional or small effects of modified hydrology. No large point sources or dams control the overall hydrology.	2
	Sources are primarily from anthropogenic sources (e.g., urban runoff, pumped water, impoundments, regulated releases through a dam).	3
	Natural sources have been eliminated based on the following indicators: impoundment of all possible wet season inflows, diversions of all dry-season inflows, predominance of xeric vegetation, etc.	4
<i>Rank major water sources starting with 1 being the most dominant.</i>	Natural Sources:	Anthropogenic Sources:
	Overbank flooding	Irrigation run-off/ditches
	Alluvial storage/hyporheic flow	Urban run-off
	Groundwater discharge	Pipes directly feeding into wetland
	Precipitation	Other:
	Snowmelt	
Water Outlet of the AA		
<i>Select the statement that best describes the water outlet of the AA during the growing season.</i>	Water leaves the site through natural runoff, natural flow, evaporation, or outlet is blocked by natural features (e.g., beaver dam), OR the site naturally lacks water in the growing season.	1
	Outflow is mostly natural, but there is some modification due to anthropogenic restrictions (e.g., filling or development, channelization).	2
	Withdrawals are primarily from anthropogenic sources, and outflow has been significantly altered by flow obstructions (culverts, paved stream crossings, impoundments, ditching).	3
	Natural outflow has been completely eliminated due to the following indicators: dike/levees, railroads, or roads with no culverts.	4
Types of Water Outlet		Count of Discrete Outlets:
Channelized flow (headwater wetland)	No natural outlet	Channels
Recharge to adjacent stream	Natural outlet blocked/bermed	Culverts
Non-channelized flow to contiguous wetland area	Other:	Ditches
Culverts under roadways / trails		Other:
Ditches established to drain wetland		

Hydroperiod of the AA (for depressional, lacustrine, and slope wetlands--NOT fens)		
<i>Select the statement that best describes the hydroperiod of the AA.</i>	Hydroperiod of the AA is characterized by natural patterns of filling or inundation and drying or drawdowns.	1
	The filling or inundation patterns in the AA are of greater magnitude or duration than would be expected under natural conditions, but thereafter the AA is subject to natural drawdown or drying.	2
	Hydroperiod of the AA is characterized by natural patterns of filling or inundation, but thereafter, is subject to more rapid or extreme drawdown or drying, as compared to more natural wetlands. OR the filling or inundation patterns in the AA are of substantially lower magnitude or duration than would be expected under natural conditions, but thereafter, the AA is subject to natural drawdown or drying.	3
	Both the inundation and drawdown of the AA deviate from natural conditions (either increased or decreased in magnitude and/or duration).	4
Hydroperiod of the AA (for fens)		
<i>Select the statement that best describes the hydroperiod of the AA.</i>	Hydroperiod of the AA is characterized by stable, saturated hydrology, or by naturally damped cycles of saturation and partial drying.	1
	Hydroperiod of the AA experiences minor altered inflows or drawdown/drying, as compared to more natural wetlands (e.g., ditching).	2
	Hydroperiod of the AA is somewhat altered by greater increased inflow from runoff, or experiences moderate drawdown or drying, as compared to more natural wetlands (e.g., ditching).	3
	Hydroperiod of the AA is greatly altered by increased inflow from runoff or experiences large drawdown or drying, as compared to more natural wetlands (e.g., ditching).	4
Surface Water Connectivity of the AA (for depressional, lacustrine, and slope wetlands--NOT isolated fens)		
<i>Select the statement that best describes the surface water connectivity of the site.</i>	Water, when present, has unrestricted access into or out of the wetland. There are no artificial obstructions to surface water flow.	1
	Artificial obstructions limit the access of surface water into or out of the wetland, but the limitations exist for < 50% of the AA perimeter.	2
	Artificial obstructions limit the access of surface water into or out of the wetland for 50–90% of the AA perimeter. Flood flows may exceed the obstructions, but drainage into or out of the AA is probably obstructed.	3
	Artificial obstructions limit the access of surface water into or out of the wetland for >90% of the AA perimeter.	4
Surface Water Connectivity of the AA (for naturally isolated fens)		
<i>Select the statement that best describes the surface water connectivity of the site.</i>	No natural surface water connectivity with surrounding water bodies.	1
	Partial surface water connectivity with surrounding water bodies exists via artificial means (e.g., ditching or draining to dry the fen).	2
	Substantial to full surface water connectivity exists via artificial means that has obvious drying effects on the peat body.	3

Onsite and Surrounding Disturbances—Indicate the Scope and Impact of disturbances (see tables on p. 16).

Disturbances Observed <i>and</i> Expected to Impact the Site	Scope		Impact		Field Indicator Observed
	200 m	AA	200 m	AA	
Paved surfaces (e.g., roads, parking lots)					
Domestic or commercial development					
Gravel pits, open pit mining					
Unpaved roads					
Other mining activity or abandoned mines					
Railroads					
Resource extraction (oil and gas)					
Dryland farming					
Intensively managed sports fields, golf courses					
Vegetation conversion					
Livestock grazing					
Recreation or human visitation					
Intensive logging (50-75% trees of >50 cm diameter removed)					
Irrigated cropland					
Irrigated hay pasture					
Permanent tree plantation					
Disturbed fallow lands dominated by exotic species					
Selective logging (<50% of trees >50 cm diameter removed)					
Haying of native grassland					
Fallow fields (no human use in past 10 years)					
Beetle-killed conifers					
Evidence of recent fire (<5 years)					
Filling or dumping of sediment or fill					
Trash or refuse dumping					
Plowing or discing					
Beaver activity					
Browsing of woody vegetation by native ungulates					
Upstream spring box					
Impoundment of flowing water					
Potential for agricultural runoff					
Potential for urban runoff					
Upstream dam					
Reservoir/stock pond					
Weir or drop structure					
Dredged inlet/outlet channel					
Engineered channel (e.g., riprap)					

Disturbances Observed <i>and</i> Expected to Impact the Site	Scope		Impact		Field Indicator Observed
	200 m	AA	200 m	AA	
Pumps, diversions, or ditches that move water <i>into</i> wetland					
Pumps, diversions, or ditches that move water <i>out of</i> wetland					
Berms/Dikes/Levees					
Drought					
Chemical vegetation control (herbicide)					
Evidence of intentional burning					

Scope and Impact Ratings

Scope of Disturbances	
5	Pervasive – Affects nearly all (>75%) of the buffer or AA.
4	Large – Affects most (>50-75%) of the buffer or AA.
3	Moderate – Affects much (>25-50%) of the buffer or AA.
2	Restricted – Affects some (>10-25%) of the buffer or AA.
1	Small – Affects a small (1-10%) portion of the buffer or AA.
0	Nil – Little or no observed effect (<1%) on the buffer or AA.
Impact of Disturbances	
4	Extreme – likely to extremely modify, degrade, destroy, or eliminate the wetland.
3	Serious – likely to seriously modify, degrade or reduce wetland function or condition.
2	Moderate – likely to moderately modify, degrade or reduce wetland function or condition.
1	Slight – likely to only slightly modify, degrade, or reduce wetland function or condition.