MONTANA DEPARTMENT OF TRANSPORTATION WETLAND MITIGATION MONITORING REPORT: YEAR 2011

Woodson Creek Ringling, Meagher County, Montana



Prepared for:



Prepared by:



MONTANA DEPARTMENT OF TRANSPORTATION

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Woodson Creek Ringling, Meagher County, Montana

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1. INTRODUCTION

The 2011 Woodson Creek Wetland Mitigation Monitoring Report presents the results of the fourth year of wetland monitoring at the Woodson Creek project. The site was not monitored in 2009 based on Montana Department of Transportation (MDT) discussions with the US Army Corps of Engineers (USACE) concerning performance standard revisions to the goals and objectives for the site. The mitigation site was constructed in 2006 in Meagher County in the southeast portion of the Missouri-Sun-Smith watershed (Watershed #7). Approximately 50 acres of wetland credit were to be awarded to the MDT through a credit purchase agreement that would compensate for wetland impacts associated with MDT highway and bridge reconstruction projects in the watershed. Woodson Creek was constructed on the Ringling Land and Cattle Company property. The goal of the project was to restore Woodson Creek to its historical configuration, to improve wetland hydrology, and to create wetlands. The mitigation area was projected to provide a maximum of 73.3 acres of palustrine emergent and scrub-shrub wetland within the boundaries of the 105acre site.

The project occurs at an elevation of approximately 5,390 feet above mean sea level (amsl) and is located three miles northeast of Ringling, Montana, in Meagher County (Figure 1). The Woodson Creek site is shown on the Hamen, Montana, US Geological Survey 7.5 minute topographic quadrangle in Sections 9 and 16, Township 6 North, Range 8 East. The approximate universal transverse mercator (UTM) coordinates (NAD83) for the center of the site are (Zone 12N) 5,126,147 Northing, 520,656 Easting. Figures 2 and 3 (Appendix A) show the onsite Monitoring Activity Locations and Mapped Site Features, respectively. The MDT Wetland Mitigation Site Monitoring Form, USACE Routine Wetland Determination Data Forms (Environmental Laboratory 1987), and the 1999 MDT Montana Wetland Assessment Forms (Berglund 1999) are included in Appendix B. Representative photographs are shown in Appendix C and the project plan sheet is presented in Appendix D.

Seven different crediting areas were developed originally with individual performance standards. Credit ratios were 1:1 for restoration and creation and 1.5:1 for rehabilitation once the performance standards were achieved. Although maximum credit acres were projected to be 73.3, MDT's maximum amount of credit is 44.4 acres by an agreement with ADC, now Oasis Environmental and part of ERM. The existing performance standards for Woodson Creek were amended on March 29, 2010, as referenced in a USACE letter dated August 6, 2010 (USACE 2010a). The amendment addressed the current method of awarding credits from a pass/fail system to a credit-reduction based methodology. The functional lift standard required an assurance of a functional lift with the most favorable credit ratios awarded if wetland assessment areas achieve a Category II status or better. The functional lift was to be assessed using the 1999 MDT Montana Wetland Assessment Method (MWAM) (Berglund



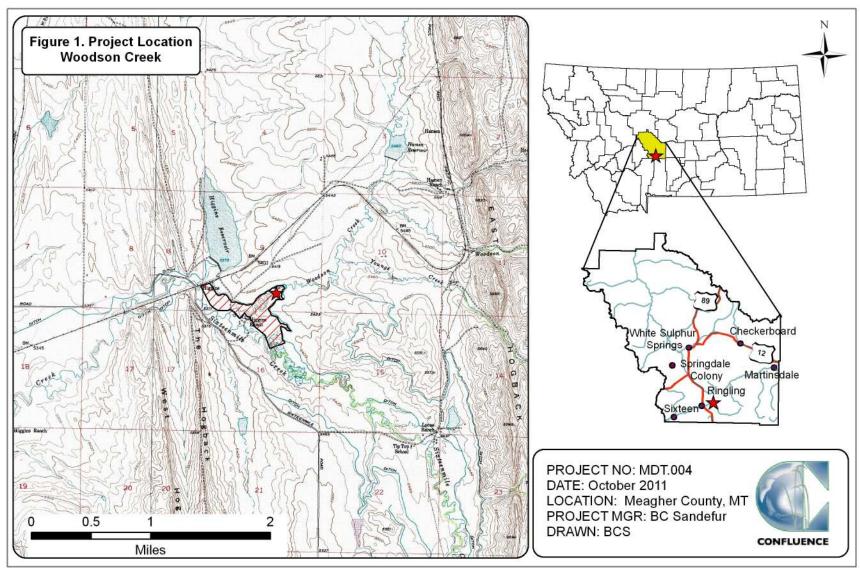


Figure 1. Project location Woodson Creek Mitigation Site.



1999). The Primary Standards for performance as amended in 2010 are listed below.

- 1. Meet all three wetland criteria (as defined in 1987 Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987).
- 2. Maximum noxious weed coverage is not to exceed 5 percent.
- 3. Soil saturation in the upper 12 inches of the soil profile for a minimum of 12.5 percent of the growing season.
- 4. Aerial coverage of all plant species must be at least 80 percent and requires a 2-year survival period; bare ground shall not exceed 20 percent aerial coverage.
- 5. Permanent open water lacking persistent emergent vegetation or aquatic bed vegetation will comprise less than 15 percent of the total wetland project area and no single body is to exceed 3 acres.
- 6. Achieve a Category II functional rating.

2. METHODS

The site was monitored on July 26, 2011. Information contained on the Mitigation Monitoring Form and Wetland Data Form was entered electronically in the field on a personal digital assistant (PDA) palmtop computer during the field investigation (Appendix B). Monitoring activity locations were mapped using a global positioning system (GPS) (Figure 2, Appendix A). Information collected included a wetland delineation, wetland and upland boundary mapping, vegetation community mapping, vegetation transect monitoring, woody species survival monitoring, soil and hydrology data collection, bird and wildlife use documentation, photographs, functional assessment, and a non-engineering examination of the infrastructure established within the mitigation project area.

2.1. Hydrology

Technical criteria for wetland hydrology guidelines have been established as "permanent or periodic inundation, or soil saturation within 12 inches of the ground surface for a significant period (usually 14 days or more or 12.5 percent) during the growing season" (Environmental Laboratory 1987). Systems with continuous inundation or saturation for greater than 12.5 percent of the growing season are considered wetlands. The growing season is defined for purposes of this report as the number of days where there is a 50 percent probability that the minimum daily temperature is greater than or equal to 28 degrees Fahrenheit (Environmental Laboratory 1987). The growing season recorded for the meteorological station at White Sulphur Springs 2, Montana (248930), extends from May 23 to September 17, approximately 117 days (NRCS 2010). Areas defined as wetlands would require 15 days of inundation or saturation within 12



inches of the ground surface to meet the hydrology criteria and performance standards.

The presence of hydrological indicators as outlined on the Wetland Data Form was documented at four data points established within the project area. Hydrologic indicators were evaluated according to features observed during the site visit. The data were recorded on the electronic Wetland Data Form (Appendix B). Hydrologic assessments allowed evaluation of mitigation goals addressing inundation/saturation requirements.

Groundwater levels were measured in six monitoring wells in 2011. Soil pits excavated during the wetland delineation were also used to evaluate groundwater levels within 18 inches of the ground surface. The data were recorded electronically on the Wetland Data Form (Appendix B).

2.2. Vegetation

The boundaries of general dominant species-based vegetation communities were determined in the field during the active growing season and subsequently delineated on the 2011 aerial photograph. The percent cover of dominant species within a community type was estimated and recorded using the following ranges that are listed on the mitigation monitoring form: 0 (<1 percent), 1 (1-5 percent), 2 (6-10 percent),3 (11-20 percent), 4 (21-50 percent),and 5 (>50 percent) (Appendix B). Community types were named based on the predominant vegetation species that characterized each mapped polygon (Figure 3, Appendix A).

Temporal changes in vegetation were evaluated through annual assessments of static belt transects (Figure 2, Appendix A). Vegetation composition was assessed and recorded on three vegetation belt transects approximately 10 feet wide and 526 feet (Transect 1), 582 feet (Transect 2), and 378 feet (Transect 3) long (Figure 2, Appendix A). The transect location was recorded with a GPS unit. Spatial changes in the dominant vegetation communities (based on percent cover) were recorded along the stationed transect. The percent cover of each vegetation species within the belt was estimated using the same cover ranges listed for the polygon data (Appendix B). Photographs were taken at the transect endpoints during the monitoring event (Appendix C).

The location of noxious weeds was noted in the field and mapped on the 2011 aerial photo (Figure 3, Appendix C). The noxious weed species identified are color-coded. The locations are denoted with the symbol "X", "\(\Lambda\)", or "\(\mathbf{n}\)" representing 0 to 0.1 acre, 0.1 to 1.0 acre, or greater than 1.0 acre in extent, respectively. Cover classes are represented by T, L, M, or H, for less than 1 percent, 1 to 5 percent, 2 to 25 percent, and 25 to 100 percent, respectively, as listed on Figure 3 (Appendix A). Observations of live willow saplings were recorded annually. The lack of information on post-construction plant numbers and locations precluded the calculation of precise survival rates.



2.3. Soil

Soil information was obtained from the *Soil Survey for Meagher County* and *in situ* soil descriptions accessed from the Natural Resource Conservation Service (NRCS) official soil description website (USDA 2010). Soil cores were excavated using a hand auger and evaluated according to procedures outlined in the 1987 Wetland Delineation Manual. A description of the soil profile, including hydric indicators when present, was recorded on the USACE Wetland Data Form for each profile (Appendix B).

2.4. Wetland Delineation

Waters of the US including jurisdictional wetlands and other special aquatic sites were delineated throughout the project area in accordance with criteria established in the 1987 Wetland Delineation Manual. In order to delineate a representative area as a wetland, the technical criteria for hydrophytic vegetation, hydric soil, and wetland hydrology, as described in the 1987 Wetland Manual, must be satisfied. The indicator status of vegetation was derived from the National List of Plant Species that Occur in Wetlands: Northwest Region 9 (Reed 1988). A Routine Level-2 On-site Determination Method (Environmental Laboratory 1987) was used to delineate wetland areas within the project boundaries. The information was recorded electronically on the Wetland Data Form (Appendix B).

Consultation with the USACE determined that the 1987 manual should continue to be used at this site where baseline wetland conditions had been established prior to 2008. The use of the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (USACE 2010b) was not required.

The wetland boundary was determined in the field based on changes in plant communities and/or hydrology, and changes in soil characteristics. Topographic relief boundaries within the project area were also examined and cross referenced with soil and vegetation communities as supportive information for this delineation. Vegetation composition, soil characteristics, and hydrology were assessed at likely wetland and adjacent upland locations. If all three parameters met the criteria, the area was designated as wetland and mapped by vegetation community type. If any one of the parameters did not exhibit positive wetland indicators, the area was determined to be upland unless the site was classified as an atypical situation, potential problem area for vegetation, soil or hydrology, or other special aquatic site, i.e., mudflat. The wetland boundaries were identified on the 2011 aerial photograph. Wetland areas were estimated using geographic information system (GIS) methodology.

2.5. Wildlife

Direct observations of mammal, reptile, amphibian, and bird species were recorded on the mitigation monitoring form during the site visit. Indirect use indicators, including tracks, scat, burrow, eggshells, skins, and bones were also recorded (Appendix B). Direct sampling methods, such as snap, live, and pitfall



traps were not used. A comprehensive animal species list collected from 2007 through 2011 was compiled for the report (Section 3.5).

2.6. Functional Assessment

Pre-construction, 2007, 2008, 2010, and 2011 wetland conditions were assessed using the 1999 MDT MWAM. Field data for this assessment were collected during the site visit. A Wetland Assessment Form was completed for each wetland or group of wetlands called Assessment Areas (AA) (Appendix B).

2.7. Channel Cross-Sections

Two permanent cross-sections established in 2007 were monitored in 2008, 2010, and 2011. The cross-sections were located near the north and south ends of the project area along Woodson Creek (Figure 2, Appendix A).

2.8. Streambank Erosion Pins

Streambank erosion pins were installed in 2007 at two locations. Smooth, 4-foot long, 1/4 inch steel bars were pounded horizontally into streambanks at the outside of meander bends where high bank erosion rates were expected. The pins were located at the upstream and downstream ends of the stream channel. The lengths of the pins protruding from the bank were measured each year. Any remaining protrusions were measured.

2.9. Photo Documentation

Monitoring at photo points provided supplemental information documenting wetland, upland, and vegetation transect conditions, site trends, and current land uses surrounding the site. Photographs were taken at established photo points throughout the mitigation site and at transect end points (Appendix C). Photo point locations were recorded with a resource grade GPS unit (Figure 2, Appendix A).

2.10. **GPS Data**

Site features and survey points were collected with a resource grade Thales Pro Mark III GPS unit during the 2011 monitoring season. Points were collected using WAAS-enabled differential corrected satellites, typically improving resolution to sub-meter accuracy. The collected data were then transferred to a personal computer, imported into GIS, and drawn in Montana State Plane Single Zone NAD 83 meters. In addition to GPS, some site features within the site were hand-mapped onto the 2011 aerial photograph and then digitized. Site features and survey points that were mapped included fence boundaries, photograph points, transect endpoints, wetland boundaries, and vegetation community boundaries.

2.11. Maintenance Needs

Channels, engineered structures, fencing, and other features were examined during the site visit for obvious signs of breaching, damage, or other problems. This was a cursory examination and did not constitute an engineering-level structural inspection.



3. RESULTS

3.1. Hydrology

The average total annual precipitation at the White Sulphur Springs 2 station recorded from December 1978 to December 2010 was 12.82 inches(WRCC 2011). The average precipitation rate in 2010 was 15.12 inches. The average precipitation in 2010 was 2.3 inches greater than the 32 year average. Cumulative precipitation for January to June 2010 and 2011 was 7.32, and 7.82 inches(NCDC 2011), respectively.

Surface water from Woodson Creek and Sixteen Mile Creek and groundwater are the primary sources of wetland hydrology at the site. The groundwater monitoring wells were installed and monitored in spring 2008 (Table 1). The Sixteen-mile Ditch was cleaned in fall 2007, resulting in decreased seepage from the ditch to the west parcel.

Groundwater levels were measured in 2011 with a Solinst Water Level Meter. The 2008 through 2011 data are presented in Table 1. Groundwater depths in MW-1 and MW-2 were 2.80 feet bgs, which were 2.8 feet and 2.28 feet deeper, respectively than levels measured in 2010. The groundwater depth in MW-4 was 2.2 feet bgs in 2011, approximately 1.88 feet lower than the level recorded in 2010. Wells MW-3, MW-5, and MW-6 were dry in 2011. Groundwater levels measured in 2011 reflected the general decrease in inundation levels observed in site wetlands during the site visit.

Table 1. Groundwater depths measured below the ground surface (bgs) from July 2008 to July 2011 at the Woodson Creek Wetland Mitigation Site.

Well Number	2008 Depth (ft.) bgs	2010 Depth (ft.) bgs	2011 Depth (ft.) bgs
MW-1	-0.02	0	2.80
MW-2	0.53	0.52	2.80
MW-3	0.48	0.45	Dry
MW-4	0.30	0.32	2.20
MW-5	0.68	0.71	Dry
MW-6	1.95	2.10	Dry

Approximately 15 percent of the site was inundated in 2011. The average surface water depth across the site was estimated at 2.0 feet with a range in depths of 0.0 to 4.0 feet. The surface water depth at the emergent vegetation and open water boundary was approximately 1.0 foot. The levee of the irrigation canal located at the northwest end of the site was breached between the 2010 and 2011 site visits. A photo of the canal breach is shown on page C-11 of Appendix C. This breach has allowed all irrigation flow from canal to enter into the northwest portion of the mitigation site, substantially increasing the area of



inundation in this area. It did not appear this breach affected hydrology in any other portion of the site. If this breach goes unrepaired, it would be likely that substantially more wetlands would develop in the northwest portion of this site. The large depression wetland west of the breach was flooded during the 2011 site visit. Many of the areas near Woodson Creek and the east parcel that were inundated in 2010 were dry in July 2011.

Data points WC-1 through WC-4 were established to determine the wetland/upland boundary (Figure 2, Appendix A, and Wetland Data Forms, Appendix B). Data points WC-2 and WC-4 were located in areas that met the wetland criteria. Saturation was present at 7 inches bgs at WC-2. The apparent water table was observed at 9 inches bgs. Data point WC-4 exhibited saturation at 10 inches bgs and a water table at 11 inches bgs. Secondary indicators at WC-4 included water-stained leaves, local soil survey data, and the FAC-Neutral test. There were no positive indicators of wetland hydrology at WC-1 and WC-3.

3.2. Vegetation

One hundred and seven vegetation species identified on the site in 2007, 2008, 2010, 2011 are presented in Table 2 and on the monitoring form (Appendix B). Eight vegetation communities were identified in 2011 (Figure 3, Appendix A), Community Type 1 — *Alopecurus arundinaceus*/Mixed graminoids Wetland, Community Type 3 — *Alopecurus arundinaceus* Wetland, Community Type 4 — *Poa pratensis/Bromus inermis* Upland, Community Type 5 — Aquatic Macrophytes Wetland, Community Type 7 — *Carex utriculata/Phalaris arundinaceus* Wetland, Community Type 8 — *Bromus inermis/Alopecurus arundinaceus* Upland, Community Type 9 — *Alopecurus arundinaceus/Juncus balticus* Wetland, and Community Type 10 — *Eleocharis palustris*/Mixed graminoids Wetland. Woodson Creek is identified as Type 11 on Figure 3 (Appendix A).

Wetland community Type 1 — *Alopecurus arundinaceus*/Mixed graminoids was originally identified as a community in 2008. This community is the largest on the site (43 acres) and encompasses the majority of Woodson Creek and adjacent riverine wetlands. The vegetation is dominated by creeping foxtail (*Alopecurus arundinaceus*), and Baltic rush (*Juncus balticus*), with one to five percent cover individually of common yarrow (*Achillea millefolium*), Canada thistle, Canada bluegrass (*Poa compressa*), Western wheatgrass (*Agropyron smithii*), Western water hemlock (*Cicuta douglasii*), foxtail barley (*Hordeum jubatum*), reed canary grass (*Phalaris arundinaceus*), buttercup species (*Ranunculus* sp.), and seaside arrowgrass (*Triglochin palustre*).

Wetland Type 3 – *Alopecurus arundinaceus* was located near the northwest and northeast borders of the site. The community was less diverse than Type 1 and was dominated by creeping foxtail. Creeping spikerush (*Eleocharis palustris*) and American sloughgrass (*Beckmannia syzigachne*) were present at cover classes of 6 to 10 percent and 1 to 5 percent, respectively.



Upland community Type 4 – *Poa pratensis/Bromus inermis* was identified in several upland islands in the north half of the site. The dominant species were Kentucky bluegrass, smooth brome, Canada thistle, white clover (*Trifolium repens*), redtop (*Agrostis stolonifera*), and creeping foxtail.

Wetland Type 5 – Aquatic Macrophytes characterized the small, inundated depressions located adjacent to the Woodson Creek corridor. The wetland type was classified as an aquatic bed community in 2011 generally defined as a wetland vegetation class dominated by plants "that grow principally on or below the surface of the water for most of the growing season in almost all years" (Cowardin et al. 1979). The Montana Natural Heritage Program (MTNHP) website further defines the Palustrine Aquatic Bed Class (PAB) as having aquatic plants at greater than 30 percent cover and water depths of greater than 0.5 meter (and less than 2 meters) (MTNHP 2011). Long-beak water butter-cup (*Ranunculus longirostris*), water nymph (*Najas* sp.), water milfoil (*Myriophyllum* sp.), and green algae dominated the aquatic community.

Wetland Type 7 – Carex utriculata/Phalaris arundinaceus was found in an abandoned meander of the Sixteen Mile canal located in the southwest corner of the site. Beaked sedge (Carex utriculata), reed canary grass, Nebraska sedge (Carex nebrascensis), common mint (Mentha arvensis), curly dock (Rumex crispus), creeping spikerush, and seaside arrow-grass dominated the herbaceous cover.

Upland Type 8 – *Bromus inermis/Alopecurus arundinaceus* was located within several isolated areas along the outside perimeter of the mitigation site. The predominant species included smooth brome, creeping foxtail, common yarrow, Baltic rush, and Kentucky bluegrass.

Wetland Type 9 – *Alopecurus arundinaceus/Juncus balticus* was a large (10.54 acres) vegetation community located adjacent to Woodson Creek and in the southeast portion of the site. The herbaceous cover included creeping foxtail, Baltic rush, common yarrow, beaked sedge, Canada bluegrass, small-fruit bulrush (*Scirpus microcarpus*), seaside arrowgrass, Nebraska sedge, reed canary grass, fowl bluegrass, silverweed (*Potentilla anserina*), and common dandelion (*Taraxacum officinale*).

Wetland Type 10 – *Eleocharis palustris*/Mixed graminoids characterized depressions that were ponded in 2010 and dry in 2011. Approximately 21 to 50 percent of the mapped community was bare ground. Creeping spikerush, creeping foxtail, American sloughgrass, American mannagrass (*Glyceria grandis*), water milfoil, long beak water butter-cup, bluejoint reedgrass (*Calamagrostis canadensis*), Baltic rush, and reed canary grass dominated the vegetation cover.



Table 2. Comprehensive list of vegetation species identified in 2007, 2008, 2010, and 2011 for the Woodson Creek Wetland Mitigation Site.

Cajantifia Nama	Common Nama	Region 9 Indicator
Scientific Name	Common Name	Status ¹
Achillea millefolium	yarrow,common	FACU
Agropyron cristatum	crested wheatgrass	NL
Agropyron repens	quackgrass	FACU
Agropyron smithii	wheatgrass,western	FACU
Agrostis alba	redtop	FACW
Agrostis exarata	bentgrass,spike	FACW
Agrostis stolonifera	bentgrass,spreading	FAC+
Algae, green	algae, green	NL
Alopecurus aequalis	foxtail,short-awn	OBL
Alopecurus arundinaceus	foxtail,creeping	NI
Aquatic Macrophytes		NL
Aster sp. (purple)		NL
Aster sp. (yellow)		NL
Beckmannia syzigachne	sloughgrass,American	OBL
Bromus inermis	smooth brome	NL
Calamagrostis canadensis	reedgrass,blue-joint	FACW+
Carduus nutans	musk thistle	NL
Carex aquatilis	sedge,water	OBL
Carex lanuginosa	sedge,woolly	OBL
Carex lasiocarpa	sedge,woolly-fruit	OBL
Carex nebrascensis	sedge,Nebraska	OBL
Carex praegracilis	sedge,clustered field	FACW
Carex utriculata*	beaked sedge	OBL
Chenopodium album	goosefoot,white	FAC
Cicuta douglasii	water-hemlock,western	OBL
Cirsium arvense	thistle,Canada	FACU+
Cirsium vulgare	thistle,bull	FACU
Cynoglossum officinale	gypsy-flower	NL
Deschampsia cespitosa	hairgrass,tufted	FACW
Descurainia sophia	common tansymustard	NL
Distichlis spicata	saltgrass,seashore	FAC+
Dodecatheon pulchellum	shooting-star,few-flower	FACW
Eleocharis palustris	spikerush,creeping	OBL
Elymus trachycaulus	slender wheatgrass	NL
Epilobium sp.		NL
Equisetum arvense	horsetail,field	FAC
Equisetum hyemale	horsetail,rough	FACW
Galium aparine	bedstraw,catchweed	FACU
Glyceria grandis	American mannagrass	NL
Glycyrrhiza lepidota	licorice,American	FAC+
Grindelia squarrosa	gumweed,curly-cup	FACU
Halogeton glomeratus	saltlover	NL
Helianthus annuus	sunflower,common	FACU+
Hieracium sp.		NL

¹Region 9 (Northwest) (Reed 1988).



New species identified in 2011 are listed in bold type.

^{*}Commonly accepted name not included on 1988 list.

Table 2 (Continued). Comprehensive list of vegetation species identified in 2007, 2008, 2010, and 2011 for the Woodson Creek Wetland Mitigation Site.

		Region 9 Indicator		
Scientific Name	Common Name	Status ¹		
Hordeum jubatum	barley,fox-tail	FAC+		
Iris missouriensis	iris,Rocky Mountain	FACW+		
Juncus balticus	rush,Baltic	OBL		
Juncus effusus	rush,soft	FACW+		
Juncus filiformis	rush,thread	FACW+		
Lactuca serriola	lettuce,prickly	FAC-		
Melilotus officinalis	sweetclover,yellow	FACU		
Mentha arvensis	mint,field	FAC		
Muhlenbergia richardsonis	muhly,mat	FACW		
Myriophyllum sp.	watermilfoil	NL		
Najas sp.		NI		
Panicum virgatum	switchgrass	FAC+		
Penstemon laricifolius	larch-leaf beardtongue	NL		
Phalaris arundinacea	grass,reed canary	FACW		
Phleum alpinum	timothy,alpine	FAC		
Phleum pratense	timothy	FACU		
Plantago major	plantain,common	FAC+		
Poa compressa	bluegrass,Canada	FACU		
Poa palustris	bluegrass,fowl	FAC		
Poa pratensis	bluegrass,Kentucky	FACU+		
Polygonum amphibium	smartweed,water	OBL		
Polygonum pensylvanicum	smartweed,Pennsylvania	FACW		
Potentilla anserina	silverweed	OBL		
Potentilla fruticosa	cinquefoil,shrubby	FAC-		
Potentilla sp.		NL		
Puccinellia nuttalliana	grass, Nuttall's alkali	OBL		
Ranunculus gmelinii	butter-cup,small yellow water	FACW		
Ranunculus longirostris	butter-cup,long-beak water	OBL		
Ranunculus sp.		NI		
Rumex crispus	dock,curly	FACW		
Salix exigua	willow,sandbar	OBL		
Salix sp.		NL		
Salsola kali	thistle,Russian	FACU		
Scirpus acutus	bulrush,hard-stem	OBL		
Scirpus microcarpus	bulrush,small-fruit	OBL		
Scirpus pallidus	bulrush,cloaked	OBL		
Scutellaria lateriflora	skullcap,blue	FACW+		
Sisyrinchium montanum	blue-eye-grass,strict	NI		
Solidago canadensis	golden-rod,Canada	FACU		
Solidago sp.		NL		
Sonchus arvensis	sowthistle,field	FACU+		
Sporobolus cryptandrus	dropseed,sand	FACU		

¹Region 9 (Northwest) (Reed 1988). New species identified in 2011 are listed in **bold** type.



Table 2 (Continued). Comprehensive list of vegetation species identified in 2007, 2008, 2010, and 2011 for the Woodson Creek Wetland Mitigation Site.

Scientific Name	Common Name	Region 9 Indicator Status ¹
Taraxacum officinale	dandelion,common	FACU
Thlaspi arvense	penny-cress,field	NI
Trifolium longipes	clover,long-stalk	FAC-
Trifolium pratense	clover,red	FACU
Trifolium repens	clover,white	FACU+
Triglochin maritimum	arrow-grass,seaside	OBL
Triglochin palustre	arrow-grass,marsh	OBL
Triglochin sp.		NL
Typha latifolia	cattail,broad-leaf	OBL
Valeriana edulis	valerian,edible	FAC
Vicia sativa	vetch,common	UPL

¹Region 9 (Northwest) (Reed 1988).

New species identified in 2011 are listed in **bold** type.

Transect 1 was located in the northeast corner of the site. The transect data is summarized on Table 3 and Charts 1 and 2 and on the Monitoring Form (Appendix B). Photos at the transect end points are shown in Appendix C. The transect intersected wetland community Type 5 Aquatic Macrophytes, Type 9 Alopecurus/Juncus, and the open water within the ordinary high water mark (OHWM) of Woodson Creek. The transect communities transitioned from Type 1 in 2010 to Type 9 in 2011 reflecting an increase in the number and extent of obligate and facultative wet wetland species on Transect 1. Hydrophytic plants dominated 99 percent of the vegetated transect intervals and open water occupied the remaining one percent.

Table 3. Data summary of Transect 1 for 2007, 2008, 2010, and 2011.

Monitoring Year	2007	2008	2010	2011
Transect Length (feet)	526	526	526	526
Vegetation Community Transitions along Transect	2	4	7	4
Vegetation Communities along Transect	3	3	2	2
Hydrophytic Vegetation Communities along Transect	3	3	2	2
Total Vegetative Species	31	20	22	18
Total Hydrophytic Species	20	18	15	13
Total Upland Species	11	2	7	5
Estimated % Total Vegetative Cover	90	90	90	90
% Transect Length Comprising Hydrophytic Vegetation Communities	100*	100*	88	99
% Transect Length Comprising Upland Vegetation Communities	0	0	0	0
% Transect Length Comprising Unvegetated Open Water	6*	6*	12	1
% Transect Length Comprising Bare Substrate	0	0	0	0

^{*}Values as presented in 2008 monitoring report



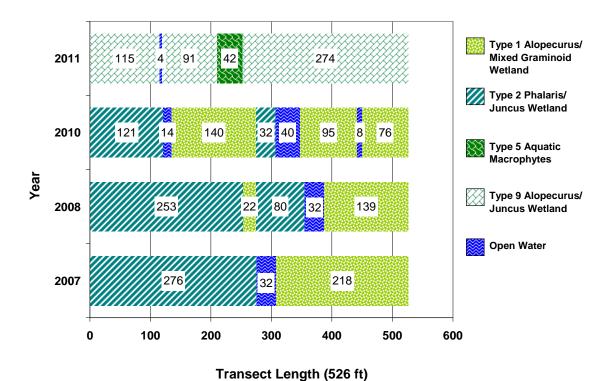


Chart 1. Transect map of vegetation communities from start (0 feet) to finish (526 feet) of Transect 1 for 2007, 2008, 2010, and 2011.

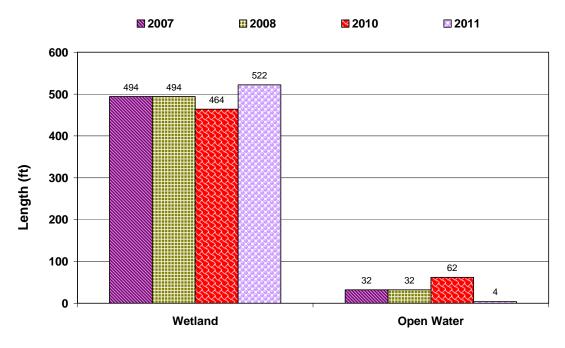


Chart 2. Length of habitat types within Transect 1 for 2007, 2008, 2010, and 2011.

Habitat Type



The data from Transect 2 is summarized in Table 4 and graphed in Charts 3 and 4. Photos taken at the transect endpoints are shown in Appendix C. The transect was located near the center of the site in Woodson Creek East and intersected Type 1 and Type 10 wetland communities. The first interval of the transect (approximately 200 feet long) transitioned from Type 1 creeping foxtail/mixed graminoids in 2010 to Type 10 creeping spikerush/mixed graminoids in 2011. One hundred percent of the transect was dominated by hydrophytic plant species.

Table 4. Data summary of Transect 2 for 2007, 2008, 2010, and 2011.

Monitoring Year	2007	2008	2010	2011
Transect Length (feet)		583	583	583
Vegetation Community Transitions along Transect	0	2	2	1
Vegetation Communities along Transect	1	2	2	2
Hydrophytic Vegetation Communities along Transect	1	2	2	2
Total Vegetative Species	17	13	15	10
Total Hydrophytic Species	14*	11	12	8
Total Upland Species	2	2	3	2
Estimated % Total Vegetative Cover	95	90	90	90
% Transect Length Comprising Hydrophytic Vegetation Communities	100	100	100	100
% Transect Length Comprising Upland Vegetation Communities	0	0	0	0
% Transect Length Comprising Unvegetated Open Water	2	0	0	0
% Transect Length Comprising Bare Substrate	0	0	0	0

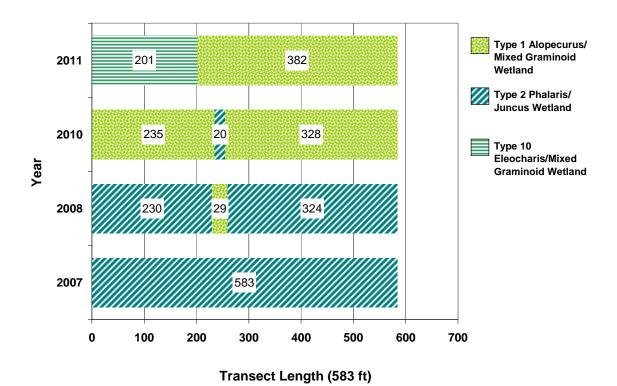
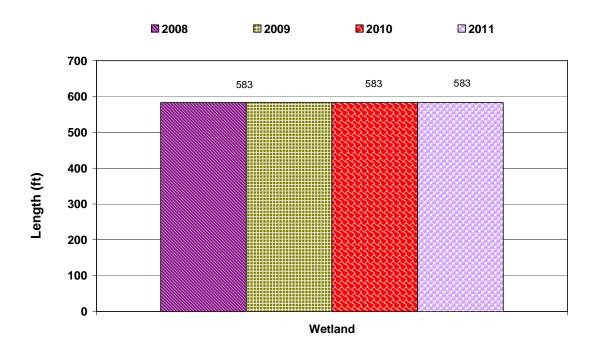


Chart 3. Transect map of vegetation communities from start (0 feet) to finish (583 feet) of Transect 2 for 2007, 2008, 2010, and 2011.



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Habitat Type

Chart 4. Length of habitat types within Transect 2 for 2007, 2008, 2010, and 2011.

Table 5 and Charts 5 and 6 present the data collected on Transect 3. Photographs of the transect endpoints are shown in Appendix C. One wetland community located in the northwest corner of the site where a monoculture of creeping foxtail persists dominated the entire length of Transect 3. Hydrophytic species dominated 100 percent of the transect.

Table 5. Data summary of Transect 3 for 2007, 2008, 2010, and 2011.

Monitoring Year	2007	2008	2010	2011
Transect Length (feet)	378	378	353	353
Vegetation Community Transitions along Transect	0	0	0	0
Vegetation Communities along Transect	1	1	1	1
Hydrophytic Vegetation Communities along Transect	1	1	1	1
Total Vegetative Species	3	3	4	3
Total Hydrophytic Species	2	3	3	2
Total Upland Species	1	0	1	1
Estimated % Total Vegetative Cover	80	90	90	90
% Transect Length Comprising Hydrophytic Vegetation Communities	100	100	100	100
% Transect Length Comprising Upland Vegetation Communities	0	0	0	0
% Transect Length Comprising Unvegetated Open Water	0	0	0	0
% Transect Length Comprising Bare Substrate	0	0	0	0



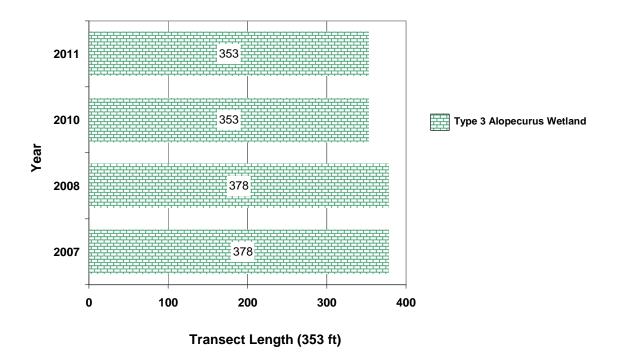
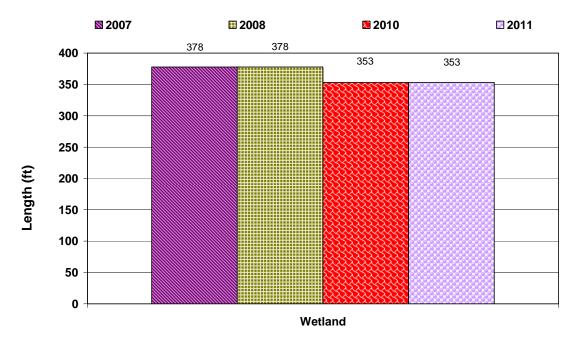


Chart 5. Transect map of vegetation communities from start (0 feet) to finish (353 feet) of Transect 3 for 2007, 2008, 2010, and 2011.



Habitat Type

Chart 6. Length of habitat types within Transect 3 for 2007, 2008, 2010, and 2011.



Ten infestations of Canada thistle (*Cirsium arvense*) were mapped within the site boundaries in 2011 (Figure 3, Appendix A). The size of the infestations ranged from less than 0.1 acre to 1.0 acre with cover classes ranging from trace (less than 1.0 percent cover) to high (25.0 percent to 100.0 percent cover). The percent cover of Canada thistle increased site wide from 2010 to 2011. The site was not sprayed in 2011.

A total of 69 planted willow cuttings were observed in 2007. A thick cover of creeping foxtail obscured many of the plants. Two willow species, sandbar and a second unidentified willow, were observed. The condition of the cuttings in 2008 was poor. Sixty-eight percent (47 cuttings) survived to 2008. Ten willow stems in poor condition and twelve green stems with leaves were observed in 2010. Eleven live willow cuttings exhibited moderate vigor in 2011. The cuttings had been heavily browsed by wildlife.

3.3. Soil

Soil survey data for Meagher County identified three primary map units within the mitigation area boundaries, the Fairway series (2A), the Soapcreek-Fairway series (3A), and the Typic Fluvaquents-Fluvaquentic Haplaquolls, 0 to 4 percent slopes (501B). The Fairway and Soapcreek series are somewhat poorly drained soils formed in alluvium. The taxonomic class for both is a frigid Fluvaquentic Haplustolls. The three soil map units are hydric. The soil data observed within the test pits except for WC-3 generally confirmed the mapped soil unit.

The soil profile at WC-1 revealed a very dark gray (10YR 3/1) clay loam with redoximorphic depletions (10YR 5/2) in the matrix. The low chroma was a positive indicator for a hydric soil. The soil profile at WC-2 was a very dark gray silty clay (3/N). The subsoil was saturated making it difficult to clarify the soil color. A hydrogen sulfide odor was detected. The low chroma and odor were hydric soil indicators. The soil at WC-3 revealed a very dark brown (10YR 4/2) clay loam without redoximorphic features. The mapped type was not confirmed although the taxonomy classified it a hydric soil. The profile at WC-4 exhibited a very dark gray silty clay loam (10YR 3/1) with redox concentrations (10 YR 4/4) in the matrix. The low chroma color and redox features were positive indicators of hydric soil.

3.4. Wetland Delineation

The wetland boundaries delineated in 2011 are illustrated on Figure 3 (Appendix A). The Wetland Data Forms are included in Appendix B. Wetland acreages delineated in 2004 (baseline), 2007, 2008, 2010, and 2011 are summarized in Table 6. The total area of aquatic habitat delineated in 2011, which includes wetlands and open water associated with Woodson Creek, was 69.64 acres. The isolated, inundated depressions characterized by Type 5 were classified as aquatic bed wetland habitat in 2011. There was an increase in total wetland acreage of 3.83 acres from 2010 to 2011. The increase in wetland acreage was primarily due to the reclassification of open water areas to aquatic macrophytes



in 2011 and an increase of wetland acreage in the west parcel where a breach in the canal inundated the area between 2010 and 2011.

Table 6. Summary of open water and wetland acreages delineated at the Woodson Creek Wetland Mitigation Site in 2004, 2007, 2008, 2010, and 2011.

Total Wetland and Open Water Area	2004 Pre-mitigation	2007	2008	2010	2011
Open Water (acres)	0.00	2.55	2.73	2.56	0.67*
Wetland/Aquatic Bed (acres)	57.48	61.86	59.02	65.14	68.97
Total Aquatic Habitat (acres)	57.48	64.42	61.75	67.70	69.64

^{*}Open water within the OHWM of Woodson Creek.

3.5. Wildlife

A comprehensive list of bird and wildlife species observed directly and indirectly on the site from 2007 to 2011 is presented in Table 7 (Monitoring Form, Appendix B). Twelve bird species identified in 2011 are listed in Table 7 in bold type. A deer mouse and water vole were observed directly and the tracks of muskrat, raccoon, and striped skunk were noted in 2011.

Table 7. Wildlife species observed at the Woodson Creek Wetland Mitigation Site from 2007 to 2011.

COMMON NAME	SCIENTIFIC NAME
AMPI	IIBIAN
Columbia Spotted Frog	Rana luteiventris
Western Toad	Bufo boreas
BI	RD
American Avocet	Recurvirostra americana
American Kestrel	Falco sparverius
American White Pelican	Pelecanus erythrorhynchos
American Wigeon	Anas americana
Bald Eagle	Haliaeetus leucocephalus
Bank Swallow	Riparia riparia
Barn Swallow	Hirundo rustica
Black-billed Magpie	Pica hudsonia
Blue-winged Teal	Anas discors
Brewer's Blackbird	Euphagus cyanocephalus
Canada Goose	Branta canadensis
Cassin's Finch	Carpodacus cassinii
Cinnamon Teal	Anas cyanoptera
Cliff Swallow	Petrochelidon pyrrhonota
Common Nighthawk	Chordeiles minor
Double-crested Cormorant	Phalacrocorax auritus
Eastern Kingbird	Tyrannus tyrannus
Gadwall	Anas strepera
Golden Eagle	Aquila chrysaetos
Gray Catbird	Dumetella carolinensis
Great Blue Heron	Ardea herodias

Species identified in 2011 are listed in **bold** type.



Table 7 (Continued). Wildlife species observed at the Woodson Creek Wetland Mitigation Site from 2007 to 2011.

COMMON NAME	SCIENTIFIC NAME		
BIRD			
Great Horned Owl	Bubo virginianus		
Green-winged Teal	Anas crecca		
Killdeer	Charadrius vociferus		
Lesser Scaup	Aythya affinis		
Long-billed Curlew	Numenius americanus		
Mallard	Anas platyrhynchos		
Northern Harrier	Circus cyaneus		
Northern Pintail	Anas acuta		
Northern Shoveler	Anas clypeata		
Red-tailed Hawk	Buteo jamaicensis		
Red-winged Blackbird	Agelaius phoeniceus		
Ring-necked Pheasant	Phasianus colchicus		
Rock Pigeon	Columba livia		
Sandhill Crane	Grus canadensis		
Savannah Sparrow	Passerculus sandwichensis		
Sora	Porzana carolina		
Spotted Sandpiper	Actitis macularius		
Swainson's Hawk	Buteo swainsoni		
Tundra Swan	Cygnus columbianus		
Willet	Tringa semipalmata		
Wilson's Phalarope	Phalaropus tricolor		
Wilson's Snipe	Gallinago delicata		
Yellow-headed Blackbird	Xanthocephalus xanthocephalus		
MAN	/MAL		
American Mink	Mustela vison		
Black-tailed Jack Rabbit	Lepus californicus		
Bobcat	Lynx rufus		
Coyote	Canis latrans		
Deer Mouse	Peromyscus maniculatus		
Dusky or Montane Shrew	Sorex monticolus		
Meadow Vole	Microtus pennsylvanicus		
Moose	Alces americanus		
Mule Deer	Odocoileus hemionus		
Muskrat	Ondatra zibethicus		
Porcupine	Erethizon dorsatum		
Pronghorn	Antilocapra americana		

Species identified in 2011 are listed in **bold** type.



Table 7 (Continued). Wildlife species observed at the Woodson Creek Wetland Mitigation Site from 2007 to 2011.

COMMON NAME	SCIENTIFIC NAME					
MAMMAL						
Raccoon	Procyon lotor					
Red Fox	Vulpes vulpes					
Striped Skunk Mephitis mephitis						
Water Vole	Microtus richardsoni					
White-tailed Deer	Odocoileus virginianus					
REPTILE						
Common Gartersnake	Thamnophis sirtalis					
FISH						
Brook Trout	Salvelinus fontinalis					

Species identified in 2011 are listed in **bold** type.

3.6. Functional Assessment

Functional assessment forms were completed for the project wetlands in 2011 using the 1999 MDT MWAM (Appendix B). The baseline assessment was completed in 2005. Functional assessment results for 2005, 2008, 2010, and 2011 are summarized in Table 8. The mitigation site was separated into three AAs, Woodson Creek Floodplain, Woodson Creek East Parcel, and Woodson Creek West Parcel.

The 2011 functional assessments rated the restored Woodson Creek floodplain (29.19 acres), the rehabilitated west parcel (9.18 acres), and the reestablished east parcel (31.27 acres) as Category II wetlands, primarily the result of high ratings for MTNHP species habitat. The restored Woodson Creek floodplain received 70.83 percent of the possible points and high ratings for MTNHP species habitat, general wildlife habitat, short and long term surface water storage, sediment/nutrient/ toxicant removal, streambank/shoreline stabilization, production export/food chain support, and groundwater discharge and recharge. The West parcel received 58.75 percent of the total possible points and high ratings for MTNHP species habitat, general wildlife habitat, short and long term water storage. sediment/nutrient/toxicant removal. and groundwater discharge/recharge. The water regime for the West parcel was classified as seasonal/intermittent (S/I) in 2011 versus permanent/perennial (P/P) in 2010 based on field observations and an analysis of the 2011 aerial photograph. The East parcel was rated with 61.82 percent of the total possible and high ratings for sediment/nutrient/toxicant **MTNHP** habitat. species streambank/shoreline stabilization, production export/food chain support, and groundwater discharge and recharge functions. The percent of possible score for the East parcel decreased as a result of the duration of water from P/P to S/I in 2011. There was a net wetland acreage gain of 7.89 acres and a functional unit gain of 378.40 since the 2005 baseline for the Woodson mitigation site.



Table 8. Summary of 2005, 2007, 2008, 2010, and 2011 wetland function/value ratings and functional points at the Woodson Creek Wetland Mitigation Site.

	2005 Baseline		2008			2010			2011		
Function and Value Parameters from the 1999 MDT Montana Wetland Assessment Method ¹	Woodson Floodplain	East & West Parcel	Woodson Creek Floodplain	East Parcel	West Parcel	Woodson Creek Floodplain	East Parcel	West Parcel	Woodson Creek Floodplain	East Parcel	West Parcel
Listed/Proposed T&E Species Habitat	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)
MNHP Species Habitat	Low (0.1)	Low (0.1)	High (1.0)	High (1.0)	Mod (0.6)	High (1.0)	High (1.0)	Mod (0.6)	High (1.0)	High (1.0)	High (1.0)
General Wildlife Habitat	Low (0.3)	Low (0.3)	High (0.9)	Mod (0.7)	Mod (0.7)	High (0.9)	Mod (0.7)	Mod (0.7)	High (0.9)	Mod (0.5)	High (0.9)
General Fish/Aquatic Habitat	Low (0.3)	NA	Mod (0.6)	NA	NA	Mod (0.6)	NA	NA	Mod (0.6)	NA	NA
Flood Attenuation	Low (0.1)	NA	Mod (0.6)	NA	NA	Mod (0.6)	Mod (0.4)	NA	Mod (0.6)	Mod (0.5)	NA
Short and Long Term Surface Water Storage	Low (0.3)	NA	High (1.0)	High (0.8)	Low (0.3)	High (1.0)	High (0.8)	Low (0.6)	High (1.0)	Mod (0.6)	High (0.8)
Sediment/Nutrient/Toxicant Removal	Mod (0.6)	Mod (0.7)	High (1.0)	High (1.0)	High (1.0)	High (1.0)	High (1.0)	High (1.0)	High (1.0)	High (1.0)	High (1.0)
Sediment/Shoreline Stabilization	Mod (0.7)	NA	High (1.0)	NA	NA	High (1.0)	High (1.0)	NA	High (1.0)	High (0.9)	NA
Production Export/Food Chain Support	Mod (0.4)	Mod (0.7)	High (0.9)	High (0.9)	Mod (0.6)	High (0.9)	High (0.9)	Mod (0.6)	High (0.9)	High (0.8)	Mod (0.7)
Groundwater Discharge/Recharge	High (1.0)	Low (0.1)	Mod (1.0)	Mod (1.0)	High (1.0)	High (1.0)	High (1.0)	High (1.0)	High (1.0)	High (1.0)	High (1.0)
Uniqueness	Low (0.2)	Low (0.2)	Low (0.2)	Low (0.2)	Low (0.3)	Low (0.2)	Low (0.2)	Low (0.3)	Low (0.2)	Low (0.2)	Low (0.3)
Recreation/Education Potential	Low (0.1)	Low (0.1)	Low (0.1)	Low (0.1)	Low (0.1)	Low (0.3)	Low (0.3)	Mod (0.7)	Low (0.3)	Low (0.3)	Mod (0.7)
Actual Points / Possible Points	4.1/12	2.2/8	8.3/12	5.7 / 9	4.6 / 9	8.5 / 12	7.3 / 11	5.5 / 9	8.5 / 12	6.8 / 11	6.4/9
% of Possible Score Achieved	34.0	27.5	69	63	51	71	66	61	71	62	59
Overall Category	III	IV	II	П	Ш	II	II	III	II	П	II
Total Acreage of Assessed Aquatic Habitat within AA Boundaries	48	57.00	28.08	27.77	5.90	29.17	31.23	7.30	29.19	31.27	9.18
Functional Unit (acreage x actual points)	16.40	124.70	233.06	158.29	27.14	247.95	227.98	40.15	248.12	212.64	58.75
Net Acreage Gain (from baseline conditions)	NA	NA		4.27			5.95			7.89	
Net Functional Unit Gain (from baseline conditions)	NA	NA		277.39			374.97			378.40	

¹(Berglund 1999).



3.7. Channel Cross-Sections

Locations of the channel cross-sections are shown on Figure 2 (Appendix A) and photographs are shown on page C-10 of Appendix C. The 2007 and 2008, and 2010 and 2011 cross-sectional data are illustrated on Charts 7 through 10. Slight increases in channel depth and width were observed at both locations in 2007. The cause was unclear and assumed to be the result of minor adjustments in the channel geometry and settling of the banks. The channel conveyed substantially more water in 2008 than that observed in 2007. The estimated 2008 discharges at Cross-section 1 (XS-1) and Cross-section 2 (XS-2) were 7.4 cubic feet per second (cfs) and 11 cfs, respectively. The flow increase at cross-section 2 was attributed to return flows from upstream flooding and groundwater entering the site from seepage of the Sixteen Mile irrigation ditch located upgradient from cross-section 2.

The stream cross-section measured at both cross-sections in 2010 and 2011 showed little change in channel geometry. The depth and bankfull width adjustments were minimal at both cross-sections. The streambanks were well vegetated by species with high soil stability ratings, which contributed to the overall stability of the stream morphology. These species predominantly included creeping foxtail (stability class 6), creeping spikerush (6), and reed canary grass (9).

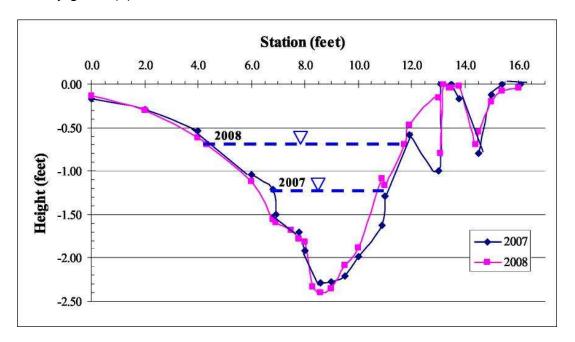


Chart 7.Survey data at XS-1 collected in 2007 and 2008.

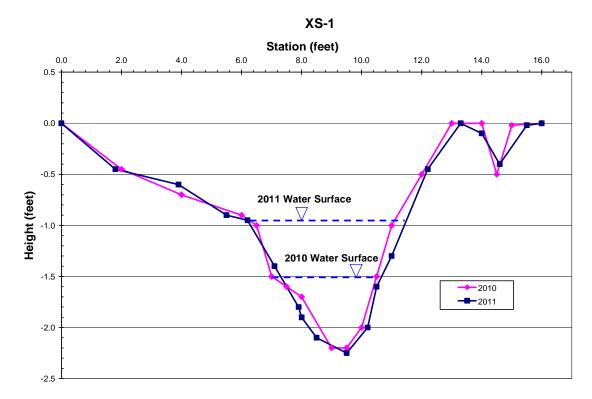


Chart 8. Survey data collected at XS 1 in 2010 and 2011.

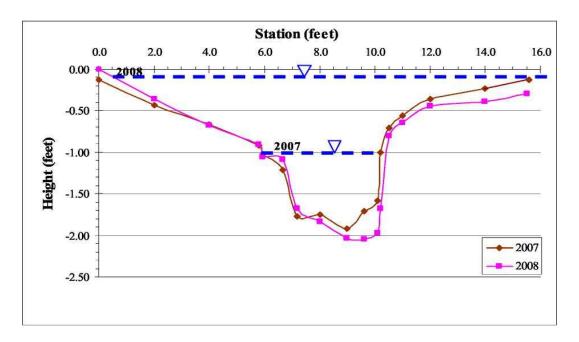


Chart 9. Survey data collected at XS 2 in 2007 and 2008.

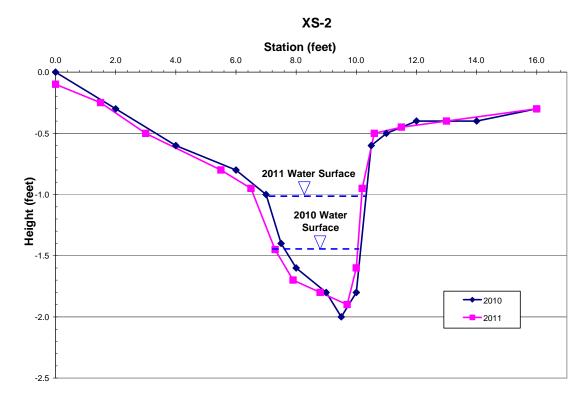


Chart 10. Survey data collected at XS 2 in 2010 and 2011.

3.8. Streambank Erosion Pins

Streambank erosion pins were installed at upstream and downstream locations along outside meanders in the channel following construction (Figure 2, Appendix A). The pins were installed after the majority of runoff had occurred in 2007. The downstream location was chosen specifically at an area that was exhibiting severe bank erosion. Additional bank erosion was observed at both locations in 2008, with an average erosion rate of 0.29 feet per year at the upper pin and 0.14 feet per year at the lower pin. A slight decrease in the level of erosion was observed at the upstream pin (Pin 1) in 2010 with 0.50 feet of erosion measured since 2008 or a rate of 0.25 feet/year. Streambank erosion at Pin 1 was minor in 2011 as shown on the photo presented on page C-10 of Appendix C. Minimal erosion was noted in 2010 and 2011 at the downstream pin (Pin 2), measuring 0.10 feet since 2008. The established root systems of plant species with high soil stability ratings have been integral in maintaining the overall bank stability as demonstrated by the cross-section data and in limiting the current streambank erosion to minor annual channel adjustments.

3.9. Photo Documentation

Representative photographs were taken from established photo points and transect ends (Appendix C). Photo points 1 through 4 taken in 2008, 2010, and 2011 are shown on pages C-1 to C-7. Photos of the transect end points taken in 2008, 2010, and 2011 are presented on pages C-8 to C-10 of Appendix C. Photos of the streambank erosion pins are shown on page C-10 of Appendix C.

Photos of the surveyed cross-sections are shown on page C-10. The data points are shown on page C-11.

3.10. Maintenance Needs

Ten infestations of Canada thistle (*Cirsium arvense*) were mapped within the site boundaries in 2011 (Figure 3, Appendix A). The size of the infestations ranged from less than 0.1 acre to 1.0 acre with cover classes ranging from trace (less than 1.0 percent cover) to high (25.0 percent to 100.0 percent cover). The percent cover of Canada thistle increased site wide from 2010 to 2011. The site was not sprayed by MDT in 2011. Spraying is recommended in 2012.

The irrigation return on the north edge of the site was breached between 2010 and 2011. The entire flow volume of the canal was diverted to the mitigation area and a majority of the west parcel was flooded in 2011. The area surrounding the breach is well vegetated and shows no signs of erosion. It is unclear if this is a maintenance need that needs to be addressed as the current condition of the canal does not adversely impact the existing wetlands and may eventually lead to the development of additional wetlands within the site.

3.11. Current Credit Summary

The Woodson Creek Mitigation Site originally encompassed seven different credit zones. The performance standards were amended by the USACE in 2010 as summarized in Section 1.0 (USACE 2010a). The 2010 credit summary used the AA acreages and assumed a 1:1 credit ratio for wetlands that received a Category II rating and a 1.5:1 credit ratio for wetlands that received a Category III rating (Table 9). Full credit has been assigned to all three AAs as a result of these areas achieving wetland category II in 2011. A total of 66.58 credit acres have been calculated for the Woodson Creek wetland mitigation site based on the 2011 monitoring results.

Table 9. Credit summary for the Woodson Creek Wetland Mitigation Site.

Credit Zone	Credit Category	2010 Credit Ratio	2010 Acres	2010 Credit Acres	2011 Acres	Wetland Category	2011 Credit Ratio	2011 Credit Acres
Woodson Creek Floodplain	Restoration (Re- establishment)	1:1	29.17	29.17	29.19	II	1:1	29.19
East Parcel	Re-establishment	1:1	31.23	31.23	31.27	II	1:1	31.27
West Parcel	Rehabilitation	1.5:1	7.3	4.87	9.18	II	1.5:1	6.12
Total			67.70	65.27	69.64			66.58

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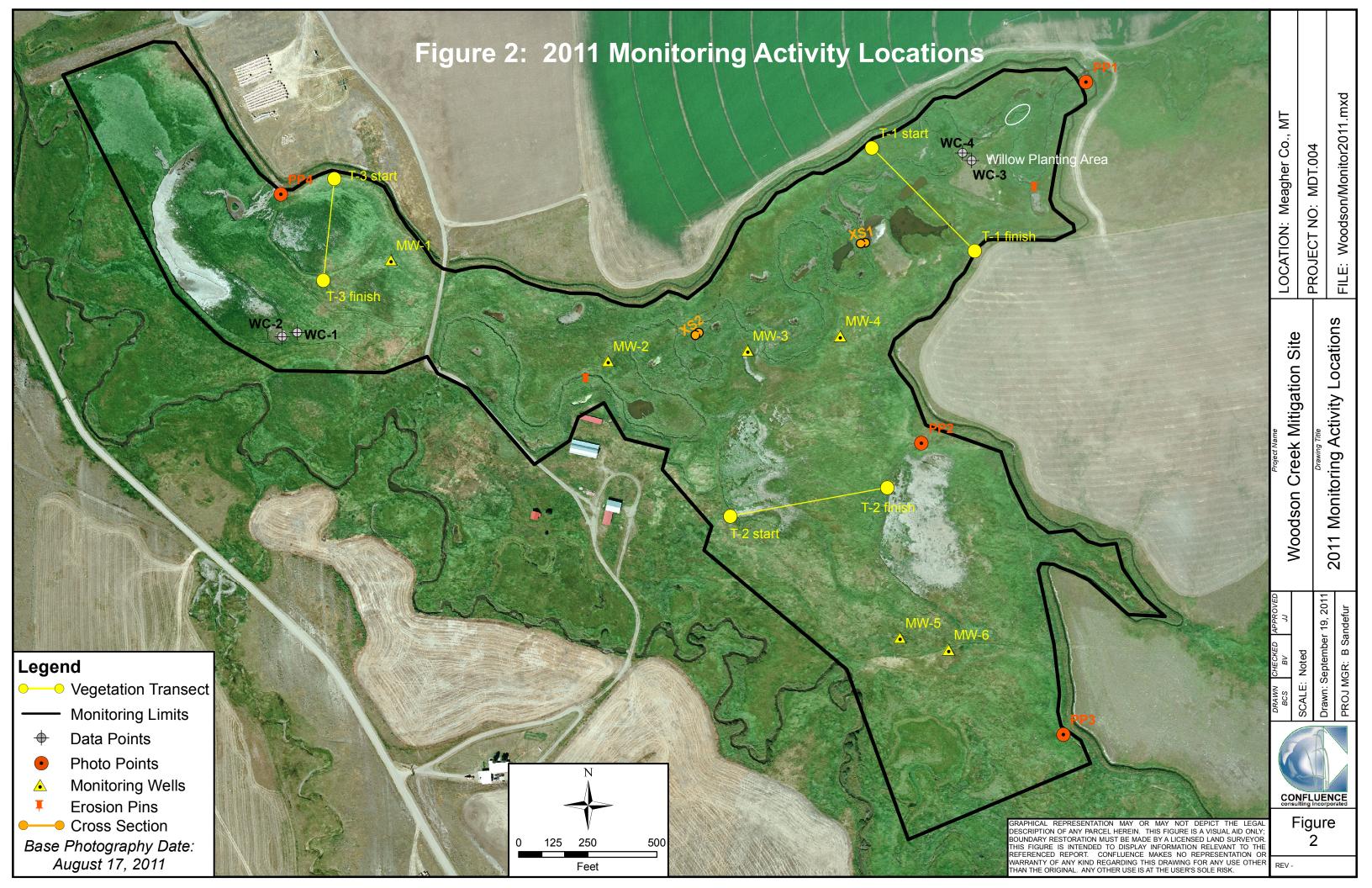
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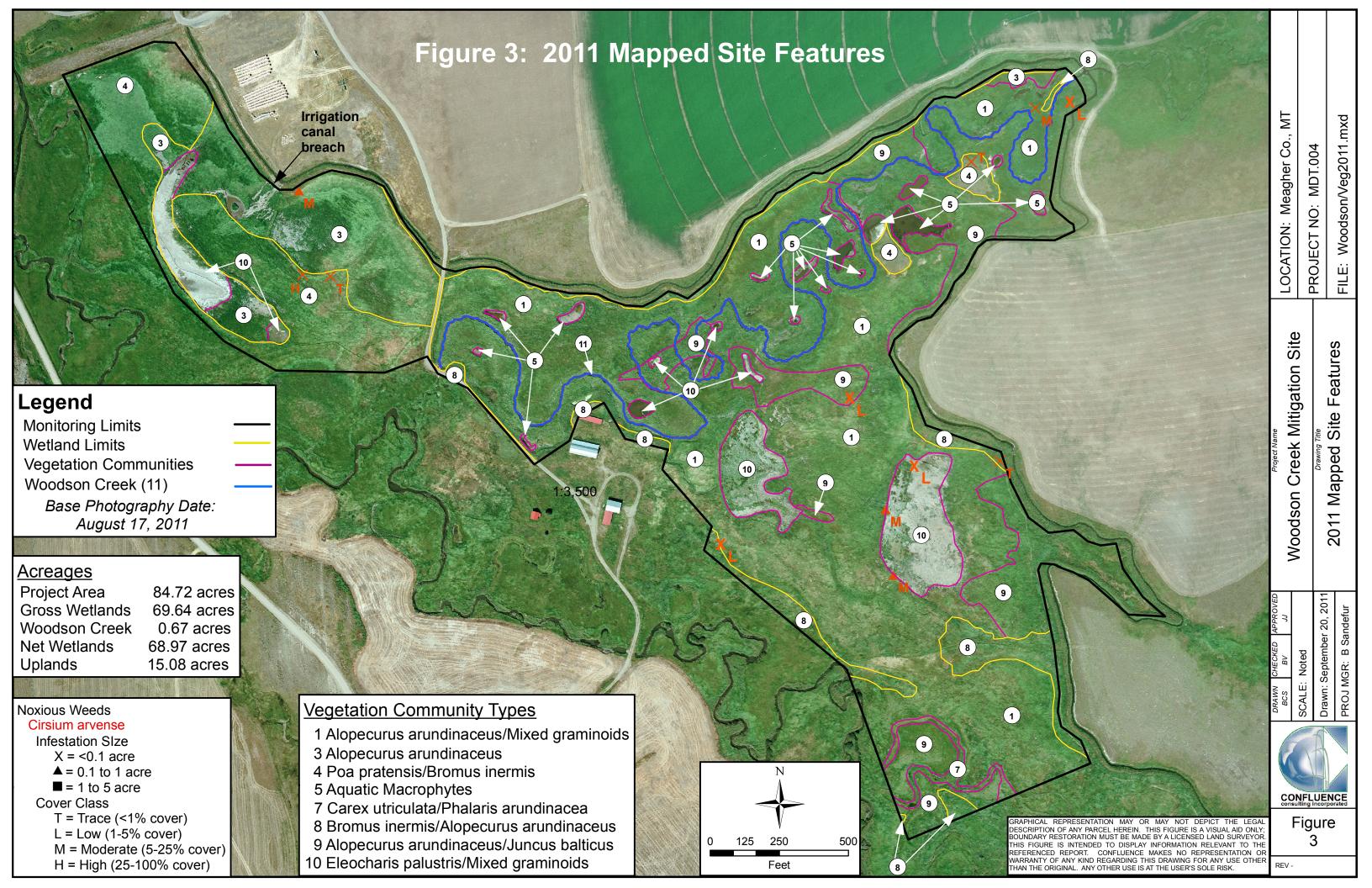
Woodson Creek 2011 V	Wetland Mitigation	Monitoring Report
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Appendix A

Figures 2 and 3

MDT Wetland Mitigation Monitoring Woodson Creek Meagher County, Montana





Woodson Creek 2011 Wetland Mitigation Monitoring Report

Appendix B

2011 MDT Wetland Mitigation Site Monitoring Form 2011 USACE Routine Wetland Determination Data Form 2011 MDT Montana Wetland Assessment Form

MDT Wetland Mitigation Monitoring Woodson Creek Meagher County, Montana

MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site:	Woodson Creek	Assessment Date/Time	7/26/2011 8:49:28 AM
	onducting the assessment:		
Weather: <u>Su</u>	unny with scattered cloud	sLocation: Ringling, MT	
MDT District	: Butte	Milepost:_NA	
Legal Descr	iption: T <u>6N</u> R <u>8E</u> Sec	ction(s) 9 & 16	
Initial Evalua	ation Date: 7/18/2007	_Monitoring Year: <u>4</u> #Visits in Year: <u>1</u>	
Size of Eval	uation Area: 85 (acre	<u>es)</u>	
T	rrounding wetland:		
Agriculture	(hay); outbuildings of a fa	armstead	
		HYDROLOGY	
Surface Water S	Source: Flood irrigation/ o	roundwater	
Inundation:	✓ Average Dept	th: 2 (ft) Range of Depths: 0	0-4 (ft)
Percent of asses	ssment area under inundati	on: <u>15 %</u>	
Depth at emerge	ent vegetation-open water b	ooundary: 1 (ft)	
If assessment ar	ea is not inundated then a	re the soils saturated within 12 inches of	f surface: Yes_
		– drift lines, erosion, stained vegetation	
	eaves and shallow groun		<u> </u>
Groundwate	r Monitoring Wells		
Record depth	of water surface below g	round surface, in feet.	
Well ID	Water Surface Dept	th (ft)	
MW-6	DRY		
MW-5	DRY		
MW-4	2.2		
MW-3	DRY		
MW-2	2.8		
MW-1	2.8		

Additional Activities Checklist:

- ✓ Map emergent vegetation-open water boundary on aerial photograph.
- Observe extent of surface water during each site visit and look for evidence of past surface water elevations (drift lines, erosion, vegetation staining, etc.)
- ✓ Use GPS to survey groundwater monitoring well locations, if present.

Hydrology Notes:

Levee of irrigation canal at northwest end of site was recently breached and was flooding the large depressional wetland to the west of the breach at the time of the site visit. Many of the depressional areas that were inundated during the 2010 site visit were dry during the 2011 visit.

VEGETATION COMMUNITIES

Site Woodson Creek

(Cover Class Codes $\mathbf{0} = < 1\%, \ \mathbf{1} = 1\text{-}5\%, \ \mathbf{2} = 6\text{-}10\%, \ \mathbf{3} = 11\text{-}20\%, \ \mathbf{4} = 21\text{-}50\%, \ \mathbf{5} = > 50\%$)

^{*} Indicates accepted spp name not on '88 list.

Community # 1 Co	mmunity Type:	Alopecurus arundinaceus / Mixed	<u>graminoids</u>	Acres:	<u>42.89</u>
Species	Cover class	Species	Cover clas	SS	
Achillea millefolium	1	Agropyron smithii	1		
Alopecurus arundinaceus	5	Cicuta douglasii	1		
Cirsium arvense	1	Hordeum jubatum	1		
Juncus balticus	2	Phalaris arundinacea	1		
Poa compressa	1	Ranunculus spp.	1		
Taraxacum officinale	0	Triglochin palustre	1		
Comments:					
Community # 3 Co	mmunity Type:	Alopecurus arundinaceus /		Acres:	<u>7.9</u>
Species	Cover class	Species	Cover clas	SS	
Alopecurus arundinaceus	5	Beckmannia syzigachne	1		
Eleocharis palustris	2				
Comments:					
Community # 4 Co	mmunity Type:	Poa pratensis / Bromus inermis		Acres:	<u>11.78</u>
Species	Cover class	Species	Cover clas	ss	
Species Alopecurus arundinaceus	Cover class	Species Bromus inermis	Cover clas	ss	
-		-		SS	
Alopecurus arundinaceus	1	Bromus inermis	4	SS	
Alopecurus arundinaceus Cirsium arvense	1 2	Bromus inermis Equisetum arvense	4	ss	
Alopecurus arundinaceus Cirsium arvense Hordeum jubatum	1 2 1	Bromus inermis Equisetum arvense Iris missouriensis	4 0 0	SS	
Alopecurus arundinaceus Cirsium arvense Hordeum jubatum Poa pratensis	1 2 1 4	Bromus inermis Equisetum arvense Iris missouriensis	4 0 0	SS	
Alopecurus arundinaceus Cirsium arvense Hordeum jubatum Poa pratensis Trifolium repens Comments:	1 2 1 4 2	Bromus inermis Equisetum arvense Iris missouriensis	4 0 0	Acres:	<u>1.19</u>
Alopecurus arundinaceus Cirsium arvense Hordeum jubatum Poa pratensis Trifolium repens Comments:	1 2 1 4 2	Bromus inermis Equisetum arvense Iris missouriensis Solidago canadensis	4 0 0	Acres:	1.19
Alopecurus arundinaceus Cirsium arvense Hordeum jubatum Poa pratensis Trifolium repens Comments: Community # 5 Co	1 2 1 4 2 ommunity Type:	Bromus inermis Equisetum arvense Iris missouriensis Solidago canadensis Aquatic Macrophytes /	4 0 0 1	Acres:	<u>1.19</u>
Alopecurus arundinaceus Cirsium arvense Hordeum jubatum Poa pratensis Trifolium repens Comments: Community # 5 Co	1 2 1 4 2 mmunity Type: Cover class	Bromus inermis Equisetum arvense Iris missouriensis Solidago canadensis Aquatic Macrophytes / Species	4 0 0 1	Acres:	<u>1.19</u>
Alopecurus arundinaceus Cirsium arvense Hordeum jubatum Poa pratensis Trifolium repens Comments: Community # 5 Co Species Algae, green	1 2 1 4 2 mmunity Type: Cover class	Bromus inermis Equisetum arvense Iris missouriensis Solidago canadensis Aquatic Macrophytes / Species Myriophyllum sp.	4 0 0 1	Acres:	<u>1.19</u>

Community # 7 Co	ommunity Type:	Carex utriculata* / Phalaris arundin	acea	Acres:	0.66
Species	Cover class	Species	Cover clas	S	
Carex nebrascensis	2	Carex utriculata*	5		
Cicuta douglasii	0	Eleocharis palustris	1		
Mentha arvensis	1	Phalaris arundinacea	3		
Rumex crispus	1	Triglochin palustre	1		
Comments:					
Community # 8 Co	ommunity Type:	Bromus inermis / Alopecurus aruno	<u>linaceus</u>	Acres:	3.3
Species	Cover class	Species	Cover clas	s	
Achillea millefolium	2	Alopecurus arundinaceus	3		
Aster spp. (purple)	0	Bromus inermis	5		
Cirsium arvense	0	Cirsium vulgare	0		
Equisetum arvense	0	Equisetum hyemale	1		
Grindelia squarrosa	0	Hordeum jubatum	1		
Iris missouriensis	0	Juncus balticus	2		
Melilotus officinalis	1	Poa pratensis	2		
Puccinellia nuttalliana	1	Solidago canadensis	0		
Taraxacum officinale	1	Thlaspi arvense	0		
Trifolium repens	1				
Comments:					
Community # 9 Co	ommunity Type:	Alopecurus arundinaceus / Juncus	<u>balticus</u>	Acres:	<u>10.54</u>
Species	Cover class	Species	Cover clas	s	
Achillea millefolium	1	Agrostis alba	0		
Alopecurus arundinaceus	5	Carex nebrascensis	1		
Carex utriculata*	1	Cicuta douglasii	0		
Juncus balticus	4	Phalaris arundinacea	1		
Poa compressa	1	Poa palustris	1		
Polygonum pensylvanicum	0	Potentilla anserina	1		
Ranunculus sp.	0	Rumex crispus	0		
Scirpus microcarpus	1	Scutellaria lateriflora	0		
Solidago canadensis	0	Taraxacum officinale	1		
Triglochin palustre	1				
Comments:					

Community #	<u>10</u>	Community Type:	Eleocharis palustris / Mixed graminoids	Acres:	<u>5.8</u>
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Species	Cover class	Species	Cover class
Alopecurus arundinaceus	2	Bare ground	4
Beckmannia syzigachne	2	Calamagrostis canadensis	2
Carex utriculata*	1	Eleocharis palustris	4
Glyceria grandis	2	Juncus balticus	2
Myriophyllum spp.	2	Phalaris arundinacea	2
Polygonum pensylvanicum	0	Potentilla anserina	0
Ranunculus longirostris	2	Scirpus acutus	0
Scirpus microcarpus	1	Scirpus pallidus	0
Triglochin palustre	0		

Comments:

This community exists in depressions that were ponded and mapped as "open water" during the 2010 site visit, but lacked surface water during this years site visit.

Total Vegetation Community Acreage

84.06

(Note: some area within the project bounds may be open water or other non-vegetative ground cover.

VEGETATION TRANSECTS

Transect Number: 1		_ Compass Di	rection from Start: <u>14</u>	<u>0</u>
Interval Data:				
Ending Station	115	Community Type:	Alopecurus arundinaceus / Ju	uncus balticus
Species		Cover class	Species	Cover cla
Alopecurus arundinaceus		5	Carex nebrascensis	
Juncus balticus		4	Poa compressa	
Potentilla anserina		0	Ranunculus sp.	
Scirpus microcarpus		1	Triglochin palustre	
Ending Station	119	Community Type:	Open Water / Woodson Cree	ek
Species		Cover class	Species	Cover cla
Open water		5		
Ending Station	210	Community Type:	Alopecurus arundinaceus / Ju	uncus balticus
Species		Cover class	Species	Cover cla
Alopecurus arundinaceus		5	Carex nebrascensis	
Carex utriculata*		1	Juncus balticus	
Phalaris arundinacea		1	Polygonum pensylvanicum	
Scirpus microcarpus		1	Triglochin palustre	
Ending Station	252	Community Type:	Aquatic Macrophytes /	
Species		Cover class	Species	Cover cla
Algae, green		0	Open water	
Ending Station	526	Community Type:	Alopecurus arundinaceus / Ju	uncus balticus
Species		Cover class	Species	Cover cla
Agrostis alba		1	Alopecurus arundinaceus	
Carex utriculata*		2	Cicuta douglasii	
Juncus balticus		3	Poa palustris	
Rumex crispus		0	Scirpus microcarpus	
Scutellaria lateriflora		0	Solidago canadensis	
Triglochin palustre		0		

Transect Number: 2	Compass Direction from Start:80				
Interval Data:					
Ending Station	201	Community Type:	Eleocharis palustris / Mixed gr	raminoids	
Species		Cover class	Species	Cover class	
Alopecurus arundinaceus		3	Bare ground	5	
Beckmannia syzigachne		2	Carex utriculata*	2	
Eleocharis palustris		3	Polygonum pensylvanicum	1	
Potentilla anserina		0	Triglochin palustre	0	
Ending Station	583	Community Type:	Alopecurus arundinaceus / Mi	xed graminoids	
Species		Cover class	Species	Cover class	
Alopecurus arundinaceus		5	Cicuta douglasii	0	
Juncus balticus		3	Poa compressa	2	
Triglochin palustre		0			
Transect Notes:					
Transect Number: 3		_ Compass Di	rection from Start:174	<u>!</u>	
Interval Data:					
Ending Station	353	Community Type:	Alopecurus arundinaceus /		
Species		Cover class	Species	Cover class	
Alopecurus arundinaceus		5	Beckmannia syzigachne	1	
Eleocharis palustris		2			

Transect Notes:

PLANTED WOODY VEGETATION SURVIVAL

Woodson Creek

Planting Type #Planted #Alive Notes

Salix spp. 69 11 cuttings heavily browsed; moderate vigor, low survival

Comments

Woodson Creek

WILDLIFE

Birds

Were man-made nesting structures installed?	? <u>No</u>
If yes, type of structure:	
How many?	
Are the nesting structures being used?	No_
Do the nesting structures need repairs?	No
Nesting Structure Comments:	

Species	#Observed	Behavior	Habitat
Bank Swallow	6	FO	WM
Black-billed Magpie	2	FO	WM
Brewer's Blackbird	2	FO	MA, WM
Canada Goose	2	N	MA, OW, WM
Cassin's Finch	2	F	WM
Common Nighthawk	3	FO	OW, UP, WM
Gray Catbird	1	FO	WM
Killdeer	4	F	US
Mallard	2	N	OW, WM
Red-tailed Hawk	2	F, FO	UP, WM
Sandhill Crane	2	N	WM
Spotted Sandpiper	2	F, L	OW, US
Wilson's Phalarope	2	N	OW, US
Bird Comments			

BEHAVIOR CODES

BP = One of a <u>breeding pair</u> **BD** = <u>Breeding display</u> **F** = <u>Foraging</u> **FO** = <u>Flyover</u> **L** = <u>Loafing</u> **N** = <u>Nesting</u> **HABITAT CODES**

AB = Aquatic bed SS = Scrub/Shrub FO = Forested UP = Upland buffer I = Island

WM = Wet meadow **MA** = Marsh **US** = Unconsolidated shore **MF** = Mud Flat **OW** = Open Water

Mammals and Herptiles

Species	# Observed	Tracks	Scat	Burrows	Comments
Deer Mouse	1	No	No	No	
Muskrat		Yes	No	No	
Raccoon		Yes	No	No	
Striped Skunk		Yes	No	No	
Water Vole	1	No	No	No	

PHOTOGRAPHS

Take photographs of the following permanent reference points listed in the check list below. Record the direction of the photograph using a compass. When at the site for the first time, establish a permanent reference point by setting a ½ inch rebar or fencepost extending 2-3 feet above ground. Survey the location with a resource grade GPS and mark the location on the aerial photograph.

Photograph Checklist:

- ☑ One photograph for each of the four cardinal directions surrounding the wetland.
- At least one photograph showing upland use surrounding the wetland. If more than one upland exists then take additional photographs.
- At least one photograph showing the buffer surrounding the wetland.
- ☑ One photograph from each end of the vegetation transect, showing the transect.

Photo #	Latitude	Longitude	Bearing	Description
001	46.28611	-110.73307	80	start T2
002	46.286449	-110.730797	255	end T2
004	46.289211	-110.739441	203	PP4
005			225	PP4
006			262	PP4
007			296	PP4
800			324	PP4
012	46.2869	-110.730293	197	PP2
013			230	PP2
014			266	PP2
016	46.284061	-110.728325	95	PP-3
018			132	PP3
020			224	PP3
023	46.289402	-110.738762	187	T3 start
024	46.288395	-110.738922	7	T-3, end
025	46.289669	-110.729645	160	WC-3
8244				XS-1, dw strm
8246				XS-1, upstream
8248	46.28986	-110.730995	134	T-1, start
8250	46.288754	-110.729652	314	T-1, end
8252	46.290466	-110.728065	208	PP1
8253			226	PP1
8254			249	PP1
8262, 8263	46.287464	-110.735161		bank pin downstream
8270	46.287876	-110.739258	90 B-11	1 WC-1

8271	46.28775	-110.739494	270	WC-2
8275	46.289726	-110.729744	0	WC-4

Comments:

ADDITIONAL ITEMS CHECKLIST

Hydrology Map emergent vegetation/open water boundary on aerial photos. **V** Observe extent of surface water. Look for evidence of past surface water elevations (e.g. drift lines, vegetation staining, erosion, etc). **Photos V** One photo from the wetland toward each of the four cardinal directions **V** One photo showing upland use surrounding the wetland. One photo showing the buffer around the wetland One photo from each end of each vegetation transect, toward the transect Vegetation ✓ Map vegetation community boundaries Complete Vegetation Transects Soils ✓ Assess soils **Wetland Delineations** Delineate wetlands according to applicable USACE protocol (1987 form or Supplement) Delineate wetland – upland boundary onto aerial photograph. Wetland Delineation Comments **Functional Assessments V** Complete and attach full MDT Montana Wetland Assessment Method field forms. **Functional Assessment Comments:**

Maintenance

Were man-made nesting structure installed at this site?

If yes, do they need to be repaired?

If yes, describe the problems below and indicate if any actions were taken to remedy the problems

Were man-made structures built or installed to impound water or control water flow

into or out of the wetland?

If yes, are the structures in need of repair?

If yes, describe the problems below.

Although outside of project area, irrigation return along northern spur of site has been breached. All flow through canal now enters mitigation area. Area well vegetated with minimal threat to erosion and may convert to wetland if condition persist.

Project/Site: Woodson Creek			City/County	,: Meagher			,	Sampling	Date:	7/26/2	2011
Applicant/Owner: MDT			, ,		St	ate: MT		Sampling	Point: W	C-1	
Investigator(s): S Frazier			Section To	wnship, Rar			9 T	6N	R	8E	
Landform (hillslope, terrace, etc.): Flat			Local relie	f (concave o	onvey r	one). flat	t		Slone	e (%).	1
		l at:	46.28786	333333333	Long:	-110	.739273	3333333	Clope	. (70)	
Soil Map Unit Name: Soapcreek Fairv	vav complex. 0	Lat)-2% slopes			Long				_ Datum		
Do Normal Circumstances Exist on this		Yes 🗆				_					
Is the site significantly disturbed (Atypic		Yes 🗸									
Is the area a potential Problem Area?	car Olluation):	Yes 🗆									
		100									
SUMMARY OF FINDINGS - A	ttach site ma	ap showing	ı samplin	ig point lo	ocation	ıs, tran	sects,	import	ant fea	tures	, etc.
Hydrophytic Vegetation Present?	Yes	No 🔽			_						
Hydric Soil Present?	Yes 🔽	No		ne Sampled nin a Wetlan		٧a	• \Box	No _	/		
Wetland Hydrology Present?	Yes	No <u> </u>	WILL	iii a vvetiaii	iu:		·	_ 140_			
Remarks:											
VEGETATION – Use scientific	names of pl	ants.									
		Absolute		Indicator	Domin	ance Tes	st works	heet:			
Tree Stratum (Plot size:			Species?	Status		r of Dom				0	(4)
1 2					That A	re OBL, F	ACVV, or	FAC: _			(A)
3.						lumber of s Across				1	(B)
4.		٥			'			_			(D)
			_ = Total Co	over		t of Domi		ecies FAC:		0	(A/B)
Sapling/Shrub Stratum (Plot size:)	_	_		Illat	C ODL, I	ACVV, 01	TAO			(///
1		0			Domin	ance Tes	t is >50%	′₀ Ш			
2											
3			- 📙								
4		$ \frac{0}{0}$	- 📙								
5			_ = Total Co	. ———							
Herb Stratum (Plot size: 5)										
1. Alopecurus arundinaceus		85		NI							
2. Poa pratensis				FACU+							
3. Taraxacum officinale		5		FACU							
4		0									
5		$\frac{0}{0}$									
6			· — —								
7 8											
9		0									
10		0									
11.		0									
		100	_= Total Co	ver							
Woody Vine Stratum (Plot size:		0									
1		$\frac{0}{0}$			Hydro Vegeta	phytic					
2		<u> </u>	_ _= Total Co		Preser		Yes		No _ ✓		
% Bare Ground in Herb Stratum	0		_= Total Co	vel							
Remarks:			, n= , o								
Although Alopecurus has a Nation	ai wetland Ind	icator Status	ot "FACW	/?", associa	ate spec	cies sug	gest dry	upland	site.		

SOIL										Sampling Point: _	WC-1
Profile Desc	ription: (Describe t	o the dep	th neede	d to docur	nent the ir	ndicator	or confin	m the absence of		
Depth		Matrix				x Features				•	
(inches)	Color	(moist)	%	Color	(moist)	%	Type ¹	_Loc ²	Texture	Remarks	
0-8	10YR	3/1	100						Clay Loam		
8-14	10YR	3/1	95	10YR	5/2	5	D	М	Clay Loam		_
14-16	10YR	5/1	100						Clay Loam		
											_
	-										
											_
¹ Type: C=C			etion, RM=	Reduced	Matrix, CS	S=Covered	or Coate	ed Sand G	rains. ² Locat	ion: PL=Pore Lining, M=	Matrix.
Hydric Soil		5:									
Histosol						-			e Layer in Sandy	Soils	
Histic Ep						rganic Stre			ils		
	oisture Re	aime			_	sted on Lo					
	g Condition				_	sted on Na					
✓ Gleyed o	-		5		0	ther (expla	ın ın rem	iarks)			
Concreti	ons										
Taxonomy Su	ıbgroup:	Fluvaquer	ntic Haplu	ustolls							
Confirm Mapp	ned Tyne?	. \square									
	bed Type:	· 🗀							Hydric Soil Pr	resent? Yes	No
Remarks:											
HYDROLO	GY										
Wetland Hy		diantoro									
Primary India		iuicators.		Coo	andon Ind	inatara (O .		الم مدنية م			
				Sec	ondary Ind						
Innunda				믐	Oxidized F			Living Ro	ots		
l —		r 12 inches		믐	Water-Sta						
Water M				븜	Local Soil		ıta				
Drift Lin				븓	FAC-Neut						
	nt Deposit				Other (Exp	olain in Rer	narks)				
Drainage	e patterns	in wetland	S								
Field Obser	vations:										
Surface Wat	er Present	? Ye	es 🔲	No 🔽	Depth (in	ches):					
Water Table	Present?	Υe	es 🔲	No 🔽	Depth (in	ches):					
Saturation P	resent?	Υe	s	No 🗸	Depth (in	ches):		Wet	tland Hydrology I	Present? Yes	No 🔽
(includes car	oillary fring	je)									
Remarks:											
-1											
I											

Project/Site: Woodson Creek			City/County	_{y:} Meagher	•			_ Samplin	Date:	7/26/	2011
Applicant/Owner: MDT						tate: M٦	Γ	 _ Sampling	a Point: W	/C-2	
Investigator(s): S Frazier			Section To	ownship, Ra		_	9			8 E	
Landform (hillslope, terrace, etc.): Flat				f (concave,			oncave		Slop	e (%):	1
Subregion (LRR): LRR E		Lat:		266666667				47333333	3 _{Datur}	n:	
Soil Map Unit Name: Soapcreek Fair	way complex, 0	-2% slopes			_ =+g.						
Do Normal Circumstances Exist on thi		Yes									
Is the site significantly disturbed (Atypi	cal Situation)?	Yes 🔽									
Is the area a potential Problem Area?	,	Yes									
SUMMARY OF FINDINGS - A	ttach site ma	ap showing	g samplir	ng point le	ocatio	ns, tra	nsect	s, impor	tant fe	atures	s, etc.
Hydrophytic Vegetation Present?	Yes 🔽	No _									
Hydric Soil Present?	Yes 🔽	No	l l	he Sampled nin a Wetlar		v	/os / /	No			
Wetland Hydrology Present?	Yes <u> </u>	No	WILI	iiii a vvetiai	iu r	T	es <u>v</u>	NO			
Remarks: Problematic soil - recently constructed Region 4.	mitigation wetlar	nd; Problemat	ic veg- dom	inant vegeta	ition has	an indic	ator sta	atus of "NI"	in Regior	າ 9 and	
VEGETATION – Use scientific	names of pl	ants.									
		Absolute		t Indicator	Domir	nance T	est wo	rksheet:			
Tree Stratum (Plot size:			Species?	Status_				Species		1	(A)
1 2					That A	re OBL,	, FACVV	, or FAC:			(A)
3.						Number es Acros				2	(B)
4.		Λ			,						(D)
			_ = Total Co	over				Species /, or FAC:		50	(A/B)
Sapling/Shrub Stratum (Plot size:			_								(1.13)
1		$ \frac{0}{0}$			Domir	nance Te	est is >5	50% 🗀			
2		$ \frac{\circ}{\circ}$									
3		$ \frac{\circ}{\circ}$									
4 5.											
3.			 = Total Co	over							
Herb Stratum (Plot size: 5)										
1. Eleocharis palustris		15		OBL							
2. Beckmannia syzigachne			- 📙	OBL							
3. Alopecurus arundinaceus				NI							
4		$\frac{0}{0}$									
5		$ \frac{0}{0}$									
6											
7 8		0									
9		0									
10.		0									
11.		0									
Woody Vine Stratum (Plot size:)	70	_= Total Co	over							
1		0			Hydro	phytic					
2		0			Veget: Prese		v	es ✓	No _	7	
% Bare Ground in Herb Stratum	30	0	_= Total Co	over	Fiese	iitr	'	es _ V	140		
Remarks: Alo arun has an indicator status or an indicator status of OBL. Based determined that the area sampled	on this informa	ation, and the	e presence	of hydric s	soil and	wetlan	d hydri	iology indi			nave

SOIL							Sampling Poi	int: _WC-2
Profile Des	cription: (Descri	e to the dept	h needed to docum	ent the indicator	or confirm	the absence	of indicators.)	
Depth	Matrix		Redox	Features				
(inches)	Color (moist)	%	Color (moist)	%Type ¹	Loc ²	Texture	Remark	.s
0-16	N 3/1	100				Silty Clay		
	-							-0
¹ Type: C=C	Concentration D=D	enletion RM=	Reduced Matrix, CS:	Covered or Coat	ed Sand Gr	rains ² l or	cation: PL=Pore Lining	M=Matrix
	Indicators:	opicaon, raw	reduced Matrix, CO		ou ound or	uiii 200	oution: 1 E-1 ord Elling	, IVI—IVIGUIA.
Histoso			Lial	n Organic Conten	t in Surface	Lavor in Can	dy Soile	
	pipedon		_ ~	*			uy Solis	
Sulfidio				ganic Streaking in ted on Local Soils		is		
	Moisture Regime							
	ng Conditions		_	ted on National S				
	or Low-Chroma Co	olore	lOth	ner (explain in rem	narks)			
_		51013						
Concret	tions							
T	Liberton Elimon	uantia Hanlu	otollo			T		
axonomy S	ubgroup: Fluvaq	uentic napio	Stolis					
Confirm Man	ped Type?:					Uvdria Sail	Present? Yes	No
	. ,					Tiyane 30ii	riesellt: les	
Remarks:								
Hydrogen	sulfide odor dete	cted; subsoi	too wet to get acc	curate colors for	soil matri	ix and redox	teatures	
HYDROLO	OGY							
Wetland Hy	ydrology Indicato	rs:						
			Cocondon India	(O	الم ميانيم ما/			
Primary Ind				ators (2 or more				
Innund			U Oxidized R	nizospheres along	Living Roo	ots		
✓ Saturat	ted in upper 12 inc	hes	_ Water-Stair	ed Leaves				
Water	Marks		Local Soil S	Survey Data				
Drift Li			FAC-Neutra					
	ent Deposits		_	ain in Remarks)				
_			Other (Expi	alli ili Kelliaiks)				
Draina	ge patterns in wetl	ands						
Field Ohea	nyations:				Т			
Field Obse		, –	. 🗖					
	iter Present?		No 🔽 Depth (inc		8			
Water Table	e Present?	Yes 🔽 🛚 1	No Depth (inc					
Saturation I	Present?	Yes 🔽 🕦	No Depth (inc	hes):	7 Wetl	and Hydrolog	y Present? Yes 🔽	No
	apillary fringe)							_
Remarks:								

Project/Site: Woodson Creek		City/County	,: Meagher			Sampling	g Date: _	7/26/2	2011
Applicant/Owner: MDT				State: N	1T ,	Sampling	g Point: W	/C-3	
Investigator(s): S Frazier		Section, To	ownship. Rar	_		6N		₹ 8E	
Flot				convex, none):	flat		Slop	oe (%):	0
Subregion (LRR): LRR E				Long:				–	
Soil Map Unit Name: Typic Fluvaquents-Fluvaquentic	Haplaquol	ls, 0 to 4 p	ercent slop	es					
	Yes_✓								
	Yes □								
5 , (),	Yes □								
To the great a personnal responsibility to a	103								
SUMMARY OF FINDINGS - Attach site map	showing	ı samplir	ng point le	ocations, tr	ansects,	impor	tant fea	atures	, etc.
	No 🔽								
	No 🔽		ne Sampled		v □	NI-			
	No 🔽	Witt	nin a Wetlan	ia?	Yes	110			
Remarks:									
VEGETATION – Use scientific names of pla	nts.								
	Absolute	Dominan	t Indicator	Dominance	Test works	heet:			
Tree Stratum (Plot size:)		Species?	Status	Number of D	ominant Sp	ecies		0	
1	0			That Are OB	L, FACW, o	r FAC:		0	(A)
2	_			Total Numbe	r of Domina	int		2	
3				Species Acro	ss All Strat	a:		2	(B)
4	0			Percent of D				0	
Sapling/Shrub Stratum (Plot size:)		_ = Total Co	over	That Are OB	L, FACW, o	r FAC:			(A/B)
1	0			Dominance '	Test is >50%	6			
2.	0								
3.	_								
4	^								
5	0								
5	0	_ = Total Co	over						
Herb Stratum (Plot size: 5 1 Alopecurus arundinaceus	5		NI						
2. Cirsium arvense			FACU+						
3. Trifolium repens			FACU+						
4. Solidago canadensis	5		FACU						
5. Poa pratensis	40		FACU+						
6. Bromus inermis	40		NO						
7. Iris missouriensis	3		FACW+						
8. Hordeum jubatum	5		FAC+						
9. Equisetum arvense	3		FAC						
10	0								
11	0								
March March Clark as (Blat sizes	126	_= Total Co	ver						
Woody Vine Stratum (Plot size:)	0								
1 2.	$-\frac{0}{0}$			Hydrophytic Vegetation	:				
		_ _= Total Co		Present?	Yes		No _v	<u>/</u>	
% Bare Ground in Herb Stratum		10(a) 00	vei						
Remarks:									

SOIL								S	ampling Point:	WC-3
Profile Desc	ription: (Describe t	o the depth ne	eded to docume	nt the in	dicator or	confirm	the absence			
Depth	Matrix		Redox F							
(inches)	Color (moist)	%C	color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-5	10YR 3/2	100					Clay Loam			
5-15	10YR 4/2	100					Clay Loam			_
			-							
1Type: C=C	oncentration, D=Depl	ation DM-Dad	used Matrix CS=C	Covered	or Coated	Sand Gr	rains ² l oo	ation: DI =	Pore Lining, M	I-Matrix
Hydric Soil		etion, Kwi–Ked	diced Matrix, CO-C	Jovered	or Coaled	Sand Gi	allis. Loc	ation. FL-	-r-ore Lilling, IV	-Watrix.
Histosol			High	Organic	Content in	Surface	Layer in Sand	v Soils		
Histic E				-	aking in Sa			y cons		
Sulfidic					al Soils Li		3			
	oisture Regime		_		ional Soils					
	g Conditions		_		n in remarl					
Gleyed o	or Low-Chroma Color	s		· (oxpiaii		,				
Concreti	ons									
							1			
Taxonomy Su	ıbgroup: Typic Flu۱	/aquents-Flu	vaquentic Hapla	quolls						
Confirm Maps	ped Type?:						Undria Cail I	Duna nu 42	V	No
	.,,,,						Hydric Soil	Present?	res	NO
Remarks:					l					
Aithough ta	xonomy represents	s a nyone son	i, mapped type r	iot com	irmea.					
HYDROLO	CV									
_	drology Indicators:									
Primary India	cators		Secondary Indica							
Innunda	ated		U Oxidized Rhiz	zosphere	s along Liv	ving Roc	ots			
Saturate	ed in upper 12 inches			d Leaves	S					
Water M	larks		Local Soil Su	rvey Dat	a					
Drift Lin	es		FAC-Neutral	Test						
Sedime	nt Deposits		Other (Explai	n in Rem	narks)					
	e patterns in wetland	s								
Field Observ										
Field Obser		D N. 6	Danith (in also							
Surface Wat		es No _								
Water Table		es U No L								
Saturation P		es No _	✓ Depth (inche	es):		Wetl	and Hydrology	/ Present?	? Yes 🛄	No 🔽
(includes car		. : di t	h a a m s a d							
No	o wetland hydrolog	y indicators o	userved.							
1										

Project/Site: Woodson Creek	Ci	ity/County	: Meagher				Sa	mpling	Date:	7/20	6/2011			
Applicant/Owner: MDT					, ,		s	tate: MT	-	— Sa	mpling	Point:	WC-4	
Investigator(s): S Frazier				s	ection. To	wnship, Ra		_	9		6N	,	R 8E	
Landform (hillslope, terrace, etc.): Flat									at			SI	one (%)	. 1
Subregion (LRR): LRR E			Lat:	 4	6.28972	66666667	L ong:	-11	0.72	97633	33333	0, 3 _{Dat}	nm.	
Soil Map Unit Name: Typic Fluvaquer	nts-Fluva	quenti	c Haplaqu	olls,	0 to 4 pe	ercent slop	_ Long Des					Dat	uiii	
Do Normal Circumstances Exist on this			Yes 🗆					_						
Is the site significantly disturbed (Atypi		ion)?	Yes 🗌											
Is the area a potential Problem Area?		,	Yes 🔽											
SUMMARY OF FINDINGS - A	ttach si	te ma		ng s	samplin	g point l	ocatio	ıs, tra	nse	cts, ir	npor	tant f	eature	es, etc.
Hydrophytic Vegetation Present?	Yes _	✓	No _											
Hydric Soil Present?	Yes _		No	_		e Sampled		v	'aa [• •	Na			
Wetland Hydrology Present?	Yes _	<u> </u>	No		With	in a Wetlar	10?	T	es _	✓	. 100			
Remarks: Dominant vegetation has an indicator s	tatus of "	NI" in R	Region 9 and	d Re	gion 4.									
VEGETATION – Use scientific	names	of pl	ants.											
Tree Stratum (Plot size:)		Absolu % Cov			Indicator Status		ance To						
1				0		<u> </u>		er of Dor re OBL,					1	(A)
2.				0										- ()
3.				0			20, 20, 9,932,01	lumber s Acros					1	(B)
4				0			Porcer	nt of Dor	minan	t Cnoo	ion			
				0 =	= Total Co	ver		re OBL,					100	(A/B)
Sapling/Shrub Stratum (Plot size:				0			Domin	ance Te	oet ic	>50%				
1				- 0			Domin	ance re	551 15	~30 76	V			
2. 3.				<u> </u>										
4				 -	$\overline{\Box}$									
5				0 -										
_				0	= Total Co	ver								
Herb Stratum (Plot size: 5)		7			NII								
1. Alopecurus arundinaceus 2 Juncus balticus			$\frac{7}{2}$			NI OBL								
2. Glyceria grandis				5 5		NO								
3. Carex utriculata*						OBL								
				5 -		OBL								
5 6				0 -										
7				0 -										
8				0										
9				0 -										
10				0										
11.				0 [
Woody Vine Stratum (Plot size:)	11	0_=	Total Co	ver								
1		_/	()			Hydro	nhytic						
2.) -			Vegeta	ation					_	
	0			0 =	Total Co	ver	Prese	nt?		Yes _	/	No _		
% Bare Ground in Herb Stratum														
Remarks: Alo arun has an indicator status of not listed, all other Glyceria spp. a	re FACV	√or Ol	BL. This in	fo co	oupled w	ith the pre	sence o	f an OE						
soil and hydrology indicators rende	ered the	positiv	e determir	natio	n tor hyd	rophytic v	egetatio	n.						

Profile Desc										Sampling Point:WC-4
	cription: (Describe t	o the dep	th neede	d to docun	nent the in	dicator	or conf	irm the absence	of indicators.)
		Matrix				x Features				,
(inches)	Color	(moist)	%	Color	(moist)	%	Type ¹	_Loc ²	Texture	Remarks
0-3	10YR	3/1	100						Clay Loam	
3-13	10YR	3/1	95	10YR	4/4	5	С	M	Silty Clay Loam	
13-15	10YR	4/1		2.5Y	4/3	5	С	М	Sandy Loam	
10 10	10111	-7/1		2.01	4/3				Garlay Loani	
l ———										
l										
										·
¹ Type: C=C	oncentratio	on D=Depl	etion RM:		Matrix CS	=Covered	or Coate	ed Sand	Grains ² l oc	cation: PL=Pore Lining, M=Matrix.
Hydric Soil			ouon, run	rtoddood	matrix, oc	0010104	or oout	ou cuitu	Olumb. Est	sation. The Fore Emiliary, M. Maarix.
Histosol	l .				□Hig	h Organic	Content	in Surf	ace Layer in Sand	dy Soils
Histic E	pipedon					ganic Strea				
Sulfidic	Odor					sted on Loc				
	loisture Re				Lis	sted on Nat	ional So	ils List		
_	g Condition				Ot	her (explai	n in rem	arks)		
✓ Gleyed o		oma Color	S							
Concreti	ions									
Taxonomy Su	ibaroup:	Typic Flux	vaguente	Fluvagu	entic Han	lagualle				
l axonomy St	ubgroup.	Typic Tiu	/aquents	-i iuvaqu	erilic i iap	iaquolis				
Confirm Map	ped Type?	: 🗌							Hydric Soil	Present? Yes No
Remarks:										
HYDROLO	GY									
		ndicators:								
_		ndicators:		Sec	ondany Indi	cators (2 o	r more	required	<u> </u>	
Primary Indi	cators	ndicators:			ondary Indi					
Primary India	cators ated				Oxidized R	hizosphere	s along			
Primary India Innunda Saturate	cators ated ed in uppe		4		Oxidized R Water-Stai	hizosphere	es along s			
Primary India Innunda Saturate Water M	cators ated ed in upper Marks				Oxidized R Water-Stai Local Soil	thizosphere ned Leave Survey Dat	es along s			
Primary India Innunda Saturate Water M Drift Lin	cators ated ed in upper Marks nes	r 12 inches	:		Oxidized R Water-Stai Local Soil FAC-Neutr	thizosphere ned Leave Survey Dat al Test	es along s :a			
Primary India Innunda Saturate Water M Drift Lin Sedime	cators ated ed in upper Marks nes ent Deposite	r 12 inches s			Oxidized R Water-Stai Local Soil	thizosphere ned Leave Survey Dat al Test	es along s :a			
Primary India Innunda Saturate Water M Drift Lin Sedime	cators ated ed in upper Marks nes ent Deposite	r 12 inches			Oxidized R Water-Stai Local Soil FAC-Neutr	thizosphere ned Leave Survey Dat al Test	es along s :a			
Primary India Innunda Saturate Water M Drift Lin Sedime	cators ated ed in upper Marks nes ent Deposite	r 12 inches s			Oxidized R Water-Stai Local Soil FAC-Neutr	thizosphere ned Leave Survey Dat al Test	es along s :a			
Primary India Innunda Saturate Water M Drift Lin Sedime	cators ated ed in upper Marks nes ent Deposite	r 12 inches s			Oxidized R Water-Stai Local Soil FAC-Neutr	thizosphere ned Leave Survey Dat al Test	es along s :a			
Primary India Innunda Saturate Water M Drift Lin Sedime	cators ated ed in upper Marks nes ent Deposite	r 12 inches s			Oxidized R Water-Stai Local Soil FAC-Neutr	thizosphere ned Leave Survey Dat al Test	es along s :a			
Primary India Innunda Saturate Water M Drift Lin Sedime	cators ated ed in upper Marks nes ent Deposite	r 12 inches s			Oxidized R Water-Stai Local Soil FAC-Neutr	thizosphere ned Leave Survey Dat al Test	es along s :a			
Primary India Innunda Saturate Water M Drift Lin Sedime	cators ated ed in upper flarks nes ent Depositi	r 12 inches s			Oxidized R Water-Stai Local Soil FAC-Neutr	thizosphere ned Leave Survey Dat al Test	es along s :a			
Primary India Innunda Saturate Water M Drift Lin Sedime Drainag	cators ated ed in upper Marks nes int Depositive patterns	r 12 inches s in wetland	s		Oxidized R Water-Stai Local Soil FAC-Neutr Other (Exp	thizosphere ned Leave Survey Dat al Test	es along s aa narks)	Living F		
Primary India Innunda Saturate Vater N Drift Lin Sedime Drainag	cators ated ed in upper Marks nes ent Deposite e patterns	r 12 inches s in wetland	s es <u> </u>		Oxidized R Water-Stai Local Soil FAC-Neutr Other (Exp	thizosphere ned Leave: Survey Dat al Test lain in Ren	es along s a narks)	Living F		
Primary India Innunda Saturate Water N Drift Lin Sedime Drainag Field Obser Surface Wat	cators ated ed in upper Marks nes ent Depositive patterns rvations: ter Present?	r 12 inches s in wetland	eses		Oxidized R Water-Stai Local Soil FAC-Neutr Other (Exp	ches):	es along s a narks)	Living F	Roots	y Present? Yes ✓ No □
Primary India Innunda Saturate Water M Drift Lin Sedime Drainag Field Obser Surface Water Table Saturation P (includes cal	cators ated ed in upper Marks nes ent Depositive patterns rvations: ter Present? Present?	r 12 inches s in wetland ?? Ye	eses	No No	Oxidized R Water-Stai Local Soil FAC-Neutr Other (Exp	ches):	es along s a narks)	Living F	Roots	y Present? Yes <u>√</u> No □
Primary India Innunda Saturate Water M Drift Lin Sedime Drainag Field Obser Surface Water Water Table Saturation P	cators ated ed in upper Marks nes ent Depositive patterns rvations: ter Present? Present?	r 12 inches s in wetland ?? Ye	eses	No No	Oxidized R Water-Stai Local Soil FAC-Neutr Other (Exp	ches):	es along s a narks)	Living F	Roots	ıy Present? Yes <u>√</u> No <u>□</u>
Primary India Innunda Saturate Water M Drift Lin Sedime Drainag Field Obser Surface Water Table Saturation P (includes cal	cators ated ed in upper Marks nes ent Depositive patterns rvations: ter Present? Present?	r 12 inches s in wetland ?? Ye	eses	No No	Oxidized R Water-Stai Local Soil FAC-Neutr Other (Exp	ches):	es along s a narks)	Living F	Roots	y Present? Yes <u>√</u> No □
Primary India Innunda Saturate Water M Drift Lin Sedime Drainag Field Obser Surface Water Table Saturation P (includes cal	cators ated ed in upper Marks nes ent Depositive patterns rvations: ter Present? Present?	r 12 inches s in wetland ?? Ye	eses	No No	Oxidized R Water-Stai Local Soil FAC-Neutr Other (Exp	ches):	es along s a narks)	Living F	Roots	y Present? Yes ✓ No □
Primary India Innunda Saturate Water M Drift Lin Sedime Drainag Field Obser Surface Water Table Saturation P (includes cal	cators ated ed in upper Marks nes ent Depositive patterns rvations: ter Present? Present?	r 12 inches s in wetland ?? Ye	eses	No No	Oxidized R Water-Stai Local Soil FAC-Neutr Other (Exp	ches):	es along s a narks)	Living F	Roots	y Present? Yes <u>√</u> No □
Primary India Innunda Saturate Water M Drift Lin Sedime Drainag Field Obser Surface Water Table Saturation P (includes cal	cators ated ed in upper Marks nes ent Depositive patterns rvations: ter Present? Present?	r 12 inches s in wetland ?? Ye	eses	No No	Oxidized R Water-Stai Local Soil FAC-Neutr Other (Exp	ches):	es along s a narks)	Living F	Roots	y Present? Yes ✓ No □

MDT Montana Wetland Assessment Form (revised 5/25/1999)

1. Project na	ime Woods	son Creek		2. MDT proj	ect#				C	ontrol#	
3. Evaluation	n Date	7/26/2011 4. E	valuators	S.Frazier, B.S	andefur		5.	Wetland/	Site# (s)	AA-1	WC-Floodplain
6. Wetland L	.ocation(s):	T 6N	R 8E	Sec1 9		Т	R		Sec2	16	
Approx Stati	oning or Mile	eposts									
Watershed	10030101	1	W	atershed/County	7-1	Missouri/S	un/Sm	ith Waters	sheds/Mea	agher Co	unty
7. Evaluating	g Agency	Confluence for N	MDT	8. We	tland si	ze			29.19		
Purpose of	f Evaluation			acres							
		affected by MDT			ssesse sesssm	L	Measu	ired e.g. b		 1	
	-	ore-constructior		area (A	AA) size				29.19		
	i wetiands: p	oost constructio)ri	(acres) ssesse	d· I	Measu	red e.g. by	/ GPS		
_			!- !!-!-!		00000			. o u o . g . z ,			
HGM Class	cation of we	tland and Aquat	ic Habitats	s in AA							
(Brinson)	System	Subsystem	Class (Co		_	er (Coward		Water Regi			% of AA
Riverine	Riverine	none	Aquatic E	Bed	Excava	ated		ntermittantl	y exposed		5
Riverine	Riverine	none	Emergen	t Wetland				seasonally f	looded		20
Riverine	Riverine	none	Unconsol	idated Bottom	Excava	ated		Permanently	y flooded		5
Riverine	Riverine	none	Emergen	t Wetland				seasonally f	looded		70
44 Fatimata	d Bolotiva Al	hundanas (af a	imilarly els	acifical citor wit	bin the	۸Ь	undan				
same major I	Montana Wat	tershed Basin, s		assified sites wit ons)	hin the	Ab	undan	t			
same major I 12. General (Montana Wat Condition of	tershed Basin, s AA	ee definiti					t			
same major I 12. General (Montana Wat Condition of	tershed Basin, s AA	below to c	ons) letermine [circle] appro Iominan	priate res	onse) s adja				A or heavily grazed or
same major I 12. General (i. Regardi	Montana Wat Condition of	tershed Basin, s AA ace: (use matrix	below to c	ons) determine [circle <i>Prec</i>	appro lominan ltural gged, or	priate res	onse) s adjacultivated, grazed	cent to (w	Lar log	d cultivated ged; subject	
same major I 12. General (i. Regardi	Montana Wat Condition of ng disturban	tershed Basin, s AA ace: (use matrix	below to c Manag state; i otherw roads	determine [circle Prec ged in predominantly na is not grazed, hayed, lo	appro lominan tural gged, or t contain	priate res t condition Land not comoderately selectively subject to refew roads of	onse) s adjac ultivated, grazed logged; ninor cle or buildin	cent to (W) but may be or hayed or or has been aring; contair gs; noxious v	Lar loge plae s hyd veed buil	d cultivated ged; subject cement, grad rological alt ding density	or heavily grazed or to substantial fill ding, clearing, or eration; high road or c; or noxious weed or
same major I 12. General (i. Regardi	Montana Wat Condition of ng disturban Conditions wi	tershed Basin, s AA ice: (use matrix	below to c Manag state; i otherw roads or ANN	determine [circle Prec ged in predominantly na is not grazed, hayed, lo ise converted; does no or buildings; and noxion	appro lominan tural gged, or t contain	priate res t condition Land not co moderately selectively subject to r	onse) s adjac ultivated, grazed logged; ninor cle or buildin	cent to (W) but may be or hayed or or has been aring; contair gs; noxious v	Lar loge plae s hyd veed buil	d cultivated ged; subject cement, grad rological alt	or heavily grazed or to substantial fill ding, clearing, or eration; high road or c; or noxious weed or
same major M 12. General G i. Regardin AA occurs and is not grazed, haye	Montana Wat Condition of ng disturban Conditions wi managed in pred d, logged, or othe occupied building	tershed Basin, s AA ace: (use matrix	below to c Managstate; i otherw roads or ANN	determine [circle Prec ged in predominantly na is not grazed, hayed, lo ise converted; does no or buildings; and noxion] appro lominan tural gged, or t contain us weed	priate res t condition Land not co moderately selectively subject to r few roads o or ANVS co	onse) s adjac ultivated, grazed logged; ninor cle or buildin over is <=	cent to (W) but may be or hayed or or has been aring; contair gs; noxious v	Lar logg plar s hyd veed buil AN'	d cultivated ged; subject cement, grad rological alt ding density VS cover is	or heavily grazed or to substantial fill ding, clearing, or eration; high road or c; or noxious weed or
AA occurs and is not grazed, haye contain roads or ANVS cover is <-	Montana Wat Condition of ng disturban Conditions wi managed in pred id, logged, or othe occupied building =15%. I, but may be mod lged; or has been	tershed Basin, s AA ice: (use matrix ithin AA lominantly natural state rivise converted; does is; and noxious weed o erately grazed or haye subject to relatively mi	Manag state; i otherw roads or ANN	determine [circle Prec ged in predominantly na is not grazed, hayed, Ic ise converted; does no or buildings; and noxior //S cover is < =15%. Iow disturbance	appro dominan ttural gged, or t contain us weed	priate res t condition Land not comoderately selectively subject to r few roads of or ANVS co	onse) s adjac ultivated, grazed logged; ninor cle or buildin over is <	but may be or hayed or or has been aring; contain gs; noxious v=30%.	Lar logi plai hyd buil AN'	d cultivated ged; subject cement, grac rological alt ding density VS cover is:	or heavily grazed or to substantial fill ding, clearing, or eration; high road or r; or noxious weed or >30%.
AA occurs and is not grazed, have contain roads or ANVS cover is < AA not cultivated or selectively log clearing, fill place	Conditions wind a managed in predictions wind a managed in predictions wind a managed in prediction occupied building part of the modified of the modified or managed in prediction occupied building part of the modified or managed in prediction occupied building part of the modified or managed in prediction occupied occu	tershed Basin, s AA ace: (use matrix ithin AA dominantly natural state wise converted; does s; and noxious weed o erately grazed or haye	Manag state; i otherw roads or ANN	determine [circle Prec ged in predominantly na is not grazed, hayed, lo ise converted; does no or buildings; and noxior //S cover is < =15%.	appro dominan ttural gged, or t contain us weed	priate res t condition Land not comoderately selectively subject to r few roads of or ANVS co	onse) s adjac ultivated, grazed logged; ninor cle or buildin over is <	cent to (W) but may be or hayed or or has been aring; contain gs; noxious v =30%.	Lar logi plai hyd buil AN'	d cultivated ged; subject cement, grac rological alt ding density VS cover is:	or heavily grazed or to substantial fill ding, clearing, or eration; high road or ;; or noxious weed or >30%.
AA occurs and is not grazed, haye contain roads or ANVS cover is < AA not cultivated or selectively log clearing, fill place few roads or build <=30%. AA cultivated or I	Conditions wind a managed in predict, long disturban wind a managed in predict, logged, or othe occupied building entry with the modification of t	tershed Basin, s AA Ice: (use matrix ithin AA lominantly natural state rwise converted; does is; and noxious weed o erately grazed or haye subject to relatively mi gical alteration; contain led or ANVS cover is logged; subject to	Manag state; i otherw roads or ANN	determine [circle Prec ged in predominantly na is not grazed, hayed, Ic ise converted; does no or buildings; and noxion /S cover is < =15%. Iow disturbance oderate disturb] approdominan atural ggged, or t contain us weed	priate res t condition Land not cu moderately selectively subject to r few roads c or ANVS co	onse) s adjau litivated, grazed logged; ninor cle or buildin over is <	but may be or hayed or or has been aring; contair gs; noxious v=30%.	Lar logi plai hyd buil AN'	d cultivated ged; subject sement, gracrological alt ding density VS cover is thing the high country to the	or heavily grazed or to substantial fill ding, clearing, or control or contro
AA occurs and is not grazed, haye contain roads or ANVS cover is < AA not cultivated or selectively log clearing, fill place few roads or buils <=30%. AA cultivated or I relatively substar hydrological alter	Conditions wind a managed in pred did, logged, or othe occupied building entertains. It but may be modiged; or has been ement, or hydrolog dings; noxious we heavily grazed or ntial fill placement.	tershed Basin, s AA Ice: (use matrix Ithin AA Iominantly natural state wise converted; does is; and noxious weed overately grazed or haye subject to relatively migical alteration; contained or ANVS cover is Iogged; subject to it, grading, clearing, or or building density; or	Manag state; i otherw roads or ANN	determine [circle Prec ged in predominantly na is not grazed, hayed, Ic ise converted; does no or buildings; and noxior //S cover is < =15%. Iow disturbance] approdominan atural ggged, or t contain us weed	priate res t condition Land not cu moderately selectively subject to r few roads c or ANVS co	onse) s adjau litivated, grazed logged; ninor cle or buildin over is <	but may be or hayed or or has been aring; contain gs; noxious v=30%.	Lar logi plai hyd buil AN'	d cultivated ged; subject sement, gracrological alt ding density VS cover is thing the high country to the	or heavily grazed or to substantial fill ding, clearing, or eration; high road or r; or noxious weed or >30%.
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AA occurs and is not grazed, haye contain roads or ANVS cover is < AA not cultivated or selectively log clearing, fill place few roads or build <=30%. AA cultivated or I relatively substar hydrological alternoxious weed or Comments: (AA consists of were constructively substar hydrological sites noxious weed or comments of the consists of the constructive substar hydrological sites noxious weed or comments.	Conditions wind a managed in pred id, logged, or othe occupied building enterement, or hydrologidings; noxious we heavily grazed or nitial fill placement ration; high road of ANVS cover is >3 types of dist of Woodson Cotted in 2006.	tershed Basin, s AA ace: (use matrix ithin AA dominantly natural state wise converted; does s; and noxious weed o erately grazed or haye subject to relatively mi gical alteration; contain ed or ANVS cover is logged; subject to s, grading, clearing, or or building density; or sow. urbance, intens reek and adjacer Surrounding land	below to c Manag state; is otherw roads or AN\ d nor ity, seasor it wetland c used graze	determine [circle Prec ged in predominantly na is not grazed, hayed, lorise converted; does no or buildings; and noxion //s cover is < =15%. Iow disturbance oderate disturb. high disturbance	approdominan dominan gged, or t contain us weed ce e floodpla agricult	priate res t condition Land not cu moderately selectively subject to r few roads c or ANVS co Iov mode hig ins, managure. AA re	onse) s adjad ilivated, grazed logged; ninor cle or buildin over is < w distri- erate co	but may be or hayed or or hayed or or has been aring; contair gs; noxious v=30%. urbance disturbance urbance a natural s fied as Riv	Lar log plan hyd build AN	d cultivated ged; subject sement, gracrological alt ding density vS cover is high country and the sement se	or heavily grazed or to substantial fill fing, clearing, or errors, or expensive fill fing, clearing, or expensive fill fing, clearing, or expensive fill fing, clearing, or expensive fill fill fill fill fill fill fill fil
AA occurs and is not grazed, haye contain roads or ANVS cover is < AA not cultivated or selectively log clearing, fill place few roads or built <= 30%. AA cultivated or relatively substan hydrological altenoxious weed or Comments: (AA consists owere construct proximity and ii. Prominent	Condition of any disturban Conditions with a managed in predict, logged, or othe occupied building et 5%. It, but may be modiged; or has been ement, or hydrolog dings; noxious we heavily grazed or notial fill placement ration; high road of ANVS cover is >3 atypes of dist of Woodson Cotted in 2006. Sinferred hydronoxious, aq	tershed Basin, s AA Ice: (use matrix ithin AA Iceminantly natural state privise converted; does is; and noxious weed o erately grazed or haye subject to relatively mi gical alteration; contain red or ANVS cover is logged; subject to is, grading, clearing, or or building density; or 30%. urbance, intens reek and adjacer Surrounding land to connection to V uatic nuisance,	Manag state; i otherw roads or ANN d nor is mut wetland or used graze voodson C	determine [circle Preceded in predominantly nation is not grazed, hayed, lick ise converted; does not puildings; and noxion //s cover is < =15%. Iow disturbance disturbance depressions and feed and cultivated reek and Sixteen	approdominan dominan gged, or t contain us weed ce e floodpla agricult	priate res t condition Land not cu moderately selectively subject to r few roads c or ANVS co Iov mode hig ins, managure. AA re	onse) s adjad ilivated, grazed logged; ninor cle or buildin over is < w distri- erate co	but may be or hayed or or hayed or or has been aring; contair gs; noxious v=30%. urbance disturbance urbance a natural s fied as Riv	Lar log plan hyd build AN	d cultivated ged; subject sement, gracrological alt ding density vS cover is high country and the sement se	or heavily grazed or to substantial fill fing, clearing, or errors, or expensive fill fing, clearing, or expensive fill fing, clearing, or expensive fill fing, clearing, or expensive fill fill fill fill fill fill fill fil
AA occurs and is not grazed, haye contain roads or ANVS cover is <- AA not cultivated or selectively log clearing, fill place few roads or build <= 30%. AA cultivated or relatively substan hydrological alternoxious weed or Comments: (AA consists o were construct proximity and	Condition of any disturban Conditions with a managed in predict, logged, or othe occupied building et 5%. It, but may be modiged; or has been ement, or hydrolog dings; noxious we heavily grazed or notial fill placement ration; high road of ANVS cover is >3 atypes of dist of Woodson Cotted in 2006. Sinferred hydronoxious, aq	tershed Basin, s AA Ice: (use matrix ithin AA Iceminantly natural state privise converted; does is; and noxious weed o erately grazed or haye subject to relatively mi gical alteration; contain red or ANVS cover is logged; subject to is, grading, clearing, or or building density; or 30%. urbance, intens reek and adjacer Surrounding land to connection to V uatic nuisance,	Manag state; i otherw roads or ANN d nor is mut wetland or used graze voodson C	determine [circle Preceded in predominantly nation is not grazed, hayed, lick ise converted; does not puildings; and noxion //s cover is < =15%. Iow disturbance disturbance depressions and feed and cultivated reek and Sixteen	approdominan dominan gged, or t contain us weed ce e floodpla agricult	priate res t condition Land not cu moderately selectively subject to r few roads c or ANVS co Iov mode hig ins, managure. AA re	onse) s adjad ilivated, grazed logged; ninor cle or buildin over is < w distri- erate co	but may be or hayed or or hayed or or has been aring; contair gs; noxious v=30%. urbance disturbance urbance a natural s fied as Riv	Lar log plan hyd build AN	d cultivated ged; subject sement, gracrological alt ding density vS cover is high country and the sement se	or heavily grazed or to substantial fill fing, clearing, or eration; high road or roxious weed or 20%. e disturbance listurbance etlands/waters GM) based on
AA occurs and is not grazed, have contain roads or ANVS cover is < AA not cultivated or selectively log clearing, fill place few roads or built <=30%. AA cultivated or relatively substar hydrological alter noxious weed or Comments: (AA consists o were construct proximity and ii. Prominent Cirsium arventiii. Brief description ii. Regarding iii. Brief description iii. Regarding iii. R	Conditions wind a managed in pred in Jone 1 managed in Jone 1	tershed Basin, s AA ace: (use matrix ithin AA lominantly natural state rivise converted; does is; and noxious weed o erately grazed or haye subject to relatively mi gical alteration; contair led or ANVS cover is logged; subject to it, grading, clearing, or or building density; or 100%. urbance, intens reek and adjacer Surrounding land or connection to V uatic nuisance, B mary of surroun	Manag state; i otherw roads or AN\ ity, seasor it wetland or used graze Voodson C other exote	determine [circle Prec ged in predominantly nas not grazed, hayed, le rise converted; does no or buildings; and noxion /S cover is < =15%. Iow disturbance high disturbance n, etc) depressions and fed and cultivated reek and Sixteen tic species:	approdominan itural gged, or t contain us weed ce ance e floodpla agricult Mile Cr	priate res t condition Land not cu moderately selectively subject to r few roads c or ANVS co lov mode hig ins, manag ure. AA re eek and hy	onse) s adjau ultivated, grazed logged; ninor cle or buildin over is < w distr erate co uh distr ged in eclassi ydrolo	but may be or hayed or or has been aring; contain gs; noxious v=30%. urbance disturbance a natural s fied as Rivinputs froi	Lar log plan hyd build AN	d cultivated ged; subject sement, gracrological alt ding density vS cover is high country and the sement se	or heavily grazed or to substantial fill fing, clearing, or eration; high road or roxious weed or 20%. e disturbance listurbance etlands/waters GM) based on

13. Structural Diversity: (Based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 above)

# of "Cowardin" vegetated classes present in AA (see #10)	> 3 vegetated classes (or > 2 if one is forested)	2 vegetated classes (or 1 if forested)	< 1 vegetated dass
Rating (circle)	Н	М	L

Rating (circle)				Н			М		L					
Comments: Two	vegetated cla	sses: emerger	t and aquatic	bed										
	SECT	ON PERT	AINING	TO FUI	NCTION	I VAL	UES AS	SSESSM	ENT					
14A. Habitat for Fo	ederally Liste	ed or Propose	d Threatened	or Endan	gered Plan	its or An	imals:							
i. AA is docume	ented (D) or s	suspected (S)	to contain (c	ircle one b	asedon de	finition	contained i	n instruction	ıs):					
Primary or critical	habitat (list	species)	□ D □ S											
Secondary habitat	(list Species	s)	O D O S											
Incidental habitat	(list species))	\bigcirc D \bigcirc S	D ⊚ S										
No usable habitat			● s											
ii. Rating (use the of Highest Habitat Level	doc/prima			arrive at [cir	sus/second		s and rating) doc/incidenta	al sus/inc	cidental	None				
Functional Points and Rating	1H	.9H	3.	ЗН	.7M		.5L	.3	L	OL				
Sources for documented use	USFWS	T&E List - Auç	just 2011											
14B. Habitat for pl above)	ant or anima	ls rated S1, S	2, or S3 by th	e Montana	a Natural H	eritage	Program: (n	not including	species	listed in14A				
i. AA is docur								l in instruction	ons):					
Primary or critical						ern toad								
Secondary habitat		•	\bigcirc D \odot	S			. , , , .	Greater Sage	`	32)				
Incidental habitat)		● D ○ S American White Pelican (S3B), Bald Eagle (S3)										
No usable habitat														
ii. Rating (use the points and rating					ve at [circle] the fun	ctional							
Level	oc./primary	Sus./primary	Doc./seconda	ry Sus./s	econdary	Doc./inc	sidental Su	us./incidental	None					
Functional Points and Rating	1H	.8H	.7M		.6M	.2	2L	.1L	OL					
Sources for documented use	MTNHP Co	unty List, obse	rvations on sit	e.										

14C. Genera i. Evi	ıl Wildli dence d				ıse in t	he AA	Su	bstar	ntial												
Substantial (ba	ased on a	any of the	followi	na (ch	eckl):						Mini	⊐ mai (b	ased o	n any of	the follo	wina [c	heckl):				
observation abundant presence interviews	ons of about wildlife sit of extrem	undant w ign such nely limitin	ildlife #s as scat, ng habit	or hiç tracks	gh species, nest st tures not	tructure: availab	s, game	e trails,	etc.	,	fe lit	w or n tle to r	o wildli no wildli adjacer	fe observ	rations of	during purces	eak use	·			
Moderate (bas	ed on an	y of the fo	ollowing	[chec	:k]):																
observation common of adequate interviews	occurrenc adjacent	ce of wild upland fo	life sign ood sou	such rces	as scat,	tracks, ı						eriods									
ii. Wildlife h cover to be co AA (see #10). absent [see in	nsidered Abbrevi	evenly d ations for	istribute surface	d, the wate	most an	d least _l ns are a	orevale	nt vege	etated o	classes	must b	e withi	n 20% (of each o	ther in t	erms of	their pe	ercent c	compos	sition of	the
Structural diversity (see #13)				Hi	gh							Мо	derate					Lo	w		
Class cover distribution (all vegetated		Evei	า			Une	ven	Even						Une	ven			Eve	en		
classes) Duration of surface water in ≥ 10% of AA	P/P S/I T/E A P/P S/I T/E A P/P S/I T/E A A P/P S/I T/E A										P/P	S/I	T/E	А							
Low disturbance at AA (see #12i)																					
Moderate disturbance at AA (see #12i)	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L	
High disturbance at AA (see #12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L	L		L	L	L	
		the con	ducia	no fi	rom i o	nd ii o	bovo	and t	ho ma	atrix b	alou t	0 0 0 0 0 0 0	ivo et	[oirele]	the fu	l unatio	a al na	into o	nd ro	tina\	
iii. Rating				וו פוזע	omra	nu II a	bove	and t	ne ma	allix D				feature			паг ро	inis a	nu ra	ung)	
						Exœ	otiona	ı.			High	1			Мос	derate	:			Lo	w
Substanti	al						1E				.9H				3.	3H				.71	Л
Moderate							9H				.7M				.5	М				.31	-
Minimal							6M				.4M				.2	2L				.11	_
Comments	Woo	odson C	Creek	and (open w	ater c	lepres	ssions	s (Con	nm 5)	exhib	it P/F	o surf	ace wa	ter du	ration	and o	compr	ise 1	0% of	AA.
14D. Generally use occurs i Habitat Qua	e AA co sed by n the A	oUld be fish du A but i: elow] sl	used ue to la s not d nould	by fi ack d desire be m	sh [i.e. of habit ed fron narked	at, exon at, exon a res	use is cessiv source ow", a	prec e gra mar pplied	luded dient, agem d acco	by pe etc., nent p ordingl	rched click erspe y in ii	ctive	ert or (NA) [such w, and	other be noted as fished noted	oarrier and pr use v d in the	r, etc.] roceed with in e com	. If the d to the an irri ments	e AA is e nex gatior	s not t func	orwa tion.	s not If fish
	(L) quali	ity rating		, PPIO	Priate F	o raum			Perennia		1 0,00			/ Intermitte		, ale (I	•	oran/ F	nhomo-	al	7
Cover - % of wa as submerged lo banks, floating-lo	terbody in ogs, large i	AA contain	ulders, o			>25		10-2		<109	% :	>25%		I/ Intermitte 0-25%	ent <10%	>25		orary/ E 10-25		<10%	-
Shading - >75% contains ripariar communities		Е		Н		Н		Н	М		М	N	Л	М	Ī						
Shading – 50 to contains rip. Or communities					nin AA	H	1	Н		М		М		М	М		М	L	-]	L	Ī

М

М

Н

Shading - <50% of streambank or shoreline within AA contains rip. Or wetland scrub-shrub or forested communities

М

L

L

L

L

ii. Modified Hab level [E=H, H=M, M activity or is the war including cold or wa (circle)	=L, L=L]). Is erbody inclu	s fish us uded on	e of the the MDE	AA pro EQ list life su	ecluded o of waterl	r signi	ficantl	y reduced	d by a culve	ert, dil	e, or oth with liste	ner man-ma	ade s le Im	structu paired	re or I Uses	s"
	se the conc tional, H=hi							elow to ar	rive at [circ	cle] th	e functio	nal points	and r	ating		
Types of fish known or			ilouerate	, L–10				bitat Quality								
suspected within AA Native game fish	Excepti		1		High				Moderate	1		Lo				
Introduced game fish	1E				.9H			=	.7M				5M			
Non-game fish	.91				.8H				6M	1		_	4M 3L			
No fish	.7N				.6M .3L				.5M .2L	_		_	1L			
Comments Suspe	cted Fish	Specie	s: Brool	k Tro		l intro	duce	d game f		est d	uration			the A	A is	in Woodson
4E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded rom in-channel or overbank flow, check NA here and proceed to the next function.) i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H=high, M=moderate, or L=low] for this function. Estimated wetland area in AA subject to periodic flooding 100 cores 100																
% of flooded wetland classified as forested, scrub/shrub, or both AA contains not outlet or																
both																
AA contains unrestricted outlet	.9H	.8	вн	.51	Л	.7M		.6M	.4M		.3L	.2L		.1L		
14F. Short and Long in-channel flow, precipi flooding or ponding, chi i. Rating (Working fro Abbreviations for surfact and T/E = temporary/ep	tation, uplaideck No.	nd surfa A here ottom, u rations ee inst	ace flow, and pro- use the n are as fo	or gr ceed natrix	oundwat to 14G.) below to s: P/P = p	er flov arrive perma	v. If n e at [ci nent/p	o wetland ircle] the perennial	ds in the A functional ; S/I = sea	A are	subjects and ra	t to				
Estimated maximum acre feet of in wetlands within the AA that periodic flooding or ponding		ned		>5	acre feet				1.1 to 5 acr	re feet				≤1 acre	foot	
Duration of surface water at we AA	etlandswithin th	пе	P/P		S/I	T/	E	P/P	S/I		T/E	P/F	, _		S/I	T/E
Wetlands in AA flood or pond ≥	5 out of 10 ye	ears	1H	_	9H	.8H		.8H	.6M	<u> </u>	.5M	.41	Л		.3L	.2L
Wetlands in AA flood or pond <	: 5 out of 10 ye	ears	.9H		вн	.7M		.7M	.5M		.4M	.3	L		.2L	.1L
	oth of inund 5) and Wo								of AA) = 7	7.5 ac	re-feet.	Small o	pen	water	depi	essions
14G. Sediment/Nutric toxicants through influx here and proceed to 14 i. Rating (working from or L = low])	of surface H.) m top to bo	or grou	ınd wate	erord	irect inpu	ut. If r	no we	tlands in	the AA are	e sub point	ject to s s and ra	uch input, ating [H =	che high	ck [, M =	mode	erate,
Sediment, nutrient, and toxical within AA	·	delive leve impa	er levels of els such tha ired. Minor toxicants, c	sedime at other sedim	nding land u ents, nutrien functions ar entation, so of eutrophi	ts, or core not surces of cation p	ompoun ubstanti nutrien oresent.	alto " ds at ally r	nutrients, or c	ses" re ingland ompou ediment	lated to se I use with p nds such th at ion, sour eutro	diment, nutri	ents, o eliver ctions nts or	ortoxica high lev a re sub	ants or vels of stantia ts, or s	AA receives sediments, ally impaired. igns of
% cover of wetland vegetation Evidence of flooding / ponding		Yes	≥ 70% N	0	Yes	< 70	% No		Yes	≥ 7		No	,	Yes	< 70%	No
AA contains no or restricted of	utlet	1H	-1 -	ВН	.7M		.51	1	.5M			IM		.3L		.2L
AA contains unrestricted outl	et	.9H	1 .7	′М	.6M		.41	И	.4M		.3	3L		.2L		.1L

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Culvert (i.e., restricted outlet) located downstream of the AA.

Comments:

	op to bottom, use	tne mat							ating)				1	
6 Cover of wetland streambank or shoreline by species with				Duration of surf	ace water ad	yacent to r	ooted veg	etation					\mathbf{I}	
ability ratings of ≥6 (see ppendix F).	Permanent /	Perennial			Seasonal / In	termittent			Ter	mporary / I	Ephemera	ıl	ļ	
65%	1	н			.9⊦	4				.7M				
5-64%	.7	и			.6N	1				.5M				
35%	.3	_			.21					.1L			1	
													J	
omments: Rooted	vegetation ald	ong bar	nk of W	oodson C	creek w	ith sta	bility r	ating =	:>6, ru	ushes,	sedg	es, an	d cree	ping fo
4I. Production Export/F														
	orking from top to =moderate, or L=													
B = Structu	ıral diversity ratin	g from #	13; Facto	or C = wheth	er or not	the AA	contains	a surfac	e or su	ıbsurfac	e			
	final three rows p nal/intermittent; T							•						
terms].)			. ,	•										
	omponent >5 acres	Low	High	Vegetated co	mponent 1-5	1	ow	Hig		tated com Mode		1	ow	
C Yes No Yes	No Yes	No	Yes	No Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
P/P 1H .9H .9H	.8H .8H	.7M	.9H	.8H .8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L	
				1	1	CNA	.5M	.6M	.5M	.5M	21			
.8H .8H	.7M .7M	.6M	.8H	.7M .7M	.6M	.6M	.OIVI				.3L	.3L	.2L	
		.6M	.8H	.7M .7M	.6M	.5M	.4M	.5M	.4M	.4M		.3L		
				=	1-				.4M		.3L		.2L 1L	
T/E/A 8H .7M .7	.6M .6M	.5M	.7M	.6M .6M	.5M	.5M	.4M	.5M		.4M				
T/E/A 8H .7M .7		.5M	.7M	.6M .6M	.5M	.5M	.4M	.5M		.4M				
T/E/A 8H .7M .7	.6M .6M	.5M	.7M	.6M .6M	.5M	.5M	.4M	.5M		.4M				
Comments: The Pr	.6M .6M	.5M	.7M	ed on per	.5M	.5M	.4M	.5M	Creek.	.4M				
comments: The Pr	P rating was	.5M	.7M	ed on per	.5M rennial t	.5M	.4M	odson C	Creek.	.4M				
TIEIA 8H 7M 7 Comments: The Pi 14J. Groundwater Di i. Discharge Indica The AA is a slope we	P rating was scharge/Recharters	assess	.7M	ed on per	iate indi	flows i	.4M n Woo	odson C	Creek.	.4M	.2L	.2L	.1L	
T/E/A 8H .7M .7 Comments: The P/ 14J. Groundwater Di i. Discharge Indica The AA is a slope we Springs or seeps are	P rating was scharge/Rechators stand known or observ	assess	eed base	ed on per	iate indi	.5M flows i icators echarge heable s and con	.4M n Woo	odson C	Creek.	.4M	.2L	.2L	.1L	
T/E/A 8H .7M .7 Comments: The P/ 14J. Groundwater Di i. Discharge Indica The AA is a slope we	P rating was scharge/Rechautors stand known or observ luring dormant se	assess arge: (c	eed base	ed on per	iate indi	flows i	.4M n Woo	odson C	Creek.	.4M	.2L	.2L	.1L	
TI/E/A 8H 7M 7 Comments: The P/ 14J. Groundwater Di i. Discharge Indica The AA is a slope we Springs or seeps are Vegetation growing of Wetland occurs at th Seeps are present at	P rating was scharge/Rechautors stand known or observ luring dormant see toe of a natural the wetland edge	assess arge: (c	eed base	ed on per	iate indi	flows i	.4M n Woo	odson C	Creek.	.4M	.2L	.2L	.1L	
T/E/A .8H .7M .7 The P/ The AA is a slope we Springs or seeps are Vegetation growing of Wetland occurs at th Seeps are present at AA permanently floor	P rating was scharge/Rechautors stand known or observ luring dormant see toe of a natural the wetland edge ded during drough	assess arge: (c	eed base	ed on per	iate indi	flows i	.4M n Woo	odson C	Creek.	.4M	.2L	.2L	.1L	
i. Discharge Indica The AA is a slope we Springs or seeps are Vegetation growing of Wetland occurs at th Seeps are present at AA permanently flood Wetland contains an	P rating was scharge/Rechautors stand known or observ luring dormant see toe of a natural the wetland edge ded during drough outlet, but no inle	assess arge: (c	eed base	ed on per	iate indi	flows i	.4M n Woo	odson C	Creek.	.4M	.2L	.2L	.1L	
TI/E/A .8H .7M .7 Comments: The P/ 14J. Groundwater Di i. Discharge Indica The AA is a slope we Springs or seeps are Vegetation growing of Wetland occurs at th Seeps are present at AA permanently floor	P rating was scharge/Rechautors stand known or observ luring dormant see toe of a natural the wetland edge ded during drough outlet, but no inle	assess arge: (c	eed base	ed on per	iate indi	flows i	.4M n Woo	odson C	Creek.	.4M	.2L	.2L	.1L	
i. Discharge Indica The AA is a slope we Springs or seeps are Vegetation growing of Wetland occurs at the Seeps are present at AA permanently floor Wetland contains an Shallow water table as Shallow water table as	P rating was scharge/Rechautors stand known or observ luring dormant see toe of a natural the wetland edge ded during drough outlet, but no inle	assess arge: (c	eed base	ed on per	iate indi	flows i	.4M n Woo	odson C	Creek.	.4M	.2L	.2L	.1L	
i. Discharge Indica The AA is a slope we Springs or seeps are Vegetation growing of Wetland occurs at th Seeps are present at AA permanently floor Wetland contains an Shallow water table as	P rating was scharge/Rechautors stand known or observ luring dormant see toe of a natural the wetland edge ded during drough outlet, but no inle	assess arge: (c	eed base	ed on per	iate indi	flows i	.4M n Woo	odson C	Creek.	.4M	.2L	.2L	.1L	
i. Discharge Indica The AA is a slope we Springs or seeps are Vegetation growing of Wetland occurs at th Seeps are present at AA permanently floor Wetland contains an Shallow water table as	P rating was scharge/Rechautors stand known or observ luring dormant see toe of a natural the wetland edge ded during drough outlet, but no inle	assess arge: (c	eed base	ed on per	iate indi	flows i	.4M n Woo	odson C	Creek.	.4M	.2L	.2L	.1L	
i. Discharge Indica The AA is a slope we Springs or seeps are Vegetation growing of Wetland occurs at the AA permanently floor Wetland contains an Shallow water table a Other:	P rating was scharge/Rechautors stand known or observ luring dormant see toe of a natural the wetland edge ded during drough outlet, but no inle and the site is sat	assess arge: (c	eed base theck the	ed on per	iate indi ii. R Perm Wett Strea	flows i	n Woo	odson Ciii below	v) without outlet eam; dis	.4M	.2L	.2L	.1L	
i. Discharge Indicate The AA is a slope we springs or seeps are vegetation growing of Wetland occurs at the Seeps are present at AA permanently floor Wetland contains an Shallow water table at Other:	P rating was scharge/Rechautors etand known or observe during dormant see toe of a natural the wetland edge ded during drough outlet, but no inlead the site is sating the said the s	assess arge: (c ed ason/dron slope at periods t urated to	heck the	ed on per e appropr	iate indi ii. R Perm Wett Strea	flows i	n Woo	ii belov	without outlet eam; dis	un derly	.2L	.2L	.1L	
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i. Discharge Indica The AA is a slope we Springs or seeps are Vegetation growing of Wetland occurs at the Seeps are present at AA permanently floor Wetland contains an Shallow water table a Other: iii. Ratin functional points AA is known Discharge/Recharge in	Prating was scharge/Rechautors etland known or observer during dormant see toe of a natural the wetland edged during drough outlet, but no inlead the site is sat g: Use the information and rating [H=hi Criter echarge area or condicators present	assess arge: (c ed ason/droi slope at periods trated to	heck the	ed on per e appropr ce above and function.	iate indi ii. R Perm Weth Strea Othe	flows i	n Woo	ii belov	without outlet earn; dis	underly scharge	.2L	.2L	.1L	
i. Discharge Indicate The AA is a slope we springs or seeps are vegetation growing of Wetland occurs at the Seeps are present at AA permanently floor Wetland contains an Shallow water table at Other:	Prating was scharge/Rechautors etland known or observer during dormant see toe of a natural the wetland edged during drough outlet, but no inlead the site is sat g: Use the information and rating [H=hi Criter echarge area or condicators present	assess arge: (c ed ason/droi slope at periods trated to	heck the	ed on per e appropr ce above and function.	iate indi ii. R Perm Weth Strea Othe	flows i	n Woo	ii belov	without outlet earn; dis	underly scharge	.2L	.2L	.1L	

14K. Uniqueness:

Replacement potential

			ciation listed as MTNHP			ciation listed as	s "S2" by the		structural dive	rsity (#13) is	
Estimated relativ	e abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant	
Low disturbance	at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L	
Moderate disturb	pance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L	
High disturbance	e at AA (#12i)	.8Н	.7H	.6M	.6M	.4M	.3L	.3L	.2L	.1L	
Comments:											
14L. Recreation	on/Education Pot	ential: i. Is t	he AA a kno	wn rec./ed.	Site O	Y • N	If yes, rate as [circle] High	[1] and go to	ii; if no go to i	ii)
ii.	Check categories t	hat apply to th	ne AA:Ed	ucational/;scier	ntific study;_	Consumpt	ive rec.;No	n-consump	otive rec.;	_Other	
iii.	Based on the locat then proceed to iv; if	ion, diversity, no, then rate a	size, and other as [circle] Low	er site attribut [0.1])	es, is there	strong poten	tial for rec./ed.	use?	OY	V (If yes, go t	0
iv.	Rating (use the mat	rix below to arr	ive at [circle] th	ne functional po	oints and rat	ing [H=high, M	l=moderate, or l	L=low] for t	his function)		
Ownership			Low	1	Distu	rbance at AA Moderate	(#12i)		High		_
Public ownersh	nip		Low 1H			.5M			.2L		_
Private owners	ship		.7M			.3L			.1L		_
Final Rating: .3L Comments:	AA is on private	e land locate	ed off main	highway.							
General Site I	Notes										

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

AA contains fen, bog, warm springs or

mature (>80 yr-old) forested wetland or

AA does not contain previously cited

rare types and structural diversity

(#13) is high or contains plant

AA does not contain previously

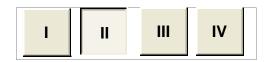
cited rare types or associations

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S) AA-1 WC-Floodplain

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	L	0	1	0
B. MT Natural Heritage Program Species Habitat	Н	1	1	29.19
C. General Wildlife Habitat	Н	.9	1	26.271
D. General Fish Habitat	M	.6	1	17.514
E. Flood Attenuation	М	.6	1	17.514
F. Short and Long Term Surface Water Storage	Н	1	1	29.19
G. Sediment/Nutrient/Toxicant Removal	Н	1	1	29.19
H. Sediment/Shoreline Stabilization	Н	1	1	29.19
Production Export/Food Chain Support	Н	.9	1	26.271
J. Groundwater Discharge/Recharge	Н	1	1	29.19
K. Uniqueness	L	.2	1	5.838
L. Recreation/Education Potential	L	.3	1	8.757
Totals:		8.5	12	248.115
Percent of Possible Score		70.83	%	

Category I Wetland: (Must satisfy one of the following criteria; if does not meet criteria, go to Category II)
Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or
Score of 1 functional point for Uniqueness; or
Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or
Total actual functional points > 80% (round to nearest whole #) of total possible functional points
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; if not satisfied, go to Category IV)
_ ✓ _ Score of 1 functional point for Species Rated S1,S2, or S3 by the MT Natural Heritage Program; or
Score of .9 or 1 functional point for General Wildlife Habitat; or
Score of .9 or 1 functional point for General Fish/Aquatic Habitat; or
Light "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or
Score of .9 functional point for Uniqueness; or
Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; if does not satisfy criteria go to
Category III)
Low" rating for Uniqueness; and
Low" rating for Production Export/Food Chain Support; and
Total actual functional points < 30% (round to nearest whole #) of total possible functional points

OVERALL ANALYSIS AREA RATING: (circle appropriate category based on the criteria outlined below)



MDT Montana Wetland Assessment Form (revised 5/25/1999)

	ne Woods	on Creek			2. MI	OT proje	ct#						Cor	trol#		
8. Evaluation	Date	7/26/2011 4.	Evaluat	ors	S. Fraz	ier / B. S	Sandefu	ır		5. W	/etland/S	ite# (s)	AA-2 W	/C-West	
. Wetland Lo	cation(s): T	г 6N	R 86	E	Sec1	9/16	-	Г		R		Sec	:2			
Approx Statio	ning or Mile	posts														
Vatershed	10030101	L		Wate	rshed/	County	7-1	/lissouri/S	Sun/S	Smith	n Watersh	neds/N	/leagl	ner Cour	nty	
. Evaluating	Agency	Confluence fo	or MDT			8. Wetl	and siz	ze				9.	.18			
Purpose of	Evaluation					acres								\neg		
	•	ffected by MI		ct		How as			Mea	sure	ed e.g. by		40			
	•	re-construct				area (A						9.	18			
✓ Mitigation \ ☐ Other	wetiands: p	ost construc	tion			(acres) How as	S8888	4.	Mea	sure	d e.g. by	GPS				
_	-41					11011 43	303300		woo	ouro	a o.g. by	0. 0				
10. Classifica IGM Class	ation of wet	iand and Aqu	uatic Hab	litats in	AA											
Brinson)	System	Subsystem		s (Cowa			Modifie	er (Cowar	din)	Wa	ater Regim	e			% of AA	
Slope	Palustrine	none	Unc	onsolidat	ted Bott	om	Excava	ted		Pe	rmanently f	flooded	t			10
Slope	Palustrine	none	Eme	ergent We	etland		Excava	ted		Se	asonally flo	oded				75
Depressional	Palustrine	none	Eme	ergent We	etland					Те	mporarily fl	ooded				15
ame major M	ontana Wate	ershed Basin				ites with	nin the	Α	bund	lant						
same major M I2. General C	ontana Wate	ershed Basin	n, see def	finitions	s)	[circle]	appro	oriate re	sons	se)	ent to (with	nin 50	0 fee	t of) AA		
ame major M 2. General C i. Regardin	ontana Wate	ershed Basir AA ce: (use matr	rix below	to dete	ermine n predom of grazed, converted uildings; a	Predoninantly natural hayed, log di; does not and noxious	approportion and appropriate a	condition Land not moderate selectively subject to	sons ns ac cultivat ly graz y logge minor or buil	djace ted, bu ed or l ed; or l clearin	ut may be hayed or has been ng; contains ; noxious we	ed	Land c logged placem hydrolo buildin	ultivated or ; subject to nent, gradir ogical alter	r heavily graz substantial fi ng, clearing, c ation; high roa or noxious we 0%.	II r ad or
ame major M 2. General C i. Regardin	ontana Wate ondition of a g disturband Conditions wite	ershed Basir AA ce: (use matr thin AA primantly natural s wise converted; di	n, see def	to dete	ermine n predom t grazed, converted uildings; a over is <	Predoninantly natural hayed, log di; does not and noxious	approportion and appropriate a	Condition Land not moderate selectively subject to few roads or ANVS	sons ns ac cultivat ly graz y logge minor or buil cover is	djace ted, buted or led; or leadings ldings	ut may be hayed or has been ng; contains ; noxious we	ed	Land c logged placem hydrolo buildin ANVS	ultivated or ; subject to ent, gradir ogical alter g density; o cover is >3	substantial fing, clearing, clearing, clearing, cation; high road or noxious we	II r ad or ed or
AA occurs and is n not grazed, hayed, contain roads or or	conditions wite managed in predocupied buildings 15%. but may be mode ed; or has been s ment, or hydrologic	ershed Basir AA ce: (use matr chin AA minantly natural s wise converted; d c; and noxious wee rately grazed or h subject to relatively ical alteration; cor	n, see def	Managed in state; is no otherwise coads or but or ANVS co	ermine n predom t grazed, convertec uildings; over is <	Predoninantly naturally hayed, log t; does not and noxious =15%.	approperation and approperation approperation and approperation and approperation approperation and approperation and approperation and approperation and approperation approperation approperation approperation and approperation	condition Land not a moderate selectively subject to few roads or ANVS of the condition of	sons ns accultivate ly graz y logge minor or buil cover is	dijace ted, bued or led; or le	ut may be hayed or has been ng; contains; noxious wer	ed	Land c logged placem hydrold buildin ANVS	ultivated or ; subject to nent, gradir ogical alter g density; of cover is >3	substantial fing, clearing, clearing, cation; high room noxious we 10%.	r ad or ed or
AA occurs and is n not grazed, hayed, contain roads or or ANVS cover is <=1 AA not cultivated and contain roads or or selectively logg clearing, fill placen few roads or building.	ontana Wate ondition of a g disturband of a g d	ershed Basin AA ce: (use matr chin AA minantly natural shows converted; do and noxious were rately grazed or h subject to relatively ical alteration; cor ed or ANVS cover cogged; subject to grading, clearing, r building density;	n, see def	Managed in state; is no otherwise of coads or but or ANVS co	ermine n predom nt grazed, convertec uildings; a over is <	Predo Predo Inantly natt hayed, log t; does not and noxious =15%.	approperation appropriate appr	condition Land not a moderate selectively subject to few roads or ANVS a moderate with the moderate selectively subject to few modes or ANVS and the moderate selectively subject to few modes or ANVS and the moderate selectively subject to few moderates and the moderate selectively subject to few moderates and the mo	sons ns ac cultivat ly graz y logge minor or buil cover ir	displayed by the state of the s	ut may be hayed or has been ng; contains; noxious were 19%.	ed	Land c logged placem hydrold buildin ANVS	ultivated or, subject to; subject to; subject to; gradinogical alter g density; cover is >3	o substantial fi ng, clearing, c ation; high ro- or noxious we 00%.	III r ad or ed or
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AA occurs and is n not grazed, hayed, contain roads or or ANVS cover is <=1 AA not cultivated, t or selectively logge clearing, fill placen few roads or buildid <=30%. AA cultivated or he relatively substanti hydrological altera noxious weed or A Comments: (ty	ontana Water ondition of a g disturbance on disturb	ershed Basin AA ce: (use matr chin AA ce: (use matr chin	state; is oes not ed or nayed y minor ntains is ensity, see of the mit. A is graze.	Managed in state; is no otherwise coads or bu or ANVS co	ermine In predom In predom In grazed, convertec In distributed In distributed In predom In predo	Predo	appropriate and appropriate an	priate re condition Land not moderate selectively subject to few roads or ANVS Id mod hi the AA welassified	sons accultival y graz y logge minor or buil cover is gh d	se) ijace ted, bu ded or I clearing ldings s <=30 istur cons	at may be hayed or has been ng; contains; noxious were?	ed 9	Land c logged placem hydrolo buildin ANVS	ultivated or, subject to tent, gradirolent, gradirolent, gradirolent gdensity; cover is >3 oderate high dishiph dishi	substantial fing, clearing, cation, high root or noxious we we will be a sturbance stu	r r r dd or edd or nCe
AA occurs and is n not grazed, hayed, contain roads or or ANVS cover is <=1 AA not cultivated, I or selectively logge clearing, fill placen few roads or buildit <=30%. AA cultivated or he relatively substanti hydrological altera noxious weed or A	ontana Water ondition of a g disturbance ondition of a g disturbance on the second of	ershed Basin AA ce: (use matr chin Converted; do chin Converted; d	state; is oes not ed or hayed y minor hains is of the mit. A is graze tions to W	Managed in state; is no otherwise coods or but or ANVS coods or but or ANVS coods on the determinant of the	ermine In predom In predom In grazed, Convertec Liddings; a Lover is < What Liddings; a Lover is < Liddings; a Lover is < Lover is < Lidings; a Lover is < Lo	Predo Predo Predo Innantly natt hayed, log t; does not tand noxious =15%. Predo Pre	appropriate and appropriate an	priate re condition Land not moderate selectively subject to few roads or ANVS Id mod hi the AA welassified	sons accultival y graz y logge minor or buil cover is gh d	se) ijace ted, bu ded or I clearing ldings s <=30 istur cons	at may be hayed or has been ng; contains; noxious were?	ed 9	Land c logged placem hydrolo buildin ANVS	ultivated or, subject to tent, gradirolent, gradirolent, gradirolent gdensity; cover is >3 oderate high dishiph dishi	substantial fing, clearing, cation, high root or noxious we we will be a sturbance stu	r r r dd or edd or nCe

13. Structural Diversity: (Based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 above)

	·		
# of "Cowardin" ve getated classes present in AA (see #10)	> 3 vegetated classes (or > 2 if one is for ested)	2 vegetated classes (or 1 if forested)	< 1 vegetated dass
Rating (circle)	Н	М	L

Rating (circle)		Н		М	L			
Comments: One veg	etated class p	resent: emerge	ent wetland					
	SECTION	I PERTAI	NING TO	FUNCTI	ON VA	LUES ASSI	ESSMENT	
14A. Habitat for Feder	rally Listed or	Proposed Th	reatened or	Endangered	Plants or A	nimals:		
i. AA is documente	ed (D) or susp	ected (S) to c	ontain (circle	e one basedo	n definitior	contained in in	structions):	
Primary or critical hat	oitat (list spec	ies)	D 🔘 S					
Secondary habitat (lis	st Species)	O I	o 🏻 s					
Incidental habitat (list	t species)	(I	o s					
No usable habitat		•	S					
ii. Rating (use the conc	lusions from i ab			ve at [circle] the	unctional poir	its and rating)		
Highest Habitat Level	doc/primary	sus/primary	doc/second	dary sus/s	condary	doc/incidental	sus/incidental	None
Functional Points and Rating	1H	.9H	.8H		7M	.5L	.3L	OL
Sources for documented use	USFWS T&E	: List - August	2011					
14B. Habitat for plant above)	or animals ra	ted S1, S2, or	S3 by the M	lontana Natur	al Heritage	Program: (not i	ncluding species	ilisted in14A
i. AA is documen	ted (D) or sus	pected (S) to	contain (circ	cle one based	on definition	on contained in i	nstructions):	
Primary or critical hat	oitat (list spec	ies) (o D O S	V	estern toad	d (S2)		
Secondary habitat (lis	st Species)		D • S	F	erriginous H	ławk (S3B), Grea	ter Sage-Grouse	(S2)
Incidental habitat (list	t species)	($\mathbf{D} \cap \mathbf{S}$	A	merican Wh	nite Pelican (S3B)	, Bald Eagle (S3)	
No usable habitat		(⊚ s					
ii. Rating (use the cond points and rating [H=	high, M=mode	erate, or L=low	for the funct					_
Level	primary Sus	/primary Do	c./secondary	Sus./s econda	y Doc./in	cidental Sus./in	cidental None	
Functional Points and Rating	.6M		2L .	1L 0L				
Sources for M	TNHP County	List, observati	ons on site.					

i. Evi	dence o	overa	ui WIIC	anie L	ise in ti	ie AA	IVIC	dera	ıe]								
bstantial (ba	ased on a	any of the	followi	ng [ch	eck]):						Minir	nal (b	ased o	n any of	the follo	wing [cl	heck]):			
observation abundant presence interviews	wildlife si of extrem	gn such ely limiti	as scat, ng habit	track	s, nest st tures not	ructure availat	s, game	e trails,	etc.	•	lit	tle to r	no wildli adjacen	fe observ fe sign it upland local bio	food so	urces				
lerate (bas	ed on any	y of the fo	ollowing	(chec	:k]):															
observation common of adequate interviews	occurrenc adjacent	e of wild upland fo	life sign ood sou	such irces	as scat,	tracks,						eriods								
Wildlife hover to be co A (see #10). osent [see in	nsidered Abbrevia	evenly d ations for	istribute surface	ed, the e wate	most an r duration	d least ns are a	prevale as follov	nt veg e	etated o	lasses	must be	within	n 20% d	of each o	ther in t	erms of	their p	ercent o	compos	ition of
tructural versity ee #13)				Hi	gh							Мо	derate					Lo	w	
Class cover istribution all egetated		Evei	า			Une	ven			Ev	en			Une	ven			Eve	en	
lasses) Duration of urface vater in ≥ 0% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А
ow sturbance : AA (see 12i)	E	E	Е	Н	E	Е	Н	Н	Е	Н	Н	М	E	Н	М	M	Е	Н	М	M
oderate sturbance AA (see 12i)	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	M	М	Н	М	М	L	Н	М	L	L
l igh isturbance t AA (see 12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L	L	L	L	L	L
i. Rating	g (use t	the con	ıdusio	ons fi	rom i a	nd ii a	bove	and tl	he ma	trix be	elow t	o arri	ve at	[circle]	the fu	unctio	nal po	oints a	nd rat	ting)
vidence (of wildli	fe use	(i)			_							bitat i	feature				i		
bstanti	al						otiona	l I			High					derate				Lov
oderate						_	1E			-	.9H				_	3H			_	.7N
linimal							.9H	1			.7M	+			.5	M				.3L
							6M			_	.4M					2L				.1L
mments																				
D. Generally use occurs in the desired that the desired t	e AA co used by in the A	UId be fish du A but i	used ue to la s not d	lby fi ack d desir	sh [i.e. of habit ed fron	, fish at, ex n a re:	use is cessiv source	precl e gra man	luded dient, agem	by pe etc., ent p	rched click ersped	culv ctive	ert or (NA) [such	other l here a as fish	parrier and pr a use v	r, etc.] oœed within	. If the d to th an irri	e AA is e nex igation	s not o t func	orwa tion. I
	abitat Q (L) quali			appro	priate A	A attri	butes	in matı	rix to a	rrive a	t excep	otiona	al (E), l	high (H)	, mode	erate (l	И),			

use occurs in the AA but is not desired from a resource management perspective [such as itsn use within an irrigation canal], the Habitat Quality [i below] should be marked as "Low", applied accordingly in ii below, and noted in the comments.)											
 i. Habitat Quality (circle appropriate A or low (L) quality rating. 	A attributes	s in matrix to a	arrive at exc	ceptional (E), high (H),	modera	ite (M),				
Duration of surface water in AA	Po	ermanent/ Perenn	ial	Seas	onal/ Intermitte	nt	Temp	orary/ Epheme	ral	ı	
Cover -% of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.											

Е

Н

М

Shading - >75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	Е
Shading – 50 to 75% of streambank or shoreline within AA contains rip. Or wetland scrub-shrub or forested communities	Н
Shading - <50% of streambank or shoreline within AA contains rip. Or wetland scrub-shrub or forested communities	Н

Н

М

L

М

М

L

М

М

L

М

L

М

L

L

Н

М

М

Н

М

М

ii. Modified level [E=H, H= activity or is th including cold (circle)	=M, M=L ne wateri	ody include	h use of th d on the M	ne AA pred IDEQ list d	cluded or of waterb	signific	antly redu	iced by	y a culvert, developme	dike, or o ent with lis	ther r ted "F	man-made	structi npaire	ure or d Uses"	
		the conclusi						o arriv	e at [circle]	the functi	onal	points and	rating		
Types of fish known or	exceptio	nal, H=high,) ed Habitat Qu								
suspected within AA Native game fish		Exceptional 1E			High .9H				derate 7M			Low 5M			
Introduced game fish		.9H			.8H				6M		_	.4M			
Non-game fish		.7M			.6M				5M			.3L			
No fish		.5M			.3L				2L			.1L			
Comments															
	overbani i ng (wor		k 🔽 o to bottom	NA here	e and pr	oceed t	o the nex	t func	tion.)					ot floode	ed
Estimated wetland area in subject to periodic flooding	1 AA	, or L=10W] 1	> 10 acres	otion.			<10>2 acre	es			<u><</u> 2	2 acres			
% of flooded wetland clas as forested, scrub/shrub, both	sified	75%	25-75%	<25%		75%	25-75%	6	<25%	75%		25-75%	<25%		
AA contains not outlet or restricted outlet		1H	.9H	.6M		8H	.7M	1	.5M	.4M		.3L	.2L	-	
AA contains unrestricted of	outlet	.9H	.8H	.5M		7M	.6N	1	.4M	.3L		.2L	.1L	-	
14F. Short and L in-channel flow, proflooding or ponding. i. Rating (Working Abbreviations for sand T/E = temporary)	recipitat g, checl ng from surface	on, upland s NA h top to botton water durati	surface floor nere and p m, use the ons are as	ow, or groor or	undwate 14G.) elow to P/P = p	er flow. arrive a ermane	If no wet t [circle] t nt/perent	lands the fur nial; S	in the AA nctional po	are subje	ct to] .			
Estimated maximum acr	A that are			>5 a c	re feet			1	.1 to 5 acre fe	eet			≤1 acr	e foot	
periodic flooding or pone Duration of surface wate AA		ndswithin the	P/P	8	S/I	T/E	P/	P	S/I	T/E	T	P/P		S/I	T/E
Wetlands in AA flood or	pond≥5	out of 10 years	1H	.91	+	.8H	.81	1	.6M	.5M		.4M	T.	.3L	.2L
Wetlands in AA flood or			.9H	.81	Н	.7M	.7N	1	.5M	.4M		.3L		.2L	.1L
		f ponding F							ing 2011	site visit.	Мах	depth of	pond	ing in la	rge
14G. Sediment/N toxicants through here and proceed	influx of	surface or												nts, or NA	
					alow to	arriva a	t [circle] t	he fu	nctional po	oints and	ratino	g [H = hig	h, M =	modera	te,
i. Rating (working or L = low])	g from	op to bottor	m, use the	matrixb	CIOW to	arrive a	. [00.0]								
or L = low]) Sediment, nutrient, and within AA	toxicant in	put levels	AA receives deliver levels levels such impaired. Mi toxicant	or surround s of sedimen that other fu nor sedimen s, or signs o	ing land us ts, nutrient inctions are tation, sou	se with poss, or compends of substrates of nustration pres	tential to bounds at stantially trients or	Wa "pro or	aterbody on M bable causes surrounding ients, or com Major sedir	s' related to s land use with pounds such mentation, so eu	sedime n poter that o ources	ent, nutrients ntial to delive other function	ortoxicer high le sare sul ortoxicar	ants or AA wels of sec b stantially nts, or sign	receives liments, impaired.
or L = low]) Sediment, nutrient, and	toxicant in	put levels IA	AA receives deliver levels levels such impaired. Mi toxicant ≥ 70%	or surround s of sedimen that other fu nor sedimen s, or signs o	ing land us ts, nutrient inctions are tation, sou f eutrophic	se with poss, or compends substrates	tential to ounds at stantially trients or sent.	Wa "pro or	aterbody on N bable causes surrounding ients, or com Major sedir	s" related to stand use with pounds such mentation, so	sedime n poter i that o ources trophic	ent, nutrients ntial to delive other function of nutrients	or toxic er high le s a re sul or toxicar it.	ants or AA vels of sec bstantially	receives liments, impaire d. s of
or L = low]) Sediment, nutrient, and within AA % cover of we tland vege	toxicant in	put levels	AA receives deliver levels levels such impaired. Mi toxicant	or surround s of sedimen that other fu nor sedimen s, or signs o	ing land us ts, nutrient inctions are tation, sou	se with poss, or compends of substrates of nustration pres	tential to bounds at stantially trients or	Wa "pro or	aterbody on M bable causes surrounding ients, or com Major sedir	s' related to s land use with pounds such mentation, so eu	sedime n poter that o ources	ent, nutrients ntial to delive other function of nutrients	ortoxicer high le sare sul ortoxicar	ants or AA wels of sec b stantially nts, or sign	receives liments, impaired.
or L = low]) Sediment, nutrient, and within AA % cover of we tland vege Evidence of flooding/p	toxicant in	put levels	AA receives deliver levels such impaired. Mi toxicant ≥ 70%	or surround s of sedimen that other fu nor sedimen s, or signs o	ing land usts, nutrient unctions are tation, sou feutrophic	se with poss, or compends of substrates of nustration pres	tential to counds at stantially trients or sent.	Wa "pro or	aterbody on N bable causes surrounding ients, or com Major sedir	s' related to s land use with pounds such mentation, so eu	n poter that o ources trophic	ent, nutrients ntial to delive other function of nutrients	or toxic er high le s a re sul or toxicar tt.	ants or AA wels of sec b stantially nts, or sign	receives iments, impaired. s of

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, click **NA** here and proceed to 14I.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

% Cover of wetland streambank or shoreline by species with		Duration of surface water adjacent to rooted vegetation										
stability ratings of ≥6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral									
≥ 65%	1H	не.	.7M									
35-64%	.7M	.6М	.5M									
< 35%	.3L	.2L	.1L									

Comments: Palustrine unconsolidated bottom habitat in AA depression considered too small to be subject to wave action.

14I. Production Export/Food Chain Support:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H=high, M=moderate, or L=low] for this function. Factor A = acreage of vegetated component in the AA; Factor B = Structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P=permanent/perennial; S/l=seasonal/intermittent; T/E/A=temporary/ephemeral or absent [see instructions for further definitions of these terms].

Α	Vegetated component >5 acres						Vegetated component 1-5 acres					Vegetated component <1 acre							
В	High		Mod	Moderate		Low		High		Moderate		Low		High		Moderate		Low	
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
P/P	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L	
S/I	.9Н	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L	
T/E/A	.8H	.7M	.7	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L	

Comments:

The AA contains no direct surface or subsurface outlet. The regime is P/P based on the presence of permanent inundation from groundwater and irrigation water in the large depression.

14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below)

	i. Discharge Indicators		ii. Recharge Indicators
Ш	The AA is a slope wetland		Permeable substrate present without underlying impeding layer
Д	Springs or seeps are known or observed	~	Wetland contains inlet but no outlet
Ш	Vegetation growing during dormant season/drought		Stream is a known 'losing' stream; discharge volume decreases
Ш	Wetland occurs at the toe of a natural slope		Other:
\Box	Seeps are present at the wetland edge		
	AA permanently flooded during drought periods		
\Box	W etland contains an outlet, but no inlet		
✓	Shallow water table and the site is saturated to the surface		
	Other:		

iii. Rating: Use the information from i and ii above and the table below to arrive at [circle] the functional points and rating [H=high. I =low] for this function

runctional points and rating [H=nigh, L=low] for this function.					
Criteria	Functional Points and Rating				
AA is known Discharge/Recharge area or one or more indicators of D/R present	1H				
No Discharge/Recharge indicators present	0.1L				
Available Discharge/Recharge information inadequate to rate AA D/R potential	NA				

Comments:

The relatively deep depression in the western portion of the AA is fed by shallow groundwater and was interpreted to be permanently inundated. The depression has no direct outlet (i.e., drains via overland flow).

14K. Uniqueness:

Replacement potential

			MTNHP			MTNHP	<u> </u>	low-moderate				
Estimated relation	ve abundance (#11)	rare	rare common abunda		rare	abundant	t rare common		n abundant			
Low disturbance	e at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L		
Moderate distur	bance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L		
High disturbance	e at AA (#12i)	.8H	.7H	.6M	.6M	.4M	.3L	.3L	.2L	.1L		
Comments:												
14L. Recreati	on/Education Pot						If yes, rate as [c				to iii)	
ii.	Check categories t											
iii.	Based on the locat then proceed to iv; if				s, is there	strong poten	tial for rec./ed.	use?	OY	N (If yes, g	o to	
iv.	Rating (use the mat	trix below to ar	rive at [circle] th	e functional poi				_=low] for	this function)			
Ownership			Low		Distu	rbance at AA Moderate	(#12i)	High				
Public owners	hip		1H			.5M		.2L				
Private owner	ship		.7M			.3L		.1L				
.7M Comments: General Site	Site is privately Notes											

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

AA contains fen, bog, warm springs or

mature (>80 yr-old) forested wetland or

plant association listed as "S1" by the

AA does not contain previously cited

rare types and structural diversity

(#13) is high or contains plant

association listed as "S2" by the

AA does not contain previously

cited rare types or associations

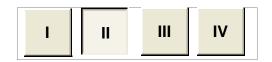
and structural diversity (#13) is

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S) AA-2 WC-West

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	L	0	1	0
B. MT Natural Heritage Program Species Habitat	Н	1	1	9.18
C. General Wildlife Habitat	Н	.9	1	8.262
D. General Fish Habitat	NA	0	0	0
E. Flood Attenuation	NA	0	0	0
F. Short and Long Term Surface Water Storage	Н	.8	1	7.344
G. Sediment/Nutrient/Toxicant Removal	Н	1	1	9.18
H. Sediment/Shoreline Stabilization	NA	0	0	0
Production Export/Food Chain Support	М	.7	1	6.426
J. Groundwater Discharge/Recharge	Н	1	1	9.18
K. Uniqueness	L	.3	1	2.754
L. Recreation/Education Potential	М	.7	1	6.426
Totals:		6.4	9	58.752
Percent of Possible Score		71.11	%	

Category I Wetland: (Must satisfy one of the following criteria: if does not meet criteria, go to Category II)
Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or
Score of 1 functional point for Uniqueness; or
Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or
Total actual functional points > 80% (round to nearest whole #) of total possible functional points
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; if not satisfied, go to Category IV)
Score of 1 functional point for Species Rated S1,S2, or S3 by the MT Natural Heritage Program; or
Score of .9 or 1 functional point for General Wildlife Habitat; or
Score of .9 or 1 functional point for General Fish/Aquatic Habitat; or
"High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or
Score of .9 functional point for Uniqueness; or
Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; if does not satisfy criteria go to
Category III)
Lów" rating for Uniqueness; and
"Low" rating for Production Export/Food Chain Support; and
Total actual functional points < 30% (round to nearest whole #) of total possible functional points

OVERALL ANALYSIS AREA RATING: (circle appropriate category based on the criteria outlined below)



MDT Montana Wetland Assessment Form (revised 5/25/1999)

1. Project nan	ne Woods	son Creek		2. MDT proje	ect#			Control#			
3. Evaluation Date 7/26/2011 4. Eval			aluators	S. Frazier / B. S	ır	5. Wetland/Site#	(s) AA-3	AA-3 WC-East			
6. Wetland Lo	ocation(s): 1	Г 6N I	8E	Sec1 16		T	RS	ec2	2		
Approx Statio	ning or Mile	eposts									
Watershed	10030101		Wa	tershed/County	7-1	Missouri/Sun/	Smith Watershed/l	Meagher Co	unty		
7. Evaluating	Agency	Confluence for M		8. Wet				31.27	•		
Purpose of Evaluation acres											
Wetlands potentially affected by MDT project How assessed: Measured e.g. by GPS Measured e.g. by GPS 9. Assesssment 31.27											
_	_	re-construction		9. Ass area (A			3	1.27			
	Wetlands: p	ost construction	1	(acres)							
Other				How as	ssesse	d: Mea	asured e.g. by GPS	5			
	ation of Wet	land and Aquation	Habitats	in AA							
HGM Class (Brinson)	System	Subsystem	Class (Co	wardin)	Modifi	er (Cowardin)	Water Regime		% of AA		
Riverine	Palustrine	none	Aquatic Be	ed	Excava	ated	semi-permanently	flooded	10		
Riverine	Palustrine	none	Emergent '	Wetland			seasonally flooded	t	90		
]										
same major M 12. General C	ontana Wate	oundance: (of sir ershed Basin, se AA ce: (use matrix b	e definitio	ons) etermine [circle]	appro	priate reson	se)				
:			Manage	Predent of in predominantly nat		II .	djacent to (within 5 ated, but may be		I <i>A</i> d or heavily grazed or		
С	Conditions wit	thin AA	otherwis roads or	not grazed, hayed, log se converted; does not buildings; and noxiou S cover is < =15%.	contain selectively logges sweed subject to minor		zed or hayed or ged; or has been r clearing; contains uildings; noxious weed is <=30%.	logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is >30%.			
not grazed, hayed	, logged, or other ccupied buildings	ominantly natural state; wise converted; does n s; and noxious weed or	ot	low disturbanc	е	low o	listurbance	modera	moderate disturbance		
or selectively logg clearing, fill placer	ed; or has been s ment, or hydrolog	erately grazed or hayed subject to relatively min- pical alteration; contains ed or ANVS cover is		derate disturba	ince moderate		te disturbance	high disturbance			
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is >30%.				igh disturbance	Э	high o	disturbance	high	high disturbance		
	· ·	urbance, intensit									
bordered by pa	sture and cu		The wetlar	nds/waters in the	AA we	re classified a	. The AA is manag as riverine wetlands				
ii. Prominent ii Cirsium arvens		uatic nuisance, c B weed.	ther exoti	c species:							
		nary of surround		ıse/habitat							
The AA is bord	ered by past	cure and cultivated	ag fields.								

13. Structural Diversity: (Based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 above)

# of "Cowardin" ve getated classes present in AA (see #10)	> 3 vegetated classes (or > 2 if one is forested)	2 vegetated classes (or 1 if forested)	< 1 vegetated dass
Rating (circle)	Н	М	L

				Н			М	L	
Comments: Two veg	etated class	ses: emergen	nt wetland and a	aquatic be	d				
	SECTIO	ON PERT	AINING T	O FUN	ICTION	I VAL	UES ASS	ESSMENT	
14A. Habitat for Fede	rally Listed	or Propose	d Threatened	or Endanç	gered Plan	ts or An	imals:		
i. AA is documente	ed (D) or su	spected (S)	to contain (cir	cle one b	asedon de	finition	contained in in	structions):	
Primary or critical ha	bitat (list sp	oecies)	□ D □ S						
Secondary habitat (lis	st Species)		⊙ D ⊙ S						
Incidental habitat (lis	t species)		⊙ D ⊙ S						
No usable habitat			● s						
ii. Rating (use the cond	clusions from i	above and the	_	rrive at [circ	le] the function	onal point	s and rating)		
Highest Habitat Level	doc/primary	/ sus/prima	ary doc/seco	ondary	sus/second	dary	doc/incidental	sus/incidental	None
Functional Points and Rating	1H	.9Н	.8	Н	.7M		.5L	.3L	0L
Sources for documented use	USFWS T	-&E List - Auç	gust 2011						
14B. Habitat for plant above) i. AA is documen			-			_			s listed in14A
Primary or critical ha			• D ○ S			ern toad			
Secondary habitat (lis	st Species)		\bigcirc D \odot S		Ferrig	inous Ha	awk (S3B), Grea	iter Sage-Grouse	(S2)
Incidental habitat (lis			• D O S		Ameri	can Whi	ite Pelican (S3B), Bald Eagle (S3)
No usable habitat				•					
ii. Rating (use the con points and rating [H=			d the matrix bel		e at [circle]] the fun	ctional		
		Sus./primary	Doc./secondary		econdary	Doc./inc	idental Sus./in	cidental None	
Functional Points and Rating	1H	.8H	.7M	<u> </u>	6M	.2	<u> </u>	1L OL	Ī
Sources for Mocumented use	ITNHP Cour	nty List, obse	rvations on site	·.					

i. Evi					ıse in tl	ne AA	Mo	odera	te												
Substantial (ba	ased on a	any of the	e followi	ng [ch	eck]):						Mini	nal (b	ased o	n any of	the follo	wing [c	heck]):				
abundant presence of interviews Moderate (base observation common of the common of th	observations of abundant wildlife #s or high species diversity (during any period) abundant wildlife sign such as scat, tracks, nest structures, game trails, etc. presence of extremely limiting habitat features not available in the surrounding area interviews with local biologists with knowledge of the AA **Moderate** (based on any of the following [check]): V																				
ii. Wildlife h cover to be co AA (see #10).	with local abitat f nsidered Abbrevia	eatures evenly dations for	sts with S (Work listribute r surface	knowl sing fro ed, the e wate	om top to most and r duration	bottom d least ins are a	prevale	ent veg e	etated o	classes	must be	e within	า 20% ต	of each o	ther in t	erms of	their p	ercent o	compos	sition of	
absent [see in: Structural diversity	structions	s for furth	ner defin		gh	<u>termsj)</u>						Мо	derate					Lo	w		
Class cover distribution (all vegetated classes)	distribution (all Even vegetated				Une	ven			Ev	en			Uneven				Eve	en			
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	Α	P/P	S/I	T/E	А	
disturbance at AA (see #12i)	Е	E	Е	Н	Е	Е	Н	ш	Е	Н	Н	М	Е	Н	М	M	Е	Н	М	M	
Moderate disturbance at AA (see #12i)	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L	
High disturbance at AA (see #12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L	L	٦	L	L	L	
iii. Rating	1 (uso 1	he con	dueid	one fi	rom i a	nd ii a	hove	and th	he ma	otriv h	elow t	o arri	ve at	[circle]	the fu	ınctio	nal no	inte a	nd ra	tina)	
Evidence of)113 11	Omrai	iiu ii a	DOVE	and ti	IIC IIIC					feature			nai po	iii S a	nu ra	urig)	
Substantia	-1					Exœ		al I			High	1			Mod	derate				Lo	v
Moderate	2 1					_	1E			_	.9H			8H					.7N	1	
							9H				.7M				.5	5M				.3L	
Minimal							6M				.4M				.2	2L				.1L	
Comments Depressions within AA were dry or close to being dry during 2011 site visit in Ju					uly. Lo	ngest	t dura	tion of	fSW	asses	sed as "S/I".										
such that the historically u use occurs in	IAD. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA coUld be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., click (NA) here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective [such as fish use within an irrigation canal], the Habitat Quality [i below] should be marked as "Low", applied accordingly in ii below, and noted in the comments.)																				
		•			priate A			• •		·	•		•					-,			
or low (].				Pe	rmanent/	Perenni	al		5	Seasona	/ Intermitte	ent	<u> </u>	Temp	orary/ E	phemer	al	7
Cover - % of wat as submerged lo banks, floating-le	gs, large r	ocks & bo	ulders, o			>25	%	10-25	5%	<109	6 :	>25%	10	0-25%	<10%	>25		10-25		<10%	
Shading - >75% contains riparian communities	or wetlan	d scrub-sh	rub or fo	rested		E		Е		Н		Н		Н	М		М	N	Л	М	
Shading – 50 to contains rip. Or v communities					nin AA	H	1	Н		М		М		М	М	<u>.</u>	М	ı	-	L]

М

М

Н

Shading - <50% of streambank or shoreline within AA contains rip. Or wetland scrub-shrub or forested communities

М

L

L

L

L

ii. Modified Habit level [E=H, H=M, M= activity or is the wate including cold or wat (circle)	=L, L=L]). Is erbody inclu	s fish i uded o shery o	use o	of the AA e MDEQ	precl list of	uded o f waterl	r sign	ificantl	y reduce	ed by 1DL	y a culve	rt, dik	e, or oth with liste	er man-	made able l	strud mpail	cture red U	or ses"
	se the conc								elow to	arriv	e at [circ	le] the	e functio	nal point	s and	d ratin	ng	
Types of fish known or								abitat Qual						_]	
suspected within AA Native game fish	Excepti					ligh					derate	1		Low				-
Introduced game fish	1E		9H								7M	1			5M			4
Non-game fish	.9⊦ .7N			-	.8H .6M						6M 5M	1			.4M .3L			-
No fish	.51			_		.3L			-		2L	1			.0L			-
Comments				<u>-</u>									l					
M=modera Estimated wetland area in AA subject to periodic flooding	nk flow, chorking from the tensor Lelon	top tow top tow for 2	o bot this 10 acr	tom, use function.	here the m	and p	rocee elow t	ed to th to arriv	ne next force at [circons of the second of t	unc	tion.) he functi		points ar	nd rating	[H=h	nigh,		looded
% of flooded wetland classified as forested, scrub/shrub, or both	75%	2	25-759	% <	25%		75%		25-75%		<25%		75%	25-75	%	<25	%	
AA contains not outlet or restricted outlet	1H		.9H	<u>.</u>	6M		.8H		.7M		.5M		.4M	.3	L		2L	
AA contains unrestricted outlet	.9H		.8H	1 .	5M		.7M	Ш	.6M		.4M		.3L	.2	L		1L	
14F. Short and Long Tin-channel flow, precipit flooding or ponding, che i. Rating (Working from Abbreviations for surface and T/E = temporary/ep	ation, uplance Notes No	nd su IA her ottom, ration	rface re ar , use ns ar	e flow, or nd proces the mati e as follo	grounded to rix bears: F	indwat 14G.) elow to P/P = p	er flov arrivo erma	w. If n e at [c anent/p	io wetla ircle] the perennia	nds e fur al; S	in the Anctional	A are	s ubjects and ra	t to				
Estimated maximum acre feet o in wetlands within the AA that a periodic flooding or ponding		ned			>5 a cr	e feet				1	.1 to 5 acre	e feet				≤1 a	acre foo	ot
Duration of surface water at wet	tlandswithin th	he		P/P	S	/1	T.	/E	P/P		S/I		T/E		P/P		S/I	T/E
Wetlands in AA flood or pond ≥	5 out of 10 ye	ears	1	н	.9⊦	1	.81	1	.8H		.6M		.5M	·	4M		.31	2L
Wetlands in AA flood or pond <	5 out of 10 ye	ears	.9	Н	.8⊦	1	.7N	1	.7M		.5M		.4M		.3L		.21	L .1L
	ions withir x depth =											sit. I	_ongest	duratio	n of	pond	ding	was assessed
 14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, check NA here and proceed to 14H.) i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, 																		
or L = low]) Sedment, nutrient, and toxicant within AA	•	de le	liver le evels s paired tox	eives or surr evels of sed such that oth d. Minor sed icants, or sid	iments ner fur limenta	s, nutrien nctions a ation, so	ts, or one of the notest of th	compoun substant of nutrien present.	nds at ially	"pro or	bable caus surroundir ients, or co	ses" re ng land ompou diment	lated to se I use with p nds such th at ion, sour eutro	diment, nu ootential to nat other f	at rients o de live unction rients	s, orto: erhigh nsare: ortoxio	vicants levels substa cants,	evelopment for sor AA receives of sediments, intially impaired. or signs of
% cover of we tland vege tation in Evidence of flooding / p onding in		Ye	≥	70% No		Yes	< 70				Yes	≥ 7	0%	No		Yes	< 7	70% No
AA contains no or restricted or	utlet		H	.8H		.7M	1	.51	1		.5M			IM	\dagger	.3L		.2L
AA contains unrestricted outle	t		нΪ	.7M		.6M	İ	.41	м		.4M		.3	3L		.2L		.1L

B-40

Evidence of ponding noted within AA. AA contains no outlet (i.e., drains via overland flow).

Comments:

	ting (wor	streamb		to botto	m, use	the mat	rix belo			circle] the e water adj				rating)				1	
	eline by spec ratings of ≥6 lix F).			Per	rmanent /	Perennial			Se	asonal / Int	ermittent			Ter	mporary / I	Ephemera	I		
≥ 65%					1H		.91				1				.7M				
5-64%					.7N	1				.6M					.5M				
35%					.3L					.2L					.1L				
mr	nents:	Seas	sonall	v inun	dated	areas	with v	vell-ve	netate	ed sho	reline	larne	r area	in SE	corne	r of th	e site	J notent	ially
,,,,,,	nonto.					durin						, largo	- urou	0_	001110	. 01 111	o ono	potorit	idily
i.		[H=hig B = St outlet; S/I=se terms]	h, M=n ructura the fina asonal	noderato I diversi al three /intermit	e, or L= ty rating rows pe ttent; T/	low] for to g from #rertain to	this fund 13; Fact duration	ction. For C = n of sur	actor A whethe face wa eral or a	o arrive and a content of a con	ge of ve he AA o e AA, w see inst	egetated contains here P/	d compo s a surfa P=perm	nent in t ice or su anent/p her defir	the AA; ubsurfact erennia nitions c	Factor ce l; of these			
	High			ponent >5 erate		OW	Hi	Vege gh		ponent 1-5 lerate		ow	Hi	Vege gh	tated com Mode	ponent <1 erate		ow	
3	Yes 1H	No .9H	Yes .9H	No .8H	Yes .8H	No .7M	Yes .9H	No .8H	Yes .8H	No .7M	Yes .7M	No .6M	Yes .7M	No .6M	Yes .6M	No .4M	Yes .4M	No .3L	
P/P			_																
i/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L	
/E/A	.8H	.7M	.7	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L	
	Ground i. Disch. The AA is Springs o Vegetatio Wetland o Seeps are AA perma Wetland o Shallow w Other:	dwate arge In a a slop r seeps n grow occurs e prese anently contain	r Disc ndicato be wetland are known ing dur- at the total the flooded s an out	harge/ rs and aown or ing dorn oe of a r e wetlar d during	Recha observenant seanatural seand edge drought no inlet	rge: (c	heck t	he app	ection	ii. Re	cators echarge eable s and con	Mile C in i & Indica ubstrate tains inl	reek. ii belo	w)	underly	ing imp	eding la	yer	
						jh, L=lov				e table b	pelow to		at [circle		ts and F	Rating			
	iii. funct	ional p	/D 1	arge ar			re indic	ators of	D/R pr	esent				11					
AA is	funct known Di	scharg									1					1		1	
AA is No Dis	funct	scharg	ge indi	cators p			4-1-		/D :	-4:-1				0.1	L				

14K. Uniqueness:

Replacement potential

Replacement pot	ential		60 yr-old) foreste ociation listed as MTNHP		(#1 asso	3) is high or cor ociation listed as MTNHP	"S2" by the		rare types or a structural diver low-moder	sity (#13) is
Estimated relative	e abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant
Low disturbance	at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L
Moderate disturb	ance at AA (#12i)	.9Н	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L
High disturbance	at AA (#12i)	.8H	.7H	.6M	.6M	.4M	.3L	.3L	.2L	.1L
Comments:										
14L. Recreation	on/Education Pot	ential: i. Is	the AA a kno	wn rec./ed.	Site C) Y • N (If yes, rate as [c	ircle] High	n [1] and go to	ii; if no go to iii)
ii.	Check categories t	hat apply to t	he AA:Edu	ucational/;scie	ntific study;	Consumpti	ve rec.;Nor	n-consum	ptive rec.;	_Other
iii.	Based on the locat then proceed to iv; if	no, then rate	as [circle] Low [0.1])	•					(If yes, go to
iv.	Rating (use the mat	Trix below to ar	rive at [circle] th	e functional p				=IOW] TOF	this function)	
Ownership			Low		Disti	urbance at AA Moderate	(#121)		High	
Public ownersh	nip		1H			.5M			.2L	
Private owners	hip		.7M			.3L			.1L	
Final Rating: .3L Comments: General Site I	Site is privately Notes	owned.								

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

AA contains fen, bog, warm springs or

AA does not contain previously cited

rare types and structural diversity

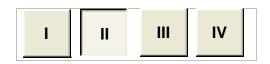
AA does not contain previously

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S) AA-3 WC-East

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	L	0	1	0
B. MT Natural Heritage Program Species Habitat	Н	1	1	31.27
C. General Wildlife Habitat	М	.5	1	15.635
D. General Fish Habitat	NA	0	0	0
E. Flood Attenuation	М	.5	1	15.635
F. Short and Long Term Surface Water Storage	М	.6	1	18.762
G. Sediment/Nutrient/Toxicant Removal	Н	1	1	31.27
H. Sediment/Shoreline Stabilization	Н	.9	1	28.143
Production Export/Food Chain Support	Н	.8	1	25.016
J. Groundwater Discharge/Recharge	Н	1	1	31.27
K. Uniqueness	L	.2	1	6.254
L. Recreation/Education Potential	L	.3	1	9.381
Totals:		6.8	11	212.636
Percent of Possible Score		61.82	%	

Category I Wetland: (Must satisfy one of the following criteria; if does not meet criteria, go to Category II)
Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or
Score of 1 functional point for Uniqueness; or
Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or
Total actual functional points > 80% (round to nearest whole #) of total possible functional points
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; if not satisfied, go to Category IV)
Score of 1 functional point for Species Rated S1,S2, or S3 by the MT Natural Heritage Program; or
Score of .9 or 1 functional point for General Wildlife Habitat; or
Score of .9 or 1 functional point for General Fish/Aquatic Habitat; or
"High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or
Score of .9 functional point for Uniqueness; or
Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.
✓ Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; if does not satisfy criteria go to
Category III)
Lichary rating for Uniqueness; and
"Low" rating for Production Export/Food Chain Support; and
Total actual functional points < 30% (round to peacest whole #) of total possible functional points

OVERALL ANALYSIS AREA RATING: (circle appropriate category based on the criteria outlined below)



Noodson Creek 2011 Wetland M	Mitigation Monitoring Report
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Appendix C

Project Area Photographs

MDT Wetland Mitigation Monitoring Woodson Creek Meagher County, Montana





Photo Point 1 – Photo 1 Bearing: 208 Degrees Location: North Side Taken in 2010



Photo Point 1 – Photo 1 Bearing: 208 Degrees Location: North Side Taken in 2011



Location: North Side Photo Point 1 – Photo 2 Bearing: 226 Degrees Taken in 2008



Photo Point 1 – Photo 2 Bearing: 226 Degrees Location: North Side Taken in 2010



Photo Point 1 – Photo 2 Bearing: 226 Degrees Location: North Side Taken in 2011



Photo Point 1 – Photo 3 Bearing: 249 Degrees

Location: North Side Taken in 2008



Photo Point 2 – Photo 1 Bearing: 197 Degrees

Location: East-central Taken in 2008



Photo Point 1 – Photo 3 Bearing: 249 Degrees

Location: North Side Taken in 2010



Photo Point 2 – Photo 1 Bearing: 197 Degrees

Location: East-central Taken in 2010



Photo Point 1 – Photo 3 Bearing: 249 Degrees

Location: North Side Taken in 2011



Photo Point 2 – Photo 1 Bearing: 197 Degrees

Location: East-central Taken in 2011



Photo Point 2 – Photo 2 Bearing: 230 Degrees

Location: East-central Taken in 2008



Photo Point 2 – Photo 3 Bearing: 266 Degrees

Location: East-central Taken in 2008



Photo Point 2 – Photo 2 Bearing: 230 Degrees

Location: East-central Taken in 2010



Photo Point 2 – Photo 3 Bearing: 266 Degrees

Location: East-central Taken in 2010



Photo Point 2 – Photo 2 Bearing: 230 Degrees

Location: East-central Taken in 2011



Photo Point 2 – Photo 3 Bearing: 266 Degrees

Location: East-central Taken in 2011



Photo Point 3 – Photo 1 Bearing: 95 Degrees

Location: West Side Taken in 2008



Photo Point 3 – Photo 2 Bearing: 132 Degrees

Location: West Side Taken in 2008



Photo Point 3 – Photo 1 Bearing: 95 Degrees

Location: West Side Taken in 2010



Photo Point 3 – Photo 2 Bearing: 132 Degrees

Location: West Side Taken in 2010



Photo Point 3 – Photo 1 Bearing: 95 Degrees

Location: West Side Taken in 2011



Photo Point 3 – Photo 2 Bearing: 132 Degrees

Location: West Side Taken in 2011



Photo Point 3 – Photo 4 Bearing: 224 Degrees

Location: West Side Taken in 2008



Photo Point 4 – Photo 1 Bearing: 203 Degrees

Location: East Side Taken in 2008



Photo Point 3 – Photo 4 Bearing: 224 Degrees

Location: West Side Taken in 2010



Photo Point 4 – Photo 1 Bearing: 203 Degrees

Location: East Side Taken in 2010



Photo Point 3 – Photo 4 Bearing: 224 Degrees

Location: West Side Taken in 2011



Photo Point 4 – Photo 1 Bearing: 203 Degrees

Location: East Side Taken in 2011



Photo Point 4 – Photo 2 Bearing: 225 Degrees

Location: East Side Taken in 2008



Photo Point 4 – Photo 3 Bearing: 262 Degrees

Location: East Side Taken in 2008



Photo Point 4 – Photo 2 Bearing: 225 Degrees

Location: East Side Taken in 2010



Photo Point 4 – Photo 3 Bearing: 262 Degrees

Location: East Side Taken in 2010



Photo Point 4 – Photo 2 Bearing: 210 Degrees

Location: East Side Taken in 2011



Photo Point 4 – Photo 3 Bearing: 262 Degrees

Location: East Side Taken in 2010



Photo Point 4 – Photo 4 Bearing: 296 Degrees

Location: East Side Taken in 2008



Photo Point 4 – Photo 5 Bearing: 324 Degrees

Location: East Side Taken in 2008



Photo Point 4 – Photo 4 Bearing: 296 Degrees

Location: East Side Taken in 2010



Photo Point 4 – Photo 5 Bearing: 324 Degrees

Location: East Side Taken in 2010



Photo Point 4 - Photo 4 Bearing: 296 Degrees

Location: East Side Taken in 2011



Photo Point 4 – Photo 5 Bearing: 324 Degrees

Location: East Side Taken in 2011



Transect 1 – Photo 1
Bearing: 134 Degrees

Location: Start (west end)
Taken in 2008



Transect 1 – Photo 2
Bearing: 314 Degrees

Location: End Taken in 2010



Transect 1 – Photo 1
Bearing: 134 Degrees

Location: Start (west end)
Taken in 2010



Transect 1 – Photo 2
Bearing: 314 Degrees

Location: End Taken in 2011



Transect 1 – Photo 1
Bearing: 134 Degrees

Location: Start (west end)
Taken in 2011

Intentionally Blank



Transect 2 – Photo 1
Bearing: 75 Degrees

Location: Start Taken in 2010



Transect 2 – Photo 1
Bearing: 75 Degrees

Location: Start Taken in 2011



Transect 2 – Photo 2
Bearing: 255 Degrees

Location: End Taken in 2010



Transect 2 – Photo 2
Bearing: 255 Degrees

Location: End Taken in 2011



Transect 3 – Photo 1
Bearing: 187 Degrees

Location: Start Taken in 2010



Transect 3 – Photo 1
Bearing: 187 Degrees

Location: Start Taken in 2011



Transect 3 – Photo 1
Bearing: 7 Degrees

Location: End Taken in 2010



Transect 3 – Photo 1
Bearing: 7 Degrees

Location: End Taken in 2011



Bank Erosion Pin #1 Taken in 2010



Bank Erosion Pin #1 Taken in 2011



Cross-Section 1
Bearing: 180 Degrees

Location: XS-1 Taken in 2011



Cross-Section 2 Bearing: 170 Degrees

Location: XS-2 Taken in 2011



Data Point – WC-1 Bearing: 90 Degrees

Location: Community 4
Taken in 2011



Data Point - WC-2 Bearing: 270 Degrees

Location: Community 3 **Taken in 2011**



Data Point - WC-3 Bearing: 160 Degrees

Location: Community 4 Taken in 2011



Data Point - WC-4 Bearing: 0 Degrees

Location: Community 1 Taken in 2011



Photo – *Irrigation canal breach* **Bearing:** 250 Degrees

Location: Community 3

Taken in 2011

Woodson Creek 2011 Wetland	Mitigation	Monitoring Report
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Appendix D

Project Plan Sheet

MDT Wetland Mitigation Monitoring Woodson Creek Meagher County, Montana

