MONTANA DEPARTMENT OF TRANSPORTATION WETLAND MITIGATION MONITORING REPORT: YEAR 2013

Woodson Creek Ringling, Meagher County, Montana



Prepared for:



Prepared by:



December 2013

MONTANA DEPARTMENT OF TRANSPORTATION

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Woodson Creek Ringling, Meagher County, Montana

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Prepared for:

MONTANA DEPARTMENT OF TRANSPORTATION 2701 Prospect Ave Helena, MT 59620-1001

Prepared by:

P.O. Box 1133
Bozeman, MT 59771

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Cover: View of Community Type 3 from photo point 4 looking southeast.



1. INTRODUCTION

The 2013 Woodson Creek Wetland Mitigation Monitoring Report presents the results of the sixth and final year of wetland monitoring at the Woodson Creek wetland mitigation 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 to 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 goals of the project were to restore Woodson Creek to its historic 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 site.

The project site is at an elevation of approximately 5,390 feet above mean sea level and located in Meagher County three miles northeast of Ringling, Montana, (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 Method 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.

The mitigation site originally included seven different crediting areas developed with individual performance standards. The original 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 replaced the seven previous sets of performance standards with a single set of performance standards that apply to all assessment areas. The new method of awarding credits is based on a credit-reduction methodology in contrast to the prior standard which was a pass/fail system. The newly adopted standards require 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 continues to be assessed using the 1999 MDT Montana Wetland Assessment



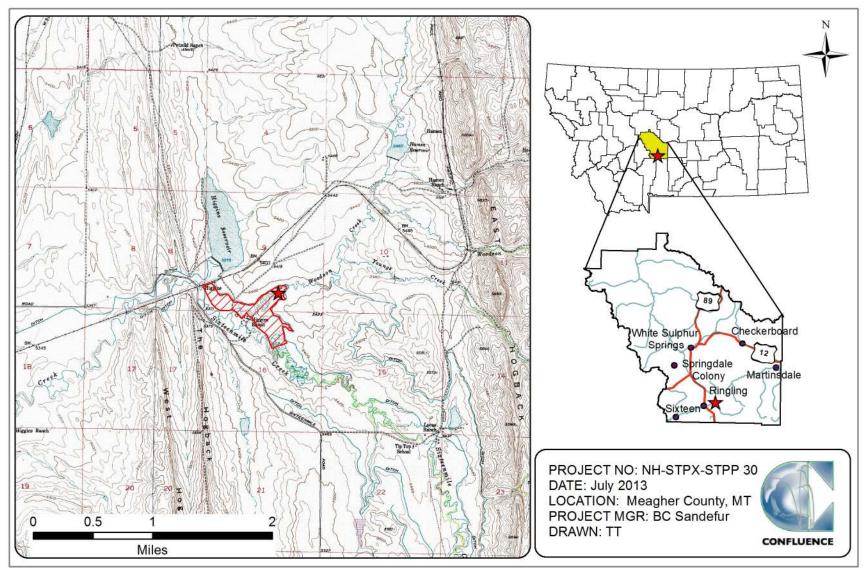


Figure 1. Project location of the Woodson Creek Wetland Mitigation Site.



Method (MWAM) (Berglund 1999). The six Primary Standards for performance as amended in 2010 are listed below. These standards are to be applied to each assessment area within the wetland mitigation site individually.

- 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. Areal 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 areal 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

This year's monitoring was conducted on August 12, 2013. Information contained on the Mitigation Monitoring Form and Wetland Determination Data Form was entered electronically in the field on a 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 survey, vegetation community mapping, vegetation transect monitoring, woody species survival monitoring, soil and hydrology data, 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 12.5 percent or more 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 (WRCC 2011). 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 hydrologic indicators as outlined on the Wetland Determination 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 Determination Data Form (Appendix B). Hydrologic assessments allowed evaluation of mitigation criteria addressing inundation/saturation requirements.

Groundwater levels were measured in five monitoring wells in 2013. 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 on the Wetland Determination 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 2013 aerial photograph. The percent cover of dominant species within a community type was estimated and recorded using the following ranges listed on the Mitigation Monitoring Form: 0 (less than 1 percent), 1 (1-5 percent), 2 (6 to 10 percent), 3 (11 to 20 percent), 4 (21 to 50 percent), and 5 (greater than 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 assessment of three vegetation belt transects approximately 10 feet wide and 526 feet (Transect 1), 583 feet (Transect 2), and 353 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 vegetation community data (Appendix B). Photographs were taken at the transect endpoints during the monitoring event (Appendix C).

The Montana State Noxious Weed List (September 2010), prepared by the Montana Department of Agriculture, was used to categorize weeds identified within the site. The location of noxious weeds was noted in the field and mapped on the 2013 aerial photo (Figure 3, Appendix C). The noxious weed species identified are color-coded. The locations are denoted with the symbol "x", " \blacktriangle ", or " \blacksquare " representing 0 to 0.1 acres, 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, 6 to 25 percent, and 26 to 100 percent, respectively, as listed on Figure 3 (Appendix A).



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 Determination 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 name and indicator status of plant species was derived from the Draft 2012 National Wetland Plant List (NWPL) (Lichvar and Kartesz. 2009). Previous years' reports used the 1988 National List of Plant Species that Occur in Wetlands: Northwest Region 9 (Reed 1988). The 2012 NWPL scientific plant names were used in this report. The 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 Determination Data Form (Appendix B).

Consultation with the USACE determined that the 1987 manual should continue to be used at this site as the 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, or special aquatic site, i.e., mudflat. The wetland boundary was GPS surveyed and is presented on the 2013 aerial photograph. Wetland areas were calculated using geographic information systems (GIS) methods.

2.5. Wildlife

Observations of use by 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 species list of wildlife observed from 2007 through 2013 during the annual monitoring periods has been compiled.

2.6. Functional Assessment

Pre-construction, 2007, 2008, and 2010 through 2013 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; otherwise called Assessment Areas (AAs) (Appendix B).

2.7. Channel Cross-Sections

Two permanent cross-sections established in 2007 were monitored in 2008 and 2010 through 2013. The cross-sections were located at the upper and lower ends of the restored 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 installed 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 during each of the monitoring events.

2.9. Photo Documentation

Monitoring at photo points provided supplemental information for documenting wetland, upland, and vegetation transect conditions, site trends, and current land uses surrounding the site. Photographs were taken at four established photo points throughout the mitigation area during the site visit (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 2013 monitoring season. Points were collected using WAAS-enabled differential correction satellites, typically improving resolution to sub-meter accuracy. The collected data were then transferred to a personal computer, imported into GIS, and presented in Montana State Plane Single Zone NAD 83 meters. Site features and survey points that were located with GPS included wetland boundaries, fence boundaries, photograph points, transect endpoints, and wetland data points.

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 closest active weather station to the wetland monitoring area is White Sulphur Springs 2 (248930). According to the Western Regional Climate Center (WRCC), mean annual precipitation at this station was approximately 12.66 inches from December 1978 to March 2013. The annual precipitation total in 2010 was 15.12 inches, 2.46 inches higher than the 32 year average. The total precipitation reported for 2011 and 2012 were 9.30 inches and 5.24 inches, respectively, but included several days of missing data during each year. The long-term cumulative precipitation for January to August is 9.81 inches. The cumulative precipitation for this same period was 11.94 inches (2010), 8.59 inches (2011), 4.08 inches (2012), and 8.12 inches (2013). These data indicate that precipitation has been below average at this site from 2011 through 2013 and substantially less in 2012 than for the historic average.

Average annual reference evapotranspiration rates between April 2nd and September 29th are estimated to be approximately 37.1 inches at White Sulphur Springs, nearly three times the yearly precipitation rate, indicating that precipitation alone is insufficient to supply wetland hydrology. Surface water from Woodson Creek and Sixteen Mile Creek and groundwater are the primary sources of wetland hydrology at the site.

Six groundwater monitoring wells were installed on the site in the spring of 2008 (Figure 2, Appendix A) and were monitored during each subsequent site visit. Groundwater levels were measured in 2013 with an electronic water level meter. The 2008 through 2013 data are presented in Table 1. Since 2011, none of the wells have shown water levels within one foot of the soil surface. In 2013, the groundwater depth in MW-6 was recorded at 2.5 feet below ground surface. There was no water recorded in MW-1 through MW-4. The groundwater monitoring well MW-5 was not located. The nearby MW-6 well included incisor marks on the PVC cap, reflective of black bear disturbance, and it is assumed MW-5 had been removed by an animal between the 2012 and 2013 monitoring events.

Approximately 10 percent of the site was inundated in 2013. Inundation occurred within Woodson Creek and in excavated cells. The average surface water depth across the site was estimated at 1.0 foot, with a range in depths of 0.0 to 2.0 feet. The surface water depth at the emergent vegetation and open water boundary was approximately 0.5 feet. The levee of the irrigation canal located at the northwest end of the site was breached between the 2010 and 2011 site visits. The breach allowed irrigation flow from the canal to enter the northwest portion of the mitigation site, substantially increasing the extent of wetland hydrology in this area. The breach was repaired between the 2011 and 2012 site visits and prevented extra irrigation water from entering the site, effectively decreasing the extent of wetland hydrology in this area.



Table 1. Groundwater depths bgs measured from July 2008 to August 2013 at the Woodson Creek Wetland Mitigation Site.

Well Number	2008 Depth (ft.) bgs	2010 Depth (ft.) bgs	2011 Depth (ft.) bgs	2012 Depth (ft.) bgs	2013 Depth (ft.) bgs
MW-1	-0.02	0.00	2.80	Dry	Dry
MW-2	0.53	0.52	2.80	Dry	Dry
MW-3	0.48	0.45	Dry	0.30	Dry
MW-4	0.30	0.32	2.20	Dry	Dry
MW-5	0.68	0.71	Dry	Dry	N/A
MW-6	1.95	2.10	Dry	Dry	2.50

Data points W-1u, W-1w, W-2u, and W-2w (Figure 2, Appendix A, and Wetland Determination Data Forms, Appendix B) were established to assist in determining the wetland/upland boundary. Two data points were located in areas that met the wetland criteria. Data point W-1w had a positive FAC-Neutral test and intercepted a seasonally high groundwater table. Point W-2w was located in a seasonally saturated wet meadow. There were no hydrology indicators present at data points W-1u or W-2u. Additional hydrologic indicators observed site-wide included inundation visible on aerial imagery, water stained leaves, wetland drainage patterns, and shallow groundwater table.

3.2. Vegetation

One hundred and four vegetation species identified on site in 2007, 2008 and 2010 through 2013 are presented in Table 2. Eight vegetation communities were identified in 2013 and included: wetland Community Type 1 — *Alopecurus arundinaceus*/Mixed graminoids, wetland Type 3 — *Alopecurus arundinaceus*, upland Type 4 — *Poa pratensis/Bromus inermis*, wetland Type 5 — Aquatic Macrophytes, wetland Type 7 — *Carex utriculata/Phalaris arundinaceus*, upland Type 8 — *Bromus inermis/Alopecurus arundinaceus*, wetland Type 9 — *Alopecurus arundinaceus/Juncus balticus*, and wetland Type 10 — *Eleocharis palustris/*Mixed graminoids. The eight communities identified in 2013 and complete lists of the associated species are on the Monitoring Form in Appendix B and the mapped communities are shown on Figure 3 in Appendix A. These communities are described below.

Wetland community Type 1 — *Alopecurus arundinaceus*/Mixed graminoids was originally identified as a community in 2008. This community is the largest on the site (47.23 acres) and encompasses a majority of the Woodson Creek floodplain and adjacent riverine wetlands. The primary vegetation is creeping meadow-foxtail (*Alopecurus arundinaceus*), Arctic rush (*Juncus arcticus*) and reed canary grass (*Phalaris arundinaceus*). Seventeen other species were identified in this community with up to five percent cover.



Table 2. Comprehensive list of vegetation species identified in 2007, 2008, and 2010 to 2013 for the Woodson Creek Wetland Mitigation Site.

Onlandifin Names	O	WMVC Indicator
Scientific Names	Common Names	Status ¹
Achillea millefolium	Common Yarrow	FACU
Agropyron cristatum	Crested Wheatgrass	UPL
Agrostis exarata	Spiked Bent	FACW
Agrostis gigantea	Black Bent	FAC
Agrostis stolonifera	Spreading Bent	FAC
Algae, green	Algae, green	NL
Alopecurus aequalis	Short-Awn Meadow-Foxtail	OBL
Alopecurus arundinaceus	Creeping Meadow-Foxtail	FAC
Ambrosia acanthicarpa	Flastspine Burr Ragweed	UPL
Aquatic Macrophytes	Aquatic macrophytes	NL
Argentina anserina	Common Silverweed	OBL
Aster sp.	Aster	NL
Aster sp. (purple)	Aster	NL
Aster sp. (yellow)	Aster	NL
Beckmannia syzigachne	American Slough Grass	OBL
Bromus inermis	Smooth Brome	FAC
Calamagrostis canadensis	Bluejoint	FACW
Carduus nutans	Nodding Plumeless Thistle	UPL
Carex aquatilis	Leafy Tussock Sedge	OBL
Carex lasiocarpa	Woolly-Fruit Sedge	OBL
Carex nebrascensis	Nebraska Sedge	OBL
Carex pellita	Woolly Sedge	OBL
Carex praegracilis	Clustered Field Sedge	FACW
Carex utriculata	Northwest Territory Sedge	OBL
Chenopodium album	Lamb's-Quarters	FACU
Cicuta douglasii	Western Water-Hemlock	OBL
Cirsium arvense	Canadian Thistle	FAC
Cirsium vulgare	Bull Thistle	FACU
Cynoglossum officinale	Gypsy-Flower	FACU
Dasiphora fruticosa	Golden-Hardhack	FAC
Deschampsia cespitosa	Tufted Hairgrass	FACW
Descurainia sophia	Herb Sophia	UPL
Distichlis spicata	Coastal Salt Grass	FACW
Dodecatheon pulchellum	Dark-Throat Shootingstar	FACW
Eleocharis palustris	Common Spike-Rush	OBL
Elymus repens	Creeping Wild Rye	FAC
Elymus trachycaulus	Slender Wild Rye	FAC
Epilobium sp.	Willowherb	NL
Equisetum arvense	Field Horsetail	FAC
Equisetum hyemale	Tall Scouring-Rush	FACW
Galium aparine	Sticky-Willy	FACU

¹Draft 2012 NWPL (Lichvar and Kartesz 2009).

New species identified in 2013 are bolded.



Table 2 (Continued). Comprehensive list of vegetation species identified in 2007, 2008, and 2010 to 2013 for the Woodson Creek Wetland Mitigation Site.

Onlandifin Names	On many Many and	WMVC Indicator		
Scientific Names	Common Names	Status ¹		
Glyceria grandis	American Manna Grass	OBL		
Glycyrrhiza lepidota	American Licorice	FAC		
Grindelia squarrosa	Curly-Cup Gumweed	FACU		
Halogeton glomeratus	Saltlover	UPL		
Helianthus annuus	Common Sunflower	FACU		
Hieracium sp.	Hawkweed	NL		
Hippuris vulgaris	Common Mare's-Tail	OBL		
Hordeum jubatum	Fox-Tail Barley	FAC		
Iris missouriensis	Rocky Mountain Iris	FACW		
Juncus arcticus	Arctic Rush	FACW		
Juncus effusus	Lamp Rush	FACW		
Juncus filiformis	Thread Rush	FACW		
Lactuca serriola	Prickly Lettuce	FACU		
Lemna minor	Common Duckweed	OBL		
Melilotus officinalis	Yellow Sweet-Clover	FACU		
Mentha arvensis	American Wild Mint	FACW		
Muhlenbergia richardsonis	Matted Muhly	FAC		
Myriophyllum sp.	Water-Milfoil	NL		
Najas sp.	Waternymph	NL		
Panicum virgatum	Wand Panic Grass	FACW		
Pascopyrum smithii	Western-Wheat Grass	FACU		
Penstemon laricifolius	Larchleaf Beardtongue	UPL		
Persicaria amphibia	Water Smartweed	OBL		
Persicaria pensylvanica	Pinkweed	FACW		
Persicaria sp.	Smartweed	NL		
Phalaris arundinacea	Reed Canary Grass	FACW		
Phleum alpinum	Mountain Timothy	FAC		
Phleum pratense	Common Timothy	FAC		
Plantago major	Great Plantain	FAC		
Poa compressa	Flat-Stem Blue Grass	FACU		
Poa palustris	Fowl Blue Grass	FAC		
Poa pratensis	Kentucky Blue Grass	FAC		
Potentilla sp.	Cinquefoil	NL		
Puccinellia nuttalliana	Nuttall's Alkali Grass	FACW		
Ranunculus gmelinii	Lesser Yellow Water Buttercup	FACW		
Ranunculus longirostris	Long-Beak Water-Crowfoot	OBL		
Ranunculus sp.	Buttercup	NL		
Rumex crispus	Curly Dock	FAC		
Ruppia sp.	Widgeonweed	NL		
Salix exigua	Narrow-Leaf Willow	FACW		
Salix sp.	Willow	NL		

¹Draft 2012 NWPL (Lichvar and Kartesz 2009).

New species identified in 2013 are bolded.



Table 2 (Continued). Comprehensive list of vegetation species identified in 2007, 2008, and 2010 to 2013 for the Woodson Creek Wetland Mitigation Site.

Scientific Names	Common Names	WMVC Indicator Status ¹
Salsola kali	Russian Thistle	UPL
Schoenoplectus acutus	Hard-Stem Club-Rush	OBL
Scirpus microcarpus	Red-Tinge Bulrush	OBL
Scirpus pallidus	Pale Bulrush	OBL
Scutellaria lateriflora	Mad Dog Skullcap	FACW
Sisyrinchium montanum	Strict Blue-Eyed-Grass	FAC
Solidago canadensis	Canadian Goldenrod	FACU
Solidago sp.	Goldenrod	NL
Sonchus arvensis	Field Sow-Thistle	FACU
Sparganium angustifolium	Narrow-Leaf Burr-Reed	OBL
Sporobolus cryptandrus	Sand Dropseed	FACU
Taraxacum officinale	Common Dandelion	FACU
Thlaspi arvense	Field Penny-Cress	UPL
Trifolium longipes	Long-Stalk Clover	FAC
Trifolium pratense	Red Clover	FACU
Trifolium repens	White Clover	FAC
Triglochin maritima	Seaside Arrow-Grass	OBL
Triglochin palustris	Marsh Arrow-Grass	OBL
Triglochin sp.	Arrowgrass	NL
Typha latifolia	Broad-Leaf Cat-Tail	OBL
Valeriana edulis	Tobacco-Root	FAC
Vicia sativa	Common Vetch	UPL

¹Draft 2012 NWPL (Lichvar and Kartesz 2009).

New species identified in 2013 are bolded.

Wetland community Type 3 – *Alopecurus arundinaceus* was located on 7.15 acres in the northwest portion of the site. This community has decreased in size by 0.41 acres since 2012. The community was dominated by creeping meadow-foxtail. Common spikerush (*Eleocharis palustris*), American sloughgrass (*Beckmannia syzigachne*), and common silverweed (*Argentina anserina*) were present at 1 to 5 percent cover.

Upland community Type $4 - Poa\ pratensis/Bromus\ inermis$ was identified in several upland islands encompassing 12.62 acres in the north half of the site. The dominant species were Kentucky bluegrass ($Poa\ pratensis$), smooth brome ($Bromus\ inermis$), and Canadian goldenrod ($Solidago\ canadensis$).

Wetland community Type 5 – Aquatic Macrophytes characterized the small, inundated depressions (cumulative 0.99 acres) located adjacent to the Woodson Creek corridor. The wetland type, first classified as an aquatic bed community in 2011, is 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-crowfoot (*Ranunculus longirostris*), common spikerush, and reed canary grass dominated this aquatic community.

Wetland community Type 7 – Carex utriculata/Phalaris arundinaceus was found on 0.65 acres in an abandoned meander of the Sixteen Mile Canal located in the southwest corner of the site. Northwest Territory sedge (Carex utriculata), reed canary grass, and common spikerush dominated the herbaceous cover. Nebraska sedge (Carex nebrascensis) and Arctic rush were secondary species in this community.

Upland community Type 8 – *Bromus inermis/Alopecurus arundinaceus* was primarily located along the perimeter of the mitigation site. This site increased in size by 3.47 acres to 6.77 acres in 2013. The predominant species included smooth brome, creeping meadow-foxtail, Kentucky bluegrass, and common yarrow (*Achillea millefolium*). Thirteen other species were present at less than five percent cover each.

Wetland community Type 9 – *Alopecurus arundinaceus/Juncus balticus* was located on 7.99 acres in the northeast and southern portion of the site. This community has decreased by 2.55 acres in 2013. The herbaceous cover was dominated by creeping meadow foxtail, Arctic rush, flat stem bluegrass (*Poa compressa*), and reed canary grass. Seventeen other species were present in this community.

Wetland community Type 10 – *Eleocharis palustris*/Mixed graminoids characterized 0.68 acres of a depression that was ponded in 2010 and 2012 and dry in 2011 and 2013. This community type decreased in extent across the site in 2013 by 3.57 acres, mostly a result of areas reverting to wetland community Type 1 – *Alopecurus arunidaceus*/Mixed graminoids. Common spikerush, creeping meadow-foxtail, American sloughgrass, American mannagrass (*Glyceria grandis*), long beak water-crowfoot, bluejoint reedgrass (*Calamagrostis canadensis*), Arctic rush, and reed canary grass dominated the vegetation cover.

Vegetation transect T-1 was located in the northeast corner of the site. The transect data is summarized on Table 3, 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, wetland 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 - *Alopecurus/*Mixed Graminoid in 2010 to Type 9 in 2011 reflecting an increase in the number and extent of obligate and facultative wet wetland species on transect T-1. No changes to the transect intervals were observed between 2011, 2012 and 2013. This transect contained the highest number of vegetative species sampled at this site and reflected the diversity of habitat represented by the emergent wetlands, riverine, and aquatic bed communities.



Hydrophytic plant communities dominated 99.2 percent of the transect, while open water of Woodson Creek occupied the remaining length.

Table 3. Data summary of transect T-1 for 2007, 2008, and 2010 to 2013 at the Woodson Creek Mitigation Site.

Monitoring Year	2007	2008	2010	2011	2012	2013
Transect Length (feet)	526	526	526	526	526	526
Vegetation Community Transitions along Transect	2	4	7	4	4	4
Vegetation Communities along Transect	3	3	2	2	2	2
Hydrophytic Vegetation Communities along Transect	3	3	2	2	2	2
Total Vegetative Species	31	20	22	18	23	19
Total Hydrophytic Species	20	18	15	13	15	16
Total Upland Species	11	2	7	5	8	3
Estimated % Total Vegetative Cover	90	90	80	90	95	95
% Transect Length Comprising Hydrophytic Vegetation Communities	100*	100*	88	99	99.2	99.2
% Transect Length Comprising Upland Vegetation Communities	0	0	0	0	0	0
% Transect Length Comprising Unvegetated Open Water	6*	6*	12	1	0.8	0.8
% Transect Length Comprising Bare Substrate	0	0	0	0	0	0

^{*}Values as presented in 2008 monitoring report

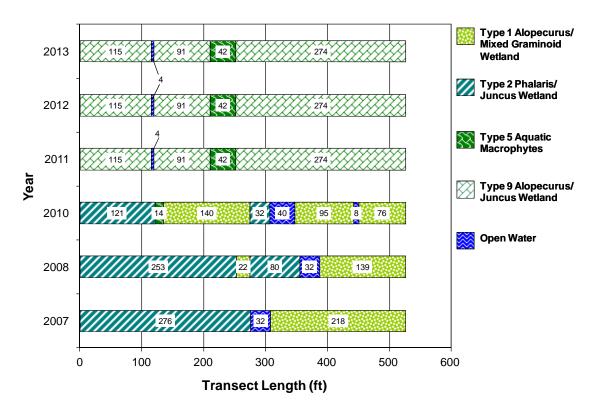


Chart 1. Transect map of vegetation community composition from start (0 feet) to finish (526 feet) of transect T-1 for 2007, 2008, and 2010 to 2013 at the Woodson Creek Mitigation Site.



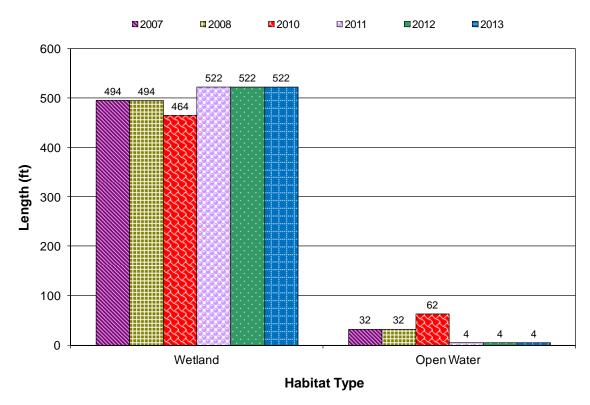


Chart 2. Length of habitat types within transect T-1 for 2007, 2008, and 2010 to 2013 at the Woodson Creek Mitigation Site.

The data from transect T-2, located near the center of the site, 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 dominated by wetland community Type 1 *Alopecurus*/Mixed Graminoid. In 2011 and 2012, 200 feet of transect T-2 was classified as wetland Type 10 - common spikerush/mixed graminoids. In 2013, this community reverted to community Type - 1. This change was due to the dominance of *Alopecurus arundinaceus* and the subsequent reduction of common spikerush and other less-competitive hydrophytes through this length of the vegetation transect.

Table 4. Data summary of transect T-2 for 2007, 2008, and 2010 to 2013 at the Woodson Creek Mitigation Site.

Monitoring Year		2008	2010	2011	2012	2013
Transect Length (feet)	583	583	583	583	583	583
Vegetation Community Transitions along Transect	0	2	2	1	1	0
Vegetation Communities along Transect	1	2	2	2	2	1
Hydrophytic Vegetation Communities along Transect	1	2	2	2	2	1
Total Vegetative Species	17	13	15	10	10	10
Total Hydrophytic Species	14*	11	12	8	8	10
Total Upland Species	2	2	3	2	2	0
Estimated % Total Vegetative Cover	95	90	90	90	95	95
% Transect Length Comprising Hydrophytic Vegetation Communities	100*	100	100	100	100	100
% Transect Length Comprising Upland Vegetation Communities	0	0	0	0	0	0
% Transect Length Comprising Unvegetated Open Water	2*	0	0	0	0	0
% Transect Length Comprising Bare Substrate	0	0	0	0	0	0

^{*}Values as presented in 2008 monitoring report



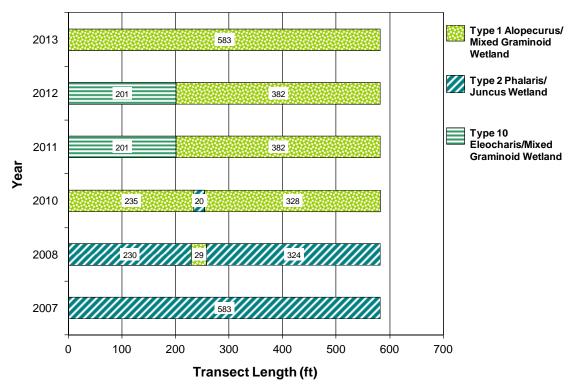


Chart 3. Transect map of vegetation communities from start (0 feet) to finish (583 feet) of transect T-2 for 2007, 2008, and 2010 to 2013 at the Woodson Creek Mitigation Site.

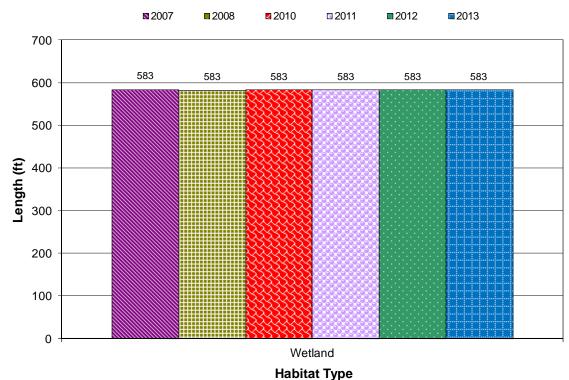


Chart 4. Length of habitat types within transect T-2 for 2007, 2008, and 2010 to 2013 at the Woodson Creek Mitigation Site.



Table 5 and Charts 5 and 6 present the data collected along transect T-3. Photographs of the transect endpoints are shown in Appendix C. A monoculture of creeping meadow-foxtail, located in the northwest corner of the site, has dominated the entire length of transect T-3 since 2007 and is responsible for the lowest total number of vegetative species observed within any of the three monitoring transects. The indicator status for creeping meadow-foxtail is facultative, meeting the wetland vegetation criteria. No other plant species were observed along this 353-foot transect.

Table 5. Data summary of transect T-3 for 2007, 2008, and 2010 to 2013 at the Woodson Creek Mitigation Site.

Monitoring Year	2007	2008	2010	2011	2012	2013
Transect Length (feet)		378	353	353	353	353
Vegetation Community Transitions along Transect	0	0	0	0	0	0
Vegetation Communities along Transect	1	1	1	1	1	1
Hydrophytic Vegetation Communities along Transect	1	1	1	1	1	1
Total Vegetative Species	3	3	4	3	2	1
Total Hydrophytic Species	2	3	3	2	2	1
Total Upland Species	1	0	1	1	0	0
Estimated % Total Vegetative Cover	80	90	90	90	100	100
% Transect Length Comprising Hydrophytic Vegetation Communities	100	100	100	100	100	100
% Transect Length Comprising Upland Vegetation Communities	0	0	0	0	0	0
% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0	0
% Transect Length Comprising Bare Substrate	0	0	0	0	0	0

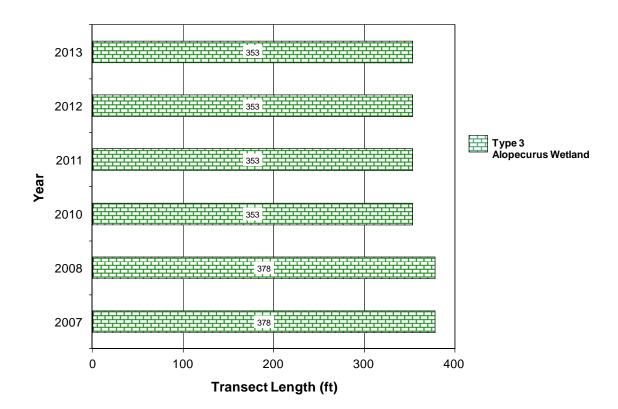


Chart 5. Transect map of vegetation communities from start (0 feet) to finish (353 feet) of transect T-3 for 2007, 2008, and 2010 to 2013 Woodson Creek Mitigation Site.



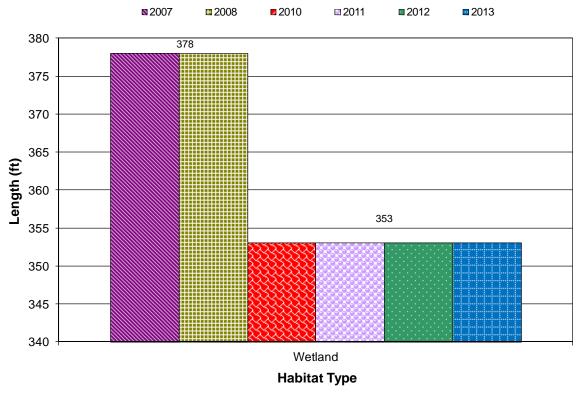


Chart 6. Length of habitat types within transect T-3 for 2007, 2008, and 2010 to 2013 at the Woodson Creek Mitigation Site.

Eleven infestations of Canadian thistle (*Cirsium arvense*) were mapped within the site boundaries in 2013 (Figure 3, Appendix A). The size of the infestations ranged from less than 0.1 acre to 1 acre with cover classes ranging from low (1 to 5 percent) to high (25 percent to 100 percent). The percent cover of Canadian thistle increased site wide from 2010 to 2013.

During the 2007 assessment of planted woody vegetation survival, only one planting location was found. It was assumed that more than the 15 plantings observed during this investigation were installed, but they could not be located. A total of 69 planted willow cuttings were observed in 2008. A thick cover of creeping meadow-foxtail obscured many of the plants. 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 exhibiting moderate vigor were observed in 2011. The cuttings had been heavily browsed by wildlife. Ten willows planted from cuttings were observed in 2013. The cuttings were heavily browsed and displayed moderate vigor.

3.3. Soil

Soil survey data for Meagher County identified three primary map units within the mitigation area boundaries and included 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-Fairway 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 identified on Montana's hydric soil list.

The soil profile at W-1u revealed a dark brown (10 YR 3/3) silt loam without redoximorphic concentrations in the matrix. Data point W-2u exhibited a very dark grayish brown (10 YR 3/2) silt loam soil. Data points W-1u and W-2u did not exhibit hydric soil characteristics. The profile at W-1w revealed a dark gray (10 YR 4/1) clay loam soil with brown (7.5 YR 4/4) redox concentrations in ten percent of the matrix. The soil at W-2w displayed a brown (10 YR 4/2) silty clay loam with five percent strong brown (10 YR 4/6) concentrations in the soil matrix. Based on the 1987 Manual, the low chroma and redox features were positive indicators of hydric soil.

3.4. Wetland Delineation

The wetland boundaries delineated and surveyed in 2013 are illustrated on Figure 3 (Appendix A). The completed Wetland Determination Data Forms are included in Appendix B. Wetland acreages delineated in 2005 (baseline), 2007 and 2008, and 2010 through 2013 are summarized in Table 6. The total area of aquatic habitat delineated in 2013, which includes wetlands and waters of the US associated with Woodson Creek, was 65.34 acres. There was a decrease of 4.3 wetland acres between 2012 and 2013, which is likely due to the northwest corner of the site drying out after the 2010/2011 canal breach and lower than average precipitation rates. Overall, wetland development at this site appears to have reached maximum development as constructed. A total of 7.86 acres above 2005 baseline wetland acreage have developed at this mitigation site.

Table 6. Summary of open water and wetland acreages delineated at the Woodson Creek Wetland Mitigation Site in 2004, 2007, 2008, and 2010 to 2013.

Aquatic Habitat Type	2005	2007	2008	2010	2011	2012	2013
Aquatic Habitat Type	Basline (ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)
Open Water	0.00	2.55	2.73	2.56	0.67*	0.67*	0.65*
Wetland/Aquatic Bed	57.48	61.86	59.02	65.14	68.97	68.97	64.69
Total Aquatic Habitat	57.48	64.42	61.75	67.70	69.64	69.64	65.34

^{*}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 2013 is presented in Table 7 (Monitoring Form, Appendix B). Five bird species were identified in 2013. Two mule deer (*Odocoileus hemionus*), one white-tailed deer (*Odocoileus virginanus*), one northern river otter (*Lontra canadensis*), and fifteen elk (*Cervus canadensis*) were observed in 2013. Of note, what appeared to be black bear (*Ursus americanus*) teeth marks were noted on the well cap at MW-6.



Table 7. Wildlife species observed at the Woodson Creek Wetland Mitigation Site from 2007 to 2013.

COMMON NAME	SCIENTIFIC NAME						
AMPHIBIANS							
Columbia Spotted Frog	Rana luteiventris						
Western Toad	Bufo boreas						
BII	RDS						
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						
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						
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						

Species observed in 2013 are bolded.



Table 7 (Continued). Wildlife species observed at the Woodson Creek Wetland Mitigation Site from 2007 to 2013.

COMMON NAME	SCIENTIFIC NAME							
BIRDS								
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							
	FISH							
Brook Trout	Salvelinus fontinalis							
MA	MMALS							
American Mink	Mustela vison							
Black-tailed Jack Rabbit	Lepus californicus							
Black Bear	Ursus americanus							
Bobcat	Lynx rufus							
Coyote	Canis latrans							
Deer Mouse	Peromyscus maniculatus							
Dusky or Montane Shrew	Sorex monticolus							
Elk or Wapiti	Cervus canadensis							
Meadow Vole	Microtus pennsylvanicus							
Moose	Alces americanus							
Mule Deer	Odocoileus hemionus							
Muskrat	Ondatra zibethicus							
Northern River Otter	Lontra canadensis							
Porcupine	Erethizon dorsatum							
Pronghorn	Antilocapra americana							
Raccoon	Procyon lotor							
Red Fox	Vulpes vulpes							
Striped Skunk	Mephitis mephitis							
Water Vole	Microtus richardsoni							
White-tailed Deer	Odocoileus virginianus							
REPTILES								
Common Gartersnake	Thamnophis sirtalis							

Species observed in 2013 are bolded.

3.6. Functional Assessment

The mitigation site was separated into three AAs, including the Woodson Creek Floodplain, Woodson Creek East Parcel, and Woodson Creek West Parcel. The baseline assessment was completed in 2005. Functional assessment results for 2005, 2008 and 2010 through 2013 are summarized in Table 8. Functional assessment forms were completed for the Woodson Creek wetlands using the 1999 MDT MWAM (Appendix B).



Table 8. Summary of 2005, 2007, 2008, and 2010 to 2013 wetland function/value ratings and functional points at the Woodson Creek Wetland Mitigation Site.

	2005 Ba	seline	2008			
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	
Listed/Proposed T&E Species Habitat	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)	
General Wildlife Habitat	Low (0.3)	Low (0.3)	High (0.9)	Mod (0.7)	Mod (0.7)	
General Fish/Aquatic Habitat	Low (0.3)	NA	Mod (0.6)	NA	NA	
Flood Attenuation	Low (0.1)	NA	Mod (0.6)	NA	NA	
Short and Long Term Surface Water Storage	Low (0.3)	NA	High (1.0)	High (0.8)	Low (0.3)	
Sediment/Nutrient/Toxicant Removal	Mod (0.6)	Mod (0.7)	High (1.0)	High (1.0)	High (1.0)	
Sediment/Shoreline Stabilization	Mod (0.7)	NA	High (1.0)	NA	NA	
Production Export/Food Chain Support	Mod (0.4)	Mod (0.7)	High (0.9)	High (0.9)	Mod (0.6)	
Groundwater Discharge/Recharge	High (1.0)	Low (0.1)	Mod (1.0)	Mod (1.0)	High (1.0)	
Uniqueness	Low (0.2)	Low (0.2)	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)	
Actual Points / Possible Points	4.1/12	2.2/8	8.3/12	5.7 / 9	4.6 / 9	
% of Possible Score Achieved	34.2	27.5	69	63	51	
Overall Category	III	IV	II	II	III	
Total Acreage of Assessed Aquatic Habitat within AA Boundaries	0.48	57.00	28.08	27.77	5.90	
Functional Unit				450.00	07.44	
(acreage x actual points)	1.97	125.40	233.06	158.29	27.14	
Net Acreage Gain (from baseline	NA NA		4.27	4 27		
conditions)			7.21			
Net Functional Unit Gain (from baseline conditions)	NA	NA	291.12			
¹(Berglund 1999).	II	<u> </u>	IL			

Results for 2010 through 2013 MWAMs continued on next page

¹(Berglund 1999).



Table 8 (continued). Summary of 2005, 2007, 2008, and 2010 to 2013 wetland function/value ratings and functional points at the Woodson Creek Wetland Mitigation Site.

	2010			2011			2012			2013		
Function and Value Parameters from the 1999 MDT Montana Wetland Assessment Method ¹	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)	Low (0.0)
MNHP Species Habitat	High (1.0)	High (1.0)	Mod (0.6)	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)
General Wildlife Habitat	High (0.9)	Mod (0.7)	Mod (0.7)	High (0.9)	Mod (0.5)	High (0.9)	High (0.9)	High (0.8)	High (1.0)	Exc (1.0)	High (0.9)	Exc. (1.0)
General Fish/Aquatic Habitat	Mod (0.6)	NA	NA									
Flood Attenuation	Mod (0.6)	Mod (0.4)	NA	Mod (0.6)	Mod (0.5)	NA	Mod (0.6)	Mod (0.5)	NA	Mod (0.6)	Mod (0.5)	NA
Short and Long Term Surface Water Storage	High (1.0)	High (0.8)	Low (0.6)	High (1.0)	Mod (0.6)	High (0.8)	High (1.0)	Mod (0.6)	High (0.8)	High (1.0)	Mod (0.6)	High (0.8)
Sediment/Nutrient/Toxicant Removal	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)	High (1.0)	High (1.0)	High (1.0)
Sediment/Shoreline Stabilization	High (1.0)	High (1.0)	NA	High (1.0)	High (0.9)	NA	High (1.0)	High (0.9)	Low (0.3)	High (1.0)	High (0.9)	Low (0.3)
Production Export/Food Chain Support	High (0.9)	High (0.9)	Mod (0.6)	High (0.9)	High (0.8)	Mod (0.7)	High (0.9)	High (0.8)	Mod (0.7)	High (0.9)	High (0.8)	Mod (0.7)
Groundwater Discharge/Recharge	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)	High (1.0)	High (1.0)	High (1.0)
Uniqueness	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)	Low (0.3)	Low (0.3)	Low (0.3)
Recreation/Education Potential	Low (0.3)	Low (0.3)	Mod (0.7)	Low (0.3)	Low (0.3)	Mod (0.7)	Low (0.3)	Low (0.3)	Mod (0.7)	Low (0.3)	Low (0.3)	Mod (0.7)
Actual Points / Possible Points	8.5 / 12	7.3 / 11	5.5 / 9	8.5 / 12	6.8 / 11	6.4/9	8.5 / 12	7.1 / 11	6.8/10	8.7 / 12	7.3 / 11	6.8/10
% of Possible Score Achieved	71	66	61	71	62	71	71	65	68*	73	66	68
Overall Category	II	II	III	II	II	II	II	=	II	II	II	П
Total Acreage of Assessed Aquatic Habitat within AA Boundaries	29.17	31.23	7.30	29.19	31.27	9.18	29.19	31.27	9.18	28.62	29.57	7.15
Functional Unit (acreage x actual points)	247.95	227.98	40.15	248.12	212.64	58.75	248.12	222.02	64.42	248.99	215.86	48.62
Net Acreage Gain (from baseline conditions)		10.22			12.16			12.16			7.86	
Net Functional Unit Gain (from baseline conditions) (Regulund 1999)		388.71			392.14			407.18			386.11	

¹(Berglund 1999).



^{*} Value was adjusted in 2013.

The 2013 functional assessments rated the restored Woodson Creek floodplain (28.62 acres), the rehabilitated west parcel (7.15 acres), and the re-established east parcel (29.57 acres) as Category II wetlands, based on the high ratings for MTNHP species habitat and total actual functional points greater than 65 percent.

The restored Woodson Creek floodplain AA attained a consistent Category II rating between 2011, 2012 and 2013. The AA received 73 percent of the possible points, an exceptional rating for general wildlife habitat, and high ratings for 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 68 percent of the total possible points in 2012 and 2013 and a decrease of 3 and 4 percent since 2011. An error was noted on the 2012 Functional Assessment form, calculating total percentage of points as 71. This error occurred due to the Sediment/Shoreline Stabilization category not being accounted for in the potential assessment total. The ratings were high for general wildlife habitat, short and long term water storage, sediment/nutrient/toxicant removal, and groundwater discharge/recharge.

The East parcel received 66 percent of the total possible points and high ratings for MTNHP species habitat, general wildlife habitat, sediment/nutrient/toxicant removal, streambank/ shoreline stabilization, production export/food chain support, and groundwater discharge and recharge functions. The net wetland acreage gain at the Woodson Creek Wetland Mitigation Site since the 2005 baseline assessment was 7.86 acres and the net functional unit gain was 383.15, a decrease of 4.3 acres and 21.08 functional units since 2012. The decrease in wetland acreage is primarily associated with the drying out of the west parcel following repair to the canal breach (2.5-acre wetland decrease in this area). Lower than average precipitation and regional drought conditions over the past two years may have contributed to a minor decrease in wetland acreage observed in 2013 with the remaining difference in wetland acres the result mapping this boundary via GPS-survey in 2013 versus the previous mapping by hand-drawing the wetland boundary on a non-orthorectified aerial photograph.

3.7. Channel Cross-Sections

Locations of the two channel cross-sections are shown on Figure 2 (Appendix A) and photographs are shown on page C-24 of Appendix C. The 2007, 2008, and 2010 to 2013 cross-section data are illustrated on Charts 7 through 10. Slight increases in channel depth and width were observed at both survey locations in 2007. The cause was unclear and assumed to be the result of minor adjustments in the channel geometry and settling of streambanks. Cross section 1 showed little change in channel geometry from 2010 to 2012. This cross section was not surveyed in 2013 due to an overly aggressive otter protecting its nearby den. Cross section 2 exhibited minor lateral channel migration in 2013. The streambanks were well vegetated by species with high soil stability ratings, which contributed to the overall stability of the stream morphology. The

predominant species included creeping meadow-foxtail (6 - stability rating) and reed canary grass (9 - stability rating).

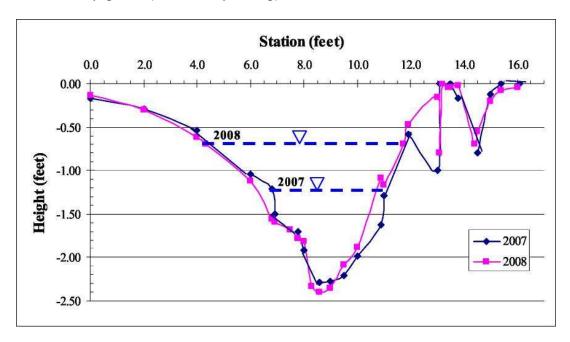


Chart 7. Survey data at XS-1 collected in 2007 and 2008. XS-1

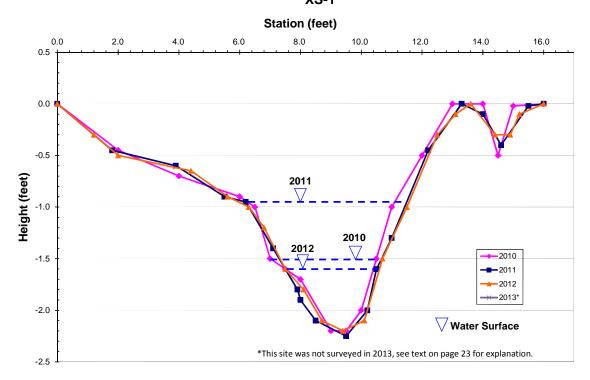


Chart 8. Survey data collected at XS-1 from 2010 to 2012 at the Woodson Creek Wetland Mitigation Site.*

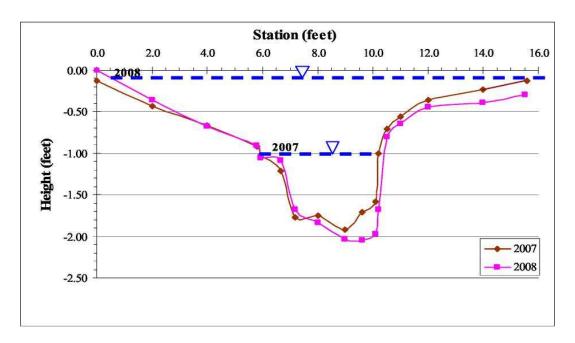


Chart 9. Survey data collected at XS-2 in 2007 and 2008.

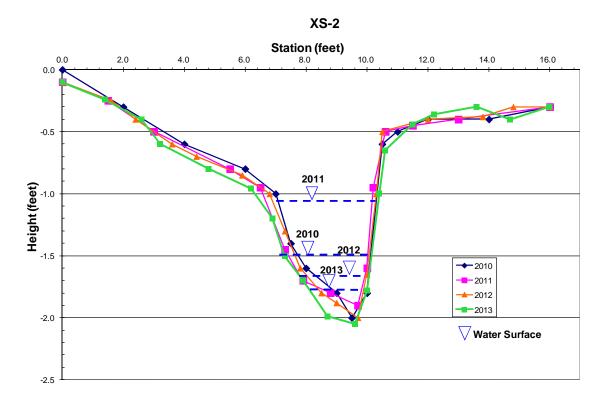


Chart 10. Survey data collected at XS-2 from 2010 to 2013 at the Woodson Creek Wetland Mitigation Site.

3.8. Streambank Erosion Pins

Streambank erosion pins were installed along outside meanders at two locations 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 a bend that was exhibiting severe bank erosion. Bank erosion was observed at both locations in 2008, with an average erosion rate of 0.29 feet per year at the upstream pin (Pin 1) and 0.14 feet per year at the downstream pin (Pin 2). In 2013, an increase in the erosion rate was observed at both pins, with an average erosion rate of 0.3 feet per year at Pin 1 and 0.43 feet per year at Pin 2. The increased erosional rate observed at the monitored bank pins appears to be the result of a partial collapse of undercut banks as unconsolidated material below the root zone is eroded. The toe of banks is generally composed of noncohesive, fine-grained materials. The root masses do not penetrate deep enough (approximately 1 1/2 -foot below ground surface) to provide additional stability. At bankfull, channel dimensions may create hydraulic forces that exceed the resistance of the bed and bank material. Consequently, banks collapse. The planform of Woodson Creek through the restored reach has been considered stable during the last three monitoring years, with minimal erosion and minor lateral channel migration noted. The established root systems of plant species with high soil stability ratings have been integral in maintaining the overall bank stability and has improved undercut bank habitat.

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, and 2010 through 2013 are shown on pages C-1 to C-16. Photos of the transect end points are presented on pages C-17 to C-22 of Appendix C. Photos of the streambank erosion pins are shown on page C-23 of Appendix C. Photos of the surveyed cross-sections are shown on page C-24. The wetland determination data points are shown on page C-25.

3.10. Maintenance Needs

Eleven infestations of Canadian thistle (*Cirsium arvense*) were mapped within the site boundaries in 2013 (Figure 3, Appendix A). The size class of the infestation size ranged from less than 0.1 acres to 0.1 to 1 acre with cover classes ranging from low (1-5 percent cover) to high (26 to 100 percent cover). The percent cover of Canadian thistle increased site wide from 2010 to 2013. Spraying is recommended for 2014.

The irrigation return on the north edge of the site was breached sometime between the 2010 and 2011 site visits. The entire return flow of the canal was diverted to the mitigation area and a majority of the west parcel was flooded in 2011. The breach was repaired between the 2011 and 2012 monitoring events. The area surrounding the breach was well vegetated and showed no signs of erosion.

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 (USACE 2010a) as summarized in Section 1.0 of this report. The 2010 approved credit summary used a 1:1 credit ratio for the re-established wetland AAs (Woodson Creek Floodplain and East Parcel) that received a Category II rating and a 1.5:1 credit ratio for the rehabilitated wetland AAs (West Parcel) that received a Category II rating. Full credit has been assigned to all three AAs as a result of these areas achieving a functional wetland Category II rating. There was no credit assigned to the upland buffer in the approved 2010 amendment.

The adopted performance standards for this site and summary of the site's performance toward these standards are provided in Table 9. These standards required areas delineated as wetlands to meet all three wetland criteria as defined in the 1987 Corps of Engineers Wetland Delineation Manual. Areas defined as wetlands exhibited soil saturation in the upper 12 inches of the soil profile for a minimum of 12.5 percent of the growing season and the wetlands delineated in 2013 met the three wetland criteria. The maximum noxious weed coverage did not exceed 5 percent site wide. The areal coverage of all plant species was at least 80 percent and the plant species have survived two years. The percent aerial cover of bare ground does not exceed 20 percent. The permanent open water areas outside of Woodson Creek exhibit either persistent emergent vegetation or aquatic bed vegetation and have been classified as Aguatic Macrophytes communities. No single body of water exceeds three acres. The three credit areas have achieved a Category II functional rating. A total of 62.96 credit acres have been calculated for the Woodson Creek wetland mitigation site based on the final year (2013) monitoring results (Table 10).

Table 9. Summary of performance standards for Woodson Creek wetland mitigation site.

PERFOMANCE STANDARD	Achieved Y/N	DISCUSSION
Meet all three wetland criteria (as defined in 1987 Corps of Engineers Wetland Delineation Manual).	Υ	All wetlands delineated within the Woodson Creek wetland mitigation site in 2013 meet all three wetland criteria.
Maximum noxious weed coverage is not to exceed 5 percent.	Y	Site-wide coverage of Montana state-listed noxious weeds is less than 5 percent.
Soil saturation in the upper 12 inches of the soil profile for a minimum of 12.5 percent of the growing season.	Y	Areas identified as wetlands in 2013 exhibited positive indication of soil saturation for a minimum of 15 days consecutive days during the growing season.
Areal coverage of all plants species must be at least 80 percent and requires a 2-year survival period; bare ground shall not exceed 20 percent areal coverage.	Y	Areal coverage of established vegetation within the Woodson Creek site in 2013 is estimated to be greater than 95 percent; the percentage of bare ground observed in 2013 is estimated at less than 5 percent.
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.	Y	Permanent open water areas within the site have been classified as Aquatic Macrophytes communities with a prevalence of both emergent and aquatic bed species. These areas account for approximately 1 percent of the project area.
Achieve a Category II functional rating.	Y	All three Assessment Areas within the Woodson Creek wetland mitigation site achieved a Category II function rating in 2013.

Table 10. Credit summary from 2010 to 2013 for the Woodson Creek Wetland Mitigation Site.

AA	Credit Category	2010 Credit Ratio	2010 Acres	2010 Credit Acres	2011 Acres	2011 Credit Acres	2012 Acres	2012 Credit Acres	2013 Acres	2013 Credit Acres
Woodson Creek Floodplain	Restoration (Re- establishment)	1:1	29.17	29.17	29.19	29.19	29.19	29.19	28.62	28.62
East Parcel	Re-establishment	1:1	31.23	31.23	31.27	31.27	31.27	31.27	29.57	29.57
West Parcel	Rehabilitation	1.5:1	7.3	4.87	9.18	6.12	9.18	6.12	7.15	4.77
Total			67.70	65.27	69.64	66.58	69.64	66.58	65.34	62.96

4. REFERENCES

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Websites:

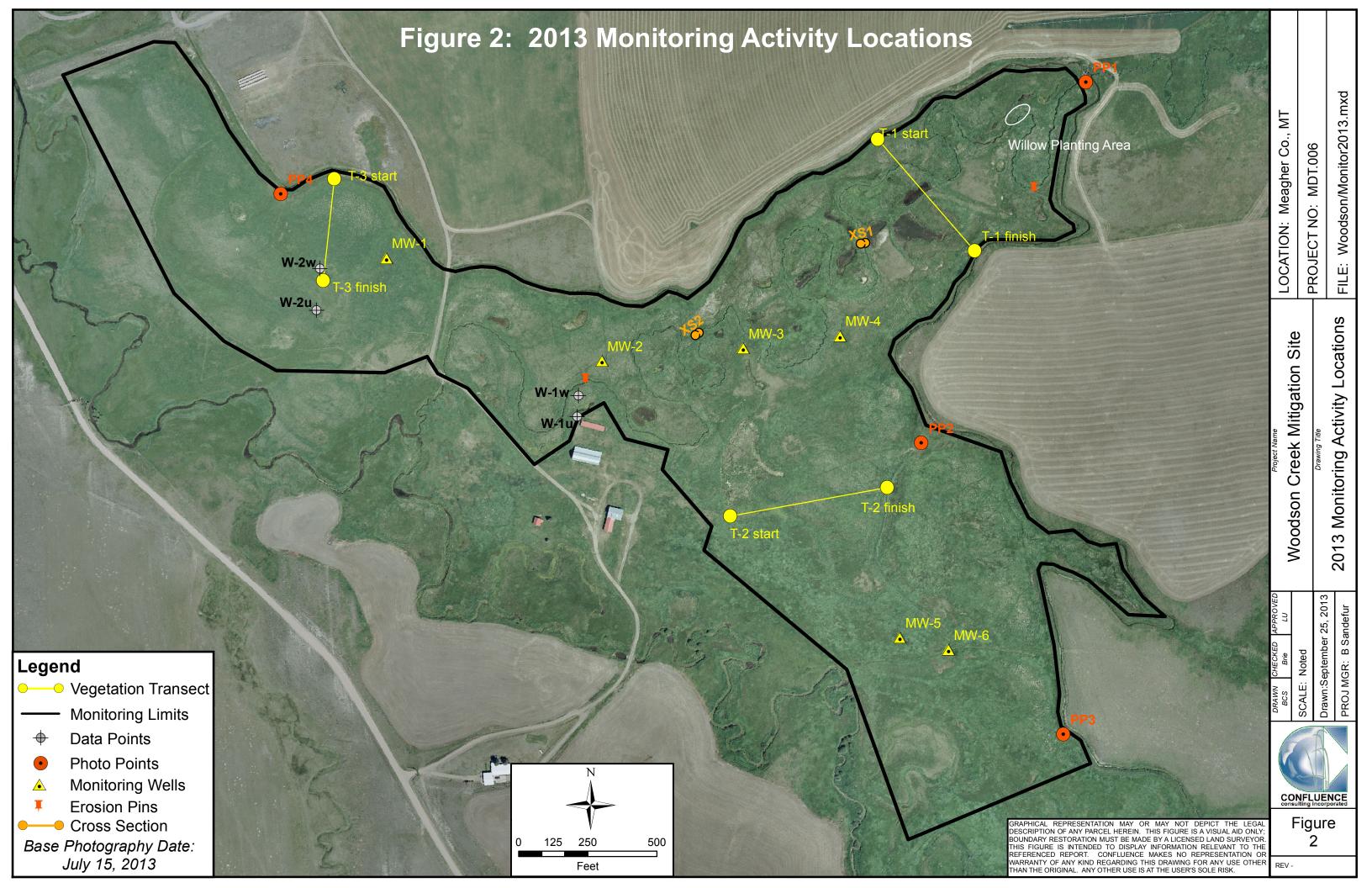
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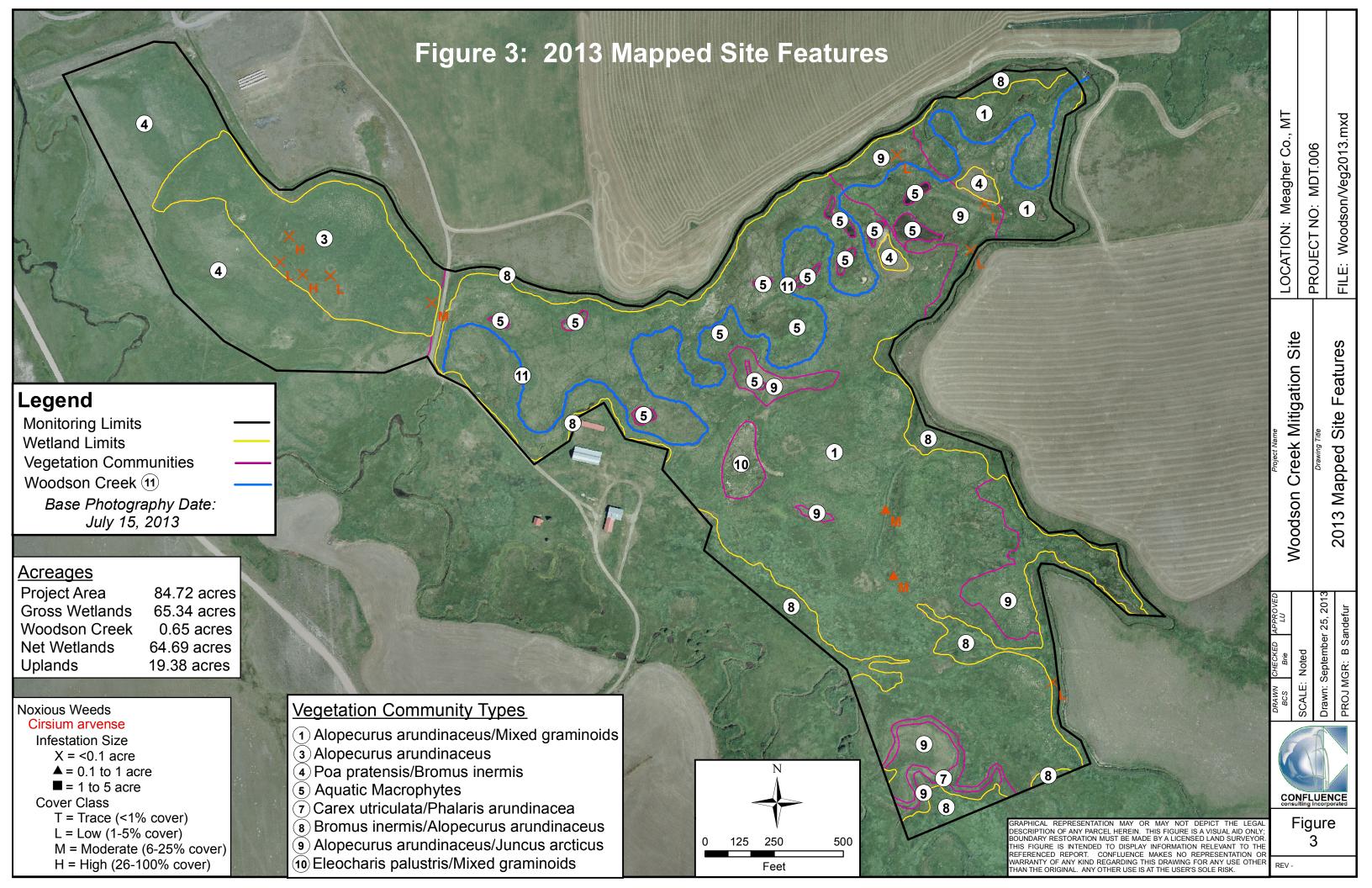
Mondeon	Creek 2013	Motland	Mitigation	Monitoring	Panort
vvooason	Creek ZUTS	vveuana	willidation	IVIONILOTINA	Report

Appendix A

Project Area Maps: Figures 2 and 3

MDT Wetland Mitigation Monitoring Woodson Creek Meagher County, Montana





Woodson Creek 2013 Wetland Mitigation Monitoring Report

Appendix B

2013 MDT Wetland Mitigation Site Monitoring Form 2013 USACE Routine Wetland Determination Data Form 2013 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	8/12/2013 8:52:57 AM
		t: B. Schultz; B. Sandefur	
Weather: <u>Su</u>	unny, clear, hot	Location: Ringling, MT	
MDT District	t: Butte	Milepost: NA	
Legal Descr	iption: T <u>6N</u> R <u>8E</u> S	ection(s) 9 & 16	
Initial Evalua	ation Date <u>: 7/18/2007</u>	Monitoring Year: <u>6</u> #Visits in Year: <u>1</u>	<u>_</u>
Size of Eval	uation Area: 84.72 (ac	<u>res)</u>	
Land use su	rrounding wetland:		
Agriculture	(hay); farm outbuildings		
		HYDROLOGY	
Surface Water S	Source: Flood irrigation/	groundwater	
Inundation:	✓ Average De	pth: 1 (ft) Range of Depths: 0-	<u>-2 (ft)</u>
Percent of asses	ssment area under inunda	ution:10 %	
Depth at emerge	ent vegetation-open water	boundary: <u>0.5 (ft)</u>	
		are the soils saturated within 12 inches of	surface: No
		ex. – drift lines, erosion, stained vegetation	
Inundation on a	• • • •	ined leaves, wetland drainage patterns,	
Groundwate	r Monitoring Wells		
	of water surface below	ground surface, in feet.	
Well ID	Water Surface De		
MW-1	DRY	our (ity	
MW-2	DRY		
MW-3	DRY		
MW-4	DRY		
MW-6	2.5		
10100-0	2.5		
Additional Activities C	Checklist:		
	vegetation-open water boundary	•	
	· ·	te visit and look for evidence of past surface water	
-	erosion, vegetation staining, etc irvey groundwater monitoring we		
_	arvoy groundwater monitoring we	m locations, ii procent.	

Hydrology Notes:

Many of the depressional areas that were inundated during the 2011 monitoring event were not inundated during the 2013 monitoring event. Well MW-5 could not be located in the field.

VEGETATION COMMUNITIES

Site Woodson Creek

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

Community # 1 Co	mmunity Type:	Alopecurus arundinaceus / Mixed G	<u>Graminoids</u>	Acres	<u>47.23</u>
Species	Cover class	Species	Cover clas	ss	
Achillea millefolium	1	Alopecurus arundinaceus	4		
Argentina anserina	0	Beckmannia syzigachne	0		
Carex utriculata	0	Cicuta douglasii	0		
Cirsium arvense	1	Descurainia sophia	0		
Eleocharis palustris	0	Hordeum jubatum	1		
Juncus arcticus	2	Pascopyrum smithii	1		
Phalaris arundinacea	2	Poa compressa	1		
Poa pratensis	0	Scirpus microcarpus	0		
Taraxacum officinale	0	Thlaspi arvense	0		
Triglochin maritima	1	Triglochin palustris	0		
Comments:					
Community appears to be tre	ending towards domi	nation by alopecurus arundinaceus.			
Community # 3 Co	mmunity Type:	Alopecurus arundinaceus /		Acres	<u>7.15</u>
Species	Cover class	Species	Cover clas	ss	
Alopecurus arundinaceus	5	Argentina anserina	1		
Beckmannia syzigachne	1	Deschampsia cespitosa	0		
Eleocharis palustris	1				
Comments:					
Community # 4 Co	mmunity Type:	Poa pratensis / Bromus inermis		Acres	<u>12.62</u>
Species	Cover class	Species	Cover clas	ss	
Alopecurus arundinaceus	1	Bromus inermis	4		
Cirsium arvense	2	Descurainia sophia	1		
Equisetum arvense	1	Poa pratensis	4		
Solidago canadensis	2	Thlaspi arvense	1		
Comments:					

Community #	<u>5</u>	Community Type:	Aquatic macrophytes /		Acres	<u>0.99</u>
Species	Species Cover class		Species	Cover clas	SS	
Algae, green		1	Bare Ground	2		
Carex utriculata		1	Eleocharis palustris	3		
Hippuris vulgaris		1	Lemna minor	0		
Myriophyllum sp.		1	Najas sp.	1		
Open Water		4	Persicaria amphibia	0		
Phalaris arundinacea		2	Ranunculus longirostris	3		
Ruppia sp.		0	Scirpus microcarpus	1		
Sparganium angustifo	oliu	ım 1	Typha latifolia	1		
Comments:						
Community #	<u>7</u>	Community Type:	Carex utriculata / Phalaris arundina	acea	Acres	<u>0.65</u>
Species		Cover class	Species	Cover clas	SS	
Carex nebrascensis		1	Carex utriculata	5		
Cicuta douglasii		0	Eleocharis palustris	2		
Juncus arcticus		1	Phalaris arundinacea	2		
Triglochin palustris		0				
Comments:						
Community #	<u>8</u>	Community Type:	Bromus inermis / Alopecurus aruno	<u>dinaceus</u>	Acres	<u>6.77</u>
Species		Cover class	Species	Cover clas	SS	
Achillea millefolium		2	Alopecurus arundinaceus	2		
Aster sp.		0	Bromus inermis	5		
Cirsium arvense		1	Equisetum arvense	1		
Equisetum hyemale		1	Grindelia squarrosa	0		
Juncus arcticus		1	Melilotus officinalis	1		
Poa pratensis		2	Puccinellia nuttalliana	1		
Solidago canadensis		1	Taraxacum officinale	1		
Thlaspi arvense		1	Trifolium repens	1		
Comments:						

Community # 9 C	ommunity Type:	Alopecurus arundinaceus / Juncus	arcticus Acres	<u>7.99</u>
Species	Cover class	Species	Cover class	
Achillea millefolium	1	Alopecurus aequalis	0	
Alopecurus arundinaceus	5	Argentina anserina	1	
Carex nebrascensis	1	Carex utriculata	1	
Cicuta douglasii	0	Cirsium arvense	1	
Juncus arcticus	4	Lactuca serriola	1	
Persicaria sp.	0	Phalaris arundinacea	2	
Poa compressa	3	Poa palustris	1	
Rumex crispus	0	Scirpus microcarpus	1	
Scutellaria lateriflora	0	Solidago canadensis	1	
Taraxacum officinale	1	Trifolium repens	0	
Triglochin palustris	1			
Comments:				
Community # 10 C	ommunity Type:	Eleocharis palustris / Mixed Gramin	noids Acres	0.68
Community # 10 C	ommunity Type: Cover class	Eleocharis palustris / Mixed Gramin Species	Acres Cover class	0.68
				0.68
Species	Cover class	Species	Cover class	0.68
Species Alopecurus arundinaceus	Cover class	Species Argentina anserina	Cover class	0.68
Species Alopecurus arundinaceus Beckmannia syzigachne	Cover class 2 2	Species Argentina anserina Calamagrostis canadensis	Cover class 1 2	0.68
Species Alopecurus arundinaceus Beckmannia syzigachne Carex utriculata	Cover class 2 2 1	Species Argentina anserina Calamagrostis canadensis Eleocharis palustris	Cover class 1 2 3	0.68
Species Alopecurus arundinaceus Beckmannia syzigachne Carex utriculata Glyceria grandis	Cover class 2 2 1 2	Species Argentina anserina Calamagrostis canadensis Eleocharis palustris Juncus arcticus	Cover class 1 2 3 2	0.68
Species Alopecurus arundinaceus Beckmannia syzigachne Carex utriculata Glyceria grandis Myriophyllum sp.	Cover class 2 2 1 2 1	Species Argentina anserina Calamagrostis canadensis Eleocharis palustris Juncus arcticus	Cover class 1 2 3 2	<u>0.68</u>
Species Alopecurus arundinaceus Beckmannia syzigachne Carex utriculata Glyceria grandis Myriophyllum sp. Ranunculus longirostris	Cover class 2 2 1 2 1 2 1 2	Species Argentina anserina Calamagrostis canadensis Eleocharis palustris Juncus arcticus Phalaris arundinacea	Cover class 1 2 3 2	<u>0.68</u>
Species Alopecurus arundinaceus Beckmannia syzigachne Carex utriculata Glyceria grandis Myriophyllum sp. Ranunculus longirostris Comments:	Cover class 2 2 1 2 1 2 1 2	Species Argentina anserina Calamagrostis canadensis Eleocharis palustris Juncus arcticus Phalaris arundinacea	Cover class 1 2 3 2 2	

Total Vegetation Community Acreage 84.73

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

5

Open Water

Comments:

VEGETATION TRANSECTS

Woodson Creek		Da	te: 8/12/2013	8:52:57 AM
Transect Number: 1		_ Compass Di	rection from Start:	135
Interval Data:				
Ending Station	115	Community Type:	Alopecurus arundinaceus	/ Juncus arcticus
Species		Cover class	Species	Cover clas
Alopecurus arundinaceus		5	Argentina anserina	(
Carex nebrascensis		1	Cirsium arvense	1
Juncus arcticus		3	Poa compressa	
Triglochin palustris		0		
Ending Station	119	Community Type:	Open Water / Woodson C	reek
Species		Cover class	Species	Cover clas
Open Water		5		
Ending Station	210	Community Type:	Alopecurus arundinaceus	/ Juncus arcticus
Species		Cover class	Species	Cover clas
Alopecurus arundinaceus		5	Carex utriculata	
Cicuta douglasii		0	Cirsium arvense	
Juncus arcticus		3	Poa compressa	
Scirpus microcarpus		1		
Ending Station	252	Community Type:	Aquatic macrophytes /	
Species		Cover class	Species	Cover clas
Hippuris vulgaris		1	Open Water	
Persicaria amphibia		0	Ruppia sp.	
Typha latifolia		0		
Ending Station	526	Community Type:	Alopecurus arundinaceus	/ Juncus arcticus
Species		Cover class	Species	Cover clas
Alopecurus arundinaceus		5	Carex nebrascensis	
Carex utriculata		1	Cicuta douglasii	
Cirsium arvense		0	Juncus arcticus	
Poa compressa		1	Scirpus microcarpus	
Scutellaria lateriflora		0	Trifolium repens	
Triglochin palustris		2		

Transect Notes:

Transect Number: 2		Compass Di	rection from Start:8	<u>0</u>
Interval Data:				
Ending Station	583	Community Type:	Alopecurus arundinaceus / M	lixed Graminoid
Species		Cover class	Species	Cover class
Alopecurus arundinaceus		5	Argentina anserina	0
Beckmannia syzigachne		1	Carex utriculata	1
Eleocharis palustris		1	Hordeum jubatum	1
Juncus arcticus		1	Phalaris arundinacea	0
Poa pratensis		1	Triglochin palustris	0
Transect Notes:				
Transect Number: 3		Compass Di	rection from Start: 35	<u>5</u>
Interval Data:				
Ending Station	353	Community Type:	Alopecurus arundinaceus /	
Species		Cover class	Species	Cover class
Alopecurus arundinaceus		5		
Transect Notes:				
Very dense stand of A	Alope	curus arundinaceus).	

PLANTED WOODY VEGETATION SURVIVAL

Woodson Creek

Planting Type #Planted #Alive Notes

Salix spp. 69 10 cuttings have moderate vigor and low survival

Comments

Woodson Creek

WILDLIFE

No

Birds	
Were man-made nesting structures installed?	No
If yes, type of structure:	
How many?	
Are the nesting structures being used?	No

Nesting Structure Comments:

Do the nesting structures need repairs?_____

Species	#Observed	Behavior	Habitat
Barn Swallow	5	F, FO	UP, WM
Great Blue Heron	1	FO	UP, WM
Great Horned Owl	1	L	UP
Sandhill Crane	3	FO	UP, WM
Swainson's Hawk	1	F, FO	UP
Bird Comments			

BEHAVIOR CODES

 $\mathbf{BP} = \mathbf{One} \ \text{of a} \ \underline{\mathbf{breeding pair}} \ \mathbf{BD} = \underline{\mathbf{Breeding display}} \ \mathbf{F} = \underline{\mathbf{Foraging}} \ \mathbf{FO} = \underline{\mathbf{Flyover}} \ \mathbf{L} = \underline{\mathbf{Loafing}} \ \mathbf{N} = \underline{\mathbf{Nesting}}$

HABITAT CODES

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

 $\mathbf{WM} = \mathbf{Wet} \; \mathbf{meadow} \; \mathbf{MA} = \mathbf{Marsh} \; \mathbf{US} = \mathbf{Unconsolidated} \; \mathbf{shore} \; \mathbf{MF} = \mathbf{Mud} \; \mathbf{Flat} \; \mathbf{OW} = \mathbf{Open} \; \mathbf{Water} \; \mathbf{VS} = \mathbf{VS} \; \mathbf{VS}$

Mammals and Herptiles

Species # Observed Tracks Scat Burrows Comments

Black Bear		No	No	No	Chew marks on well MW-6
Elk or Wapiti	15	No	No	No	West of site
Mule Deer	2	Yes	No	No	
Northern River Otter	1	Yes	Yes	Yes	
White-tailed Deer	1	Yes	No	No	

Wildlife Comments:

An angry river otter that appeared to be protecting its den was seen at stream transect 1.

Woodson Creek

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
1126	46.290081	-110.731293	135	T-1, Start
1128	46.288757	-110.729637	220	T-1, End
1130-1132	46.289425	-110.728729		upper bank pins pin 1 out 0.9 pin 2 out 2.0
1133-1139	46.290459	-110.728035	220	PP 1 pano
1140	46.286163	-110.733093	80	T-2, Start
1141-42	46.286373	-110.730835	260	T-2, End
1143-1154	46.286873	-110.730354	200	PP 2 pano
1155-1164	46.289204	-110.739418	250	PP 4 pano
1171-1173	46.28788	-110.733589	170	XS-2
1174-1175	46.287415	-110.735115		lower bank pins-low 17-middle 16- 5 top
1181				W-1u
1182				W-1w
1184	46.289261	-110.738754	174	T-3, Start
1185-1193	46.284012	-110.728188	180	PP 3 pano
1194	46.288387	-110.738976	180	T-3, End
1197	46.288258	-110.738548	0	W-2w
1198	46.28854	-110.738991	180	W-2u

Comments:

ADDITIONAL ITEMS CHECKLIST

Hydrology
 ✓ Map emergent vegetation/open water boundary on aerial photos. ✓ Observe extent of surface water. Look for evidence of past surface water elevations (e.g. drift lines, vegetation staining, erosion, etc).
Photos
 ✓ One photo from the wetland toward each of the four cardinal directions ✓ 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
Complete and attach full MDT Montana Wetland Assessment Method field orms.
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? No
If yes, are the structures in need of repair?
If yes, describe the problems below.
Well MW-5 assumed destroyed.

Project/Site: Woodson	c	ity/County:	Ringling/M	leagher Co.	;	Sampling	Date:8	3/12/2013
Applicant/Owner: MDT				State: N	1T (Sampling	Point: W-1	u
Investigator(s): B Schultz, B Sandefur	S		vnship, Rang			6N		
Landform (hillslope, terrace, etc.): Lowland	L	ocal relief	(concave, co	onvex, none):	flat		Slope	(%):
Subregion (LRR): LRR E Lat:				Long: -1				
Soil Map Unit Name: Soapcreek Fairway complex, 0-2% slop								
Do Normal Circumstances Exist on this site?								
Is the site significantly disturbed (Atypical Situation)? Yes								
Is the area a potential Problem Area?								
SUMMARY OF FINDINGS – Attach site map show	ving s	sampling	g point lo	cations, tr	ansects,	import	ant feat	ures, etc.
Hydrophytic Vegetation Present? Yes <u>✓</u> No _								
Hydric Soil Present? Yes No			e Sampled A		Vaa 🗆	No		
Wetland Hydrology Present? Yes No		withi	n a Wetland	ı r	Yes	NO_		
Remarks:								
VEGETATION – Use scientific names of plants.								
Abso		Dominant		Dominance 1	Test works	heet:		
	over _	Species?	Status_	Number of D			2	2 (4)
1	0			That Are OB	L, FACVV, O	FAC:		(A)
3.	0			Total Numbe Species Acro			2	2 _(B)
4.	0							(b)
_	0 :	= Total Co	ver	Percent of De That Are OB			100.00%	(A/B)
Sapling/Shrub Stratum (Plot size:)	0					_		
1	0 -			Dominance ⁻	l est is >50%	6 V		
2	0 -							
3	0							
5	0							
	0 :	= Total Cov	ver					
Herb Stratum (Plot size: 5 ft Alopecurus arundinaceus	50		FAC					
	50		FAC					
3. Cirsium arvense	5		FAC					
4	0							
5	0							
6	0							
7	0							
8	0 .							
9								
10	0 -							
11								
Woody Vine Stratum (Plot size:)	105 =	= Total Cov	er					
1	0			Hydrophytic	:			
2	0			Vegetation			No. 🗆	
0 —	=	= Total Cov	er	Present?	Yes		No	_
% Bare Ground in Herb Stratum								

SOIL						Sampling Point: W-1u
Profile Des	cription: (Describe	to the depth	needed to document th	e indicator or confi	rm the absence	e of indicators.)
Depth	Matrix		Redox Featu	res		
(inches)	Color (moist)	%	Color (moist) %	Type ¹ Loc ²	Texture	Remarks
0-10	10YR 3/3	100			Silt Loam	highly friable
10-14	10YR 4/3	100			Silt Loam	
	-		· · · · · · · · · · · · · · · · · · ·			
	-					
	-					
	-					-
		pletion, RM=F	Reduced Matrix, CS=Cove	red or Coated Sand	Grains. ² Lo	cation: PL=Pore Lining, M=Matrix.
_	Indicators:					
Histoso				inic Content in Surfa		dy Soils
	pipedon		Organic S	Streaking in Sandy S	oils	
L Sulfidic			<u></u> Listed on	Local Soils List		
	Noisture Regime		<u></u> Listed on	National Soils List		
_	ng Conditions		Other (ex	plain in remarks)		
	or Low-Chroma Col	ors				
Concret	tions					
Taxonomy S	subgroup: Fluvaqu	entic Haplus	stolls			
Confirm Man	pped Type?:				Undria Cai	I Present? Yes No
	.,,,,,,,,,				Hydric Soi	I Present? Yes No
Remarks:		40: 1				
No redox id	dentified in the up	per 12 inche	S.			
HYDROLO	OGY					
Wetland Hy	ydrology Indicators	; :				
Primary Ind	icators		Secondary Indicators	(2 or more required)		
Innund	ated		Oxidized Rhizosp	heres along Living R	oots	
	ted in upper 12 inch	00	Water-Stained Le			
		C 3	Local Soil Survey			
Water I			_			
Drift Lir			FAC-Neutral Test			
	ent Deposits		U Other (Explain in I	Remarks)		
Drainag	ge patterns in wetlar	nds				
Field Obse	mations.					
		v 🗆				
			o Depth (inches):			
Water Table			o Depth (inches): _			
Saturation F		Yes 🔲 N	o 🔽 Depth (inches): _	We	etland Hydrolog	gy Present? Yes No 🔽
	apillary fringe)					
I vernans. N	lo surtace hydro ir	ndicators. La	ndform approximately	3 teet above creek	celevation.	
,						

Project/Site: Woodson			City/County	Ringling/l	Meagher Co.		Sampling	g Date:	8/12/2	013
Applicant/Owner: MDT					State: N	ЛT	Sampling	g Point:W-	·1w	
Investigator(s): B Schultz, B Sandefur	•		Section, To				T 6N		8E	
Landform (hillslope, terrace, etc.): Lowla			Local relief	(concave, c	convex, none):	flat		Slope	(%):	0
Subregion (LRR): LRR E		Lat:			Long:		3666666			
Soil Map Unit Name: Soapcreek Fairw										
Do Normal Circumstances Exist on this		Yes_								
Is the site significantly disturbed (Atypic	al Situation)?	Yes								
Is the area a potential Problem Area?	,	Yes								
SUMMARY OF FINDINGS - At	tach site ma	ıp showing	ı samplin	g point lo	ocations, tr	ansects	, impor	tant feat	tures,	etc.
Hydrophytic Vegetation Present?	Yes 🗸	No 🗆								
Hydric Soil Present?	Yes 🔽	No 🔲	I	e Sampled						
Wetland Hydrology Present?	Yes 🔽	No	with	in a Wetlan	id?	Yes 🔽	No			
Remarks: DP W-1w is at approx 2ft lower surface	than W-1u inte	rcente season	ally high gro	undwater ta	phle					
Vi W is at approx 2it lower surface	than w-ru, inte	rcepts season	any mgm gro	unawater ta	ibie.					
VEGETATION - Use scientific	names of pl	ants.								
		Absolute		Indicator	Dominance	Test work	sheet:			
Tree Stratum (Plot size:		<u>% Cover</u> 0	Species?	_Status_	Number of E				1 ,	(A)
1					That Are OB	st, facw, o	or FAC:		((A)
3					Total Number				1 ,	(B)
4.		0							(,D)
			_ = Total Co	ver	Percent of D That Are OB			100.009	% ((A/B)
Sapling/Shrub Stratum (Plot size:)						_			,)
1		$\frac{0}{0}$	- —		Dominance	Test is >50	% ✓			
2		— 								
3		$ \frac{0}{0}$								
4 5.			- 📙							
		0	_ = Total Co	ver						
Herb Stratum (Plot size: 5 ft)									
1. Alopecurus arundinaceus 2. Carex utriculata		<u>80</u> 10		FAC OBL						
2. Juncus arcticus				FACW						
3. Scirpus microcarpus				OBL						
5		$ \frac{3}{0}$								
6										
7.										
8.		0								
9		0								
10		0								
11		0								
Woody Vine Stratum (Plot size:	1	105	_= Total Co	ver						
1		0			Liveleonbusti	_				
2.		0			Hydrophytic Vegetation	C				
	0	0	_= Total Co	ver	Present?	Ye	s v	No	_	
% Bare Ground in Herb Stratum										
Remarks:										

SOIL										5	Sampling Point:	
Profile Desc	ription: (De	escribe to th	e dept	th needed	l to docur	nent the ir	ndicator	or confi	irm the absence			
Depth		Matrix				x Features					•	
(inches)	Color (m	noist) 9	%	Color (moist)	%	Type ¹	_Loc ²	Texture		Remarks	
0-5	10YR	3/2	100						Silty Clay Loan	າ		
5-8	10YR	3/1	100						Silty Clay Loan	า		
8-16	10YR		90	7.5YR	4/4	10		M	Clay Loam			
0.10	10111	-1/1		7.511	4/4				Olay Loam			_
l	0								_			
	_							-				_
												-
¹ Type: C=Co	oncentration	, D=Depletior	 n. RM=	Reduced	Matrix. CS	=Covered	or Coate	ed Sand	Grains. ² Lo	cation: PL	=Pore Lining, N	I=Matrix.
Hydric Soil		, 2 200.00.0	.,				J. 2011					. IIIda ba
Histosol					Днig	h Organio	Content	in Surfa	ace Layer in Sar	dy Soils		
Histic Ep	oipedon				`	ganic Stre				•		
Sulfidic	Odor					sted on Lo	cal Soils	List				
	oisture Regi				<u></u> ✓Lis	sted on Na	itional Sc	ils List				
	g Conditions				0	her (expla	in in rem	arks)				
✓ Gleyed o		ma Colors										
Concretion	ons											
Taxonomy Su	ibaroup: FI	luveagentic	Haplı	ıstolls								
Taxonomy Go	ibgroup. T	avouqoniio	Парт	.010110								
Confirm Mapp	ed Type?:	✓							Hydric Soi	I Present?	Yes 🔽	No
Remarks:												
HYDROLO	GY											
Wetland Hy	drology Ind	icators:										
Primary India	cators			Seco	ndary Indi	cators (2	or more r	equired))			
Innunda	ited				Oxidized R	hizospher	es along	Living R	Roots			
Saturate	ed in upper 1	12 inches			Water-Stai			J				
Water M				_	Local Soil							
Drift Line	es				FAC-Neutr							
	nt Deposits				Other (Exp		marks)					
	e patterns in	wetlands			o (Exp							
	-											
Field Obser		,, r	¬ .									
Surface Water		Yes _		No 🔽		ches):						
Water Table		Yes _		No <u></u>		ches):						
Saturation Pi (includes car		Yes <u> </u>	!	No 🔽	Depth (in	ches):		$-\mid$ W	etland Hydrolo	gy Present	? Yes 🗸	No
			hvto	commun	ity with h	iah watar	olovatio	on at ar	ound surface a	ot DD		
Th	ıjac e ni aqu iis site inte	rcepts seas	onally	oommun high are	ny witti fi Dundwate	ıgıı water r tahle	cicvall	nı at gr	ouriu Suriace a	מנטר.		
	2 2.10 1110		u									

Project/Site: Woodson			City/Count	y: Ringling/	Meagher Co.	Sampling	g Date:8/12	2/2013
Applicant/Owner: MDT					State: N	IT Sampling	g Point: W-2u	
Investigator(s): B Schultz, B Sandefur	•		Section To	ownship, Rai	_	9 T 6N	R 8E	
Landform (hillslope, terrace, etc.): Lowla						flat	Slope (%):	. 0
Subregion (LRR): LRR E		Lat:			Long:		7 Datum:WG	
Soil Map Unit Name: Soapcreek Fairw	ay 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?	ar olludion):	Yes						
SUMMARY OF FINDINGS - At	tach site ma		ı samplir	ng point k	ocations, tra	ansects, impor	tant feature	es, etc.
Hydrophytic Vegetation Present?	Yes 🔽	No 🔲		-		•		
Hydric Soil Present?	Yes	No 🔽		he Sampled				
Wetland Hydrology Present?	Yes	No 🔽	with	hin a Wetlan	ıd?	Yes No		
Remarks: DP with seasonal watertable below 16in	1.		·					
VEGETATION – Use scientific	names of pl	ants.						
Tree Stratum (Plot size:)	Absolute % Cover	Dominan Species?	t Indicator		Test worksheet:		
1				Otatus		ominant Species L, FACW, or FAC:	2	(A)
2.								. ()
3.		_			Species Acro	r of Dominant oss All Strata:	3	(B)
4		Λ						,
		0	_ = Total C	over		ominant Species L, FACW, or FAC:	66.70%	(A/B)
Sapling/Shrub Stratum (Plot size:		0			Dominanco I	Γest is >50% ✓		
1		$\frac{0}{0}$			Dominance	Test is >50% ▼		
2 3								
4.		_						
5.								
		0	_ = Total C	over				
Herb Stratum (Plot size: 5 ft 1. Alopecurus arundinaceus)	40	✓	FAC				
Danasa in casa in			- <u>v</u>	FAC				
2. Bromus inermis 3. Taraxacum officinale				FACU				
4								
5								
6.		0						
7.		0						
8		0						
9		0						
10		0						
11		0						
Woody Vine Stratum (Plot size:	1	100	_= Total Co	over				
1.		0			Livelyonbustion			
2.		0			Hydrophytic Vegetation			
% Bare Ground in Herb Stratum	0	0	_= Total Co	over	Present?	Yes✓	No	
Remarks:								

SOIL							Sampling Point: W-2u
Profile Des	cription: (Describ	e to the depth	needed to docume	ent the indicato	r or confirn	n the absence	of indicators.)
Depth	Matrix		Redox	Features			
(inches)	Color (moist)	%	Color (moist)	% Type ¹	Loc ²	Texture	Remarks
0-8	10YR 3/2	100				Clay Loam	
8-16	10YR 3/3	100				Clay	
							
	-						
1Type: C=C	Concentration D=De	enletion RM=F	Reduced Matrix, CS=	Covered or Coa	ted Sand G	rains ² l oc	eation: PL=Pore Lining, M=Matrix.
Hydric Soil		spicaen, rain i	toudoud Mataix, OC	0010104 01 004	tou ounu o	200	action. The Fore Eliming, in Microsc.
Histoso			High	Organic Conter	nt in Surface	a Laver in Sand	ly Soils
	pipedon			anic Streaking ir			ly solls
Sulfidic				-	-	IS	
	Noisture Regime			ed on Local Soil			
	ng Conditions		_	ed on National S			
	or Low-Chroma Co	lors	Oth	er (explain in rer	marks)		
Concret		1013					
Concret	ions						
Tayanamy S	ubgroup: Fluveac	rentic Hanlus	etalle				
Taxonomy S	ubgroup. Truveat	dentic Hapius	Stolis				
Confirm Map	ped Type?:					Hydric Soil	Present? Yes No
	–					Tiyana dan	1105cm: 103 <u> </u>
Remarks:	40'						
No redox ir	n upper 16in, sea	isonai nign g	roundwater table a	at least 16in be	elow surrac	ce.	
HYDROLC	OGY						
Wetland Hy	drology Indicator	s:					
Primary Indi			Secondary Indica	ators (2 or more	roquirod)		
Innund				izospheres alon	g Living Roo	ots	
⊥_ Saturat	ed in upper 12 inch	ies	Water-Stain	ed Leaves			
Water N	Marks		Local Soil S	urvey Data			
Drift Lin	nes		FAC-Neutra	l Test			
Sedime	ent Deposits		Other (Expla	in in Remarks)			
	ge patterns in wetla	nds		,			
Dramag	go pattorno in wotta	1145					
Field Obser	rvations:				T		
	ter Present?	Yes N	o 🔽 Depth (inch	nes):			
					I .		
Water Table				nes):			
Saturation F		Yes N	o 🔽 🔃 Depth (inch	nes):	Wet	land Hydrolog	y Present? Yes No 🔽
	pillary fringe)						
Remarks. A	rea at slightly hig	her elevation	than adjacent we	tland area, no	signs of s	urface hydrol	ogy identified.
. 1							

Project/Site: Woodson		City/County: Ringling/	Meagher Co.	Samplii	ng Date:8/1	2/2013
Applicant/Owner: MDT			State: MT	Samplir	ng Point: W-2w	
D. Caladea D. Caradatan		Section, Township, Rai		9 T 6N	R 8E	
• ,, -		Local relief (concave, o		at	Slope (%)):0
	Lat:	46.288335	Long:	-110.7388	95 Datum:WG	S84
Soil Map Unit Name: Soapcreek Fairway com						
Do Normal Circumstances Exist on this site?	Yes_					
Is the site significantly disturbed (Atypical Situati	ion)? Yes					
Is the area a potential Problem Area?	Yes_					
SUMMARY OF FINDINGS – Attach si	te map showing	sampling point l	ocations, trai	nsects, impo	rtant feature	es, etc.
Hydrophytic Vegetation Present? Yes _	✓ No □					
Hydric Soil Present? Yes _		Is the Sampled within a Wetlan		es 🗸 No		
Wetland Hydrology Present? Yes _	<u>✓</u> No <u> </u>	within a wettan	iu: iv	=5 NC	<u>, </u>	
Remarks: DP in seasonally saturated wet meadow.						
VEGETATION – Use scientific names						
Tree Stratum (Plot size:)	Absolute % Cover	Dominant Indicator Species? Status		est worksheet:		
1			Number of Don That Are OBL,	FACW, or FAC:	1	(A)
2	0		Total Number of	of Dominant		
3			Species Across		1	_ (B)
4			Percent of Don	ninant Species	100.000/	
Sapling/Shrub Stratum (Plot size:		_ = Total Cover		FACW, or FAC:	100.00%	_ (A/B)
1			Dominance Te	est is >50%		
2.						
3.						
4	0					
5						
Herb Stratum (Plot size: 5 ft)	0	_ = Total Cover				
1. Alopecurus arundinaceus	100	✓ FAC				
2.	0					
3.	0					
4	0					
5						
6						
7						
8						
9						
10 11.						
	100	_= Total Cover				
Woody Vine Stratum (Plot size:	_)					
1			Hydrophytic			
2			Vegetation Present?	Yes _✓_	No _	
% Bare Ground in Herb Stratum0 Remarks:	0	_= Total Cover				
Troniano.						

SOIL									S	ampling Point:	W-2w
Profile Desc	cription: (Descri	be to the dep	th neede	d to docu	ment the i	ndicator	or confi	rm the absence	of indicate	ors.)	
Depth	Matri				x Features						
(inches)	Color (moist)	%	Color	(moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-5	10YR 3/2	100						Clay Loam			
5-14	10YR 4/2	95	10YR	4/6	5	С	М	Silty Clay Loam			
¹ Type: C=C	oncentration, D=[Depletion, RM	=Reduced	Matrix. C	S=Covered	or Coate	ed Sand	Grains. ² Loc	ation: PL=	Pore Lining, M	=Matrix.
Hydric Soil		,		,						J ,	
Histosol				□Hi	gh Organio	Conten	t in Surfa	ice Layer in Sand	dy Soils		
Histic E	pipedon			_o	rganic Stre	eaking in	Sandy S	soils			
Sulfidic				<u> </u> Li	sted on Lo	cal Soils	List				
	oisture Regime			<u> </u> Li	sted on Na	ational S	oils List				
	g Conditions or Low-Chroma C	-1		o	ther (expla	ain in rem	narks)				
= '		olors									
Concreti	ons										
Taxonomy Si	ubgroup: Fluvac	guentic Hapl	ustolls								
		14.0oap.									
Confirm Map	ped Type?: 🗸							Hydric Soil	Present?	Yes 🔽	No
Remarks:											
HYDROLO	GY										
Wetland Hy	drology Indicato	rs:									
Primary Indi	cators		Sec	ondary Ind	licators (2	or more	required)				
Innunda	ated			Oxidized I	Rhizospher	es along	Living R	oots			
	ed in upper 12 inc	ches			ined Leave						
Water N					Survey Da						
Drift Lin				FAC-Neut	-						
	nt Deposits				plain in Rei	marks)					
_	e patterns in wetl	ands	_	Other (EX		marko)					
	- p										
Eight Ober	nation -						Т				
Field Obser		v 🗆	N	D " "							
Surface Wat			No 🔽		nches):						
Water Table			No 🔽		nches):				_		
Saturation P	resent? pillary fringe)	Yes	No 🗸	_ Depth (ir	iches):		_ W	etland Hydrolog	y Present?	Yes <u>V</u>	No
	ata point in sea	sonally satu	rated we	t meadow	/ Saturat	tion on a	eriale i	s nresent			
	ata ponit ili sea	condiny salu	alou we	. meauow	. Jaiura		aoriaio i	o prosent.			

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

	me Woods	son Creek		2. MDT pr	oject#	STPX-S	STPP	30(15)	(Control#	5912
. Evaluation	Date	8/12/2013 4. E v	/aluators	B Schultz, B	Sandefu	•	5	. Wetland/S	ite# (s)	AA-1	WC-Floodplain
. Wetland Lo	ocation(s):	r 6N	R 8E	Sec1 9		T 6N		R 8E	Sec2	16	
oprox Statio	oning or Mile	eposts									
atershed	10030101		\\/-	atershed/Cour	.tv 7	Miccouri/S	Sun/S	mith Watersh	ods/Ma	aghar Ca	untv
	Γ						Juli/3	IIIIIII Waleisi			unity
Evaluating	Agency Evaluation	Confluence for M	וטו	8. W	etland si s	ze			28.6	2	
•		ffected by MDT	project	How	assesse	d:	Meas	sured e.g. by	GPS		
Mitigation	Wetlands: p	re-construction		_	ssesssm	-			28.62	2	
Mitigation	Wetlands: p	ost construction	n	(acr	(AA) size es)	,					
Other				How	assesse	d :	Meas	sured e.g. by	GPS		
0. Classific	ation of Wet	land and Aquati	c Habitats	in AA							
GM Class rinson)	System	Subsystem	Class (Co	owardin)	Modif	ier (Coward	din)	Water Regim	e		% of AA
verine	Riverine	none	Aquatic B	<u> </u>	Excava			Permanently f			5
verine	Riverine	none	Emergent	Wetland				seasonally flo	oded		20
iverine	Riverine	none		dated Bottom	Excava	ated		Permanently t			5
iverine	Riverine	none	Emergent					seasonally flo			70
	Triverine	lione	Lineigent	vvetiand				Seasonally 110	oueu		
			1								
ame major N	Iontana Wat	oundance: (of si ershed Basin, so			vithin the	At	bunda	ant			
ame major M 2. General C	Iontana Wat Condition of	ershed Basin, s	ee definition	ons) etermine [circ	le] appro	priate res	sonse				A or heavily grazed or
ame major M 2. General C i. Regardin	Iontana Wat Condition of	ershed Basin, so AA ce: (use matrix I	Manage state; is otherwing roads of	ons) etermine [circ <i>Pr</i>	le] appro edominan natural logged, or not contain	t condition Land not comoderately selectively subject to	sonse ns adj cultivate y graze y logged minor d or build	iacent to (with the digital of the d	La log pla hy ed bu	ind cultivated gged; subject acement, grad drological alto	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, hayecontain roads or co	Conditions win	ershed Basin, so AA ce: (use matrix I	Manage state; is otherwise or ANV	etermine [circ Pr ed in predominantly s not grazed, hayed se converted; does or buildings; and no	le] appro edominan natural logged, or not contain ious weed	Land not complete to few roads or ANVS complete to few roads or AN	sonse cultivate y graze v logged minor d or build cover is	iacent to (with the digital of the d	La log pla hy ed bu	and cultivated gged; subject acement, grad drological altuilding density NVS 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, hayed contain roads or cannot cultivated. AA not cultivated and a contain roads or cannot cultivated and cultivated and contain roads or cannot cultivated and not cultivated and cultivat	Conditions win managed in prede d, logged, or other coccupied buildings 15%. but may be mode ged; or has been s ment, or hydrolog	ershed Basin, so AA ce: (use matrix I thin AA ominantly natural state; wise converted; does i	Manage state; is otherwite roads of or ANV	etermine [circ Pr ed in predominantly s not grazed, hayed se converted; does or buildings; and no: S cover is < =15%.	le] appro edominan natural logged, or not contain ious weed	priate res t condition Land not c moderately selectively subject to few roads or ANVS c	sonse ns adj cultivate y graze v logged minor c or build cover is	facent to (with dd, but may be d or hayed or d; or has been clearing; contains dings; noxious were =30%.	La log plant hy but AN	and cultivated gged; subject acement, grac drological altrilliding density NVS 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, hayed contain roads or can all a contain roads or build c=30%. AA cultivated or helatively substan anydrological altera	managed in predding disturbant conditions with the conditions with the conditions with the coupled buildings of the couple of the co	ershed Basin, so AA ce: (use matrix I thin AA minimally natural state; wise converted; does is; and noxious weed or erately grazed or hayed; subject to relatively minimal alteration; contains; ed or ANVS cover is ogged; subject to grading, clearing, or or building density; or	Manage state; is otherwite roads of or ANV	etermine [circ Pr ed in predominantly s not grazed, hayed se converted; does or buildings; and no: S cover is < =15%. low disturba	le] appro edominan natural logged, or not contain ious weed	priate res t condition Land not c moderately selectively subject to few roads or ANVS c	sonse adjultivate e v logged minor c or build bu	iacent to (with ed, but may be do or hayed or to rhayed or to rhayed or the control of the contr	La log plant hy but AN	ind cultivated gged; subject acement, grad drological alt will subject solver is: moderat high d	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, hayed contain roads or can ANVS cover is <= AA not cultivated, or selectively log clearing, fill place few roads or build <=30%. AA cultivated or harelatively substanthydrological alterancious weed or ANVS cover is <= AA consists of	managed in predd d, logged, or other pocupied buildings: 15%. but may be mode gid; or has been sment, or hydrologilings; noxious were eavily grazed or I tial fill placement, ation; high road canv's cover is >3 types of distribution of the control of the control of the cover is control of the cover is cover in cover is cover in cover	ershed Basin, so AA ce: (use matrix I thin AA minimally natural state; wise converted; does is; and noxious weed or erately grazed or hayed; subject to relatively minimal alteration; contains; ed or ANVS cover is ogged; subject to grading, clearing, or or building density; or	Managustate; is otherwire roads of or ANV	etermine [circ Pr ed in predominantly s not grazed, hayed se converted; does or buildings; and no: S cover is < =15%. low disturbat oderate disturbat nigh disturbat a, etc) lepressions an	le] appro edominan natural logged, or not contain ious weed nce bance	Land not complete to few roads or ANVS complete to few roads or AN	sonse adjos	dacent to (with dath to the door hayed or door hayed or door hayed or door hayed or door has been clearing; contains dings; noxious were <=30%. Sturbance disturbance	La log pla hy bu bu hy bu bu hy bu bu hy bu	ind cultivated gged; subject acement, grad drological altributed illding density NVS cover is: moderat high d	or heavily grazed or to substantial fill ding, clearing, or eraction; high road or consideration; or noxious weed or 30%. e disturbance
AA occurs and is not grazed, hayed contain roads or canding of the secondary of the seconda	managed in predded, logged, or other occupied buildings 15%. but may be mode ged; or has been sment, or hydrolog lings; noxious were averaged or I tial fill placement, ation; high road cannot be a sment or hydrolog lings; noxious were averaged or I tial fill placement, ation; high road cannot be a sment or hydrolog lings; noxious were averaged or I tial fill placement, ation; high road cannot be a sment or hydrolog lings; noxious were averaged or I tial fill placement, ation; high road cannot be a sment or hydrolog. Since the control of the sment of the sme	ershed Basin, so AA ce: (use matrix I thin AA minantly natural state; rwise converted; does is; and noxious weed or erately grazed or hayecubject to relatively minical alteration; contains ed or ANVS cover is ogged; subject to grading, clearing, or or building density; or 0%. urbance, intensi reek and adjacen	Manage state; is otherwire roads of or ANV ty, season t wetland dused for g	etermine [circ Pr ed in predominantly s not grazed, hayed se converted; does or buildings; and no: S cover is < =15%. Iow disturbat oderate distur nigh disturbat lepressions an razing and cult	le] appro edominan natural logged, or not contain ious weed nce bance	Land not complete to few roads or ANVS complete to few roads or AN	sonse adjos	dacent to (with dath to the door hayed or door hayed or door hayed or door hayed or door has been clearing; contains dings; noxious were <=30%. Sturbance disturbance	La log pla hy bu bu hy bu bu hy bu bu hy bu	ind cultivated gged; subject acement, grad drological altributed illding density NVS cover is: moderat high d	or heavily grazed or to substantial fill ding, clearing, or eraction; high road or consideration; or noxious weed or 30%. e disturbance

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

rating (circle)			H			М	L	I
Comments: Two veg	getated classes:	: emergent and	aquatic bed.					
	SECTION	PERTAIN	IING TO FU	INCTION	VAL	UES ASSE	SSMENT	
14A. Habitat for Fede	rally Listed or	Proposed Thre	eatened or Enda	ngered Plants	or Ani	mals:		
i. AA is documente	ed (D) or suspe	ected (S) to co	ntain (circle one	basedon defi	nition o	contained in ins	tructions):	
Primary or critical ha	bitat (list spec	ies) 🔘 D)					
Secondary habitat (lis	st Species)	(D						
Incidental habitat (lis	t species)	(D						
No usable habitat		•	s					
ii. Rating (use the cond Highest Habitat	clusions from i abo	ove and the matrix	below to arrive at [c	ircle] the function		and rating)	sus/incidental	None
Level Functional Points	1H	.9H	.8H	.7M		.5L	.3L	OL
and Rating								02
Sources for documented use	USFWS T&E	List - July 2013	3.					
14B. Habitat for plant above)	or animals rat	ted S1, S2, or \$	S3 by the Montai	na Natural Her	ritage P	Program: (not in	cluding species	listed in14A
i. AA is documer	nted (D) or sus	pected (S) to c	ontain (circle on	e basedon de	finition	contained in in	structions):	
Primary or critical ha	bitat (list spec	ies)	$D \cap S$	Wester	n Toad	(S2)		
Secondary habitat (lis	st Species)	\circ	D • S	Ferrugi	nous Ha	awk (S3B), Great	er Sage-Grouse	(S2)
Incidental habitat (lis	t species)	•	$D \odot S$	America	an Whit	e Pelican (S3B)		
No usable habitat) s					
ii. Rating (use the con points and rating [H:				rive at [circle] t	the func	etional		
Highest Habitat Doc. Level	/primary Sus.	/primary Doc.	/secondary Sus	./s econdary [Doc./incid	dental Sus./inci	dental None	
Functional Points and Rating	1H	.8H	.7M	.6M	.21	L .1	L OL	
Sources for documented use	ITNHP county li	ist, site observa	itions.					

14C. Genera i. Evi	ıl Wildli dence d				ıse in t	he AA	Sı	ıbstar	ntial												
Substantial (b	ased on a	any of the	e followi	ng (ch	eck]):						Mini	mal (b	oased o	n any of t	he follov	ving [c	heckl):				
observation abundant presence interviews	ons of about wildlife si of extrem	undant w ign such nely limiti	ildlife #s as scat, ng habit	s or hiç , tracks tat feat	gh species, nest st	tructure: availab	s, gam	e trails,	etc.	•	for the second	ew or r ttle to i parse	no wildli no wildli adjacer	fe observ ife sign nt upland local biol	ations de	uring p	eak us	·			
Moderate (bas	ed on an	y of the fo	ollowing	[chec	k]):																
observation common of adequate interviews	occurrent adjacent	ce of wild upland fo	life sign ood sou	such irces	as scat,	tracks,						eriods									
ii. Wildlife I cover to be co AA (see #10). absent [see in	nsidered Abbrevi	evenly d	istribute surface	ed, the e wate	most an	d least ns are a	prevale s follo	ent veg e	etated	classes	must b	e withi	n 20% (of each o	ther in te	rms of	f their p	ercent o	compos	ition of	the
Structural diversity (see #13)				Hi	gh							Мо	derate					Lo	w		
Class cover distribution (all vegetated		Eve	n			Une	ven			Ev	en en			Une	/en			Eve	en		
classes) Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	A	P/P	S/I	T/E	А	P/P	S/I	T/E	A	P/P	S/I	T/E	А	
disturbance at AA (see #12i)	_E	E	Е	н	E	Е	н	н	E	Н	Н	М	E	н	М	М	Е	н	М	М	
Moderate disturbance at AA (see #12i) High	Н	Н	н	Н	Н	Н	н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L	
disturbance at AA (see #12i)	_ M	М	М	L	М	М	<u>_</u>		М	M	L	L	М	L	L	L	L	L	L	L	
iii. Ratin				ons f	om i a	nd ii a	bove	and t	he ma	atrix b	elow	o arr	ive at	[circle]	the fu	nctio	nal po	ints a	nd rat	ting)	
Evidence	of wildli	ife use	(i)			Evou	otions	. .					abitat	feature	,					Lo	
Substanti	al					Exœ	1E			Г	Hig				Mod .8l					.71	
Moderate						_	9H	1		-	.9⊢ .7M	_			.51	_				.31	_
Minimal							6M				.4M	_			.2	_				.1L	-
Comments		odson (ssions	exhi	bit P/F	⊃ surf	ace v	vater (duratio	n and o	comp	rise 1	0% of	the A	A. V	Vater level
14D. Gener such that the historically u use occurs i Habitat Qua i. H	e AA co used by in the A	oUld be / fish du /A but i elow] sl	used ue to la s not d hould	by fi ack c desire be m	sh [i.e. of habit ed fron arked	at, exon at, exon a res	use is cessi sourc ow", a	s precl ve gra e man applied	luded dient, agen dacco	by pe , etc., nent p ording	erched click erspe ly in ii	ctive	ert or (NA) [such w, and	other by here and as fished note of the other than	parrier, and pro use w I in the	etc.] ceed vithin com	. If the d to th an irri ments	e AA is e nex gation	s not o	orwa tion.	s not If fish
or low Duration of surfa	(L) quali].			1	Pe	rmanent/	Perenni	al	1	:	Seasona	I/ Intermitte	ent	<u> </u>	Temo	orary/ E	phemera	ıl	7
Cover - % of wa as submerged lo banks, floating-l	iterbody in ogs, large	AA contai rocks & bo	ulders, o			>25		10-2		<10°	%	>25%		0-25%	<10%	>25		10-25		<10%	1
Shading - >75% contains ripariar	of stream	bank or sh	oreline v		A	E	: 1	E	1	Н	1	Н		н	М	1	м	N	и	М	1

as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	>25%	10-25%	<10%	>25%	10-25%	<10%	>25%	10-25%	<10%
Shading - >75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	Е	E	Н	Н	Н	М	М	М	М
Shading – 50 to 75% of streambank or shoreline within AA contains rip. Or wetland scrub-shrub or forested communities	н	I	М	М	М	M	М	L	٦
Shading - <50% of streambank or shoreline within AA contains rip. Or wetland scrub-shrub or forested communities	Н	М	М	М	L	L	L	L	L

level [E=H, H=M, M= activity or is the wate														,
including cold or war (circle)	m water fish E	ery or a	quatic life M	support L	t?		Υ 🔾		N •	Mod	ified habita	at qualit	y rating	=
			om i and ii				x below to arr	rive at [circle	e] the fun	octional	points and	d rating		
Types of fish known or	ional, H=high	,	oderate, L=				d Habitat Quality			1	Laur			
Suspected within AA Native game fish	Exception 1E	nai		High .9F		1	<u> </u>	Moderate .7M			Low 5M	1		
Introduced game fish	.9H		_	.8				6M			.4M			
Non-game fish	.7M		_	.6N				.5M			.3L			
No fish	.5M			.3L				.2L			.1L			
Comments Suspec	cted fish sp	ecies:	Eastern I	Brook ⁻	Trout ((Tier 4	introduced	game fish)).	·	-			
I4E. Flood Attenuatio rom in-channel or overbal i. Rating (wo	on: (applies nk flow, che	only to eck _ op to bo	wetlands NA ttom, use	subjec here a	t to flo	oding v		el or overbanction.)	ink flow.				ot flood	led
Estimated wetland area in AA subject to periodic flooding	ite, or L=low	≥ 10 ac					<10>2 acres			<u><</u>	2 acres			
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75	% <	25%	75	5%	25-75%	<25%	75%		25-75%	<25%		
AA contains not outlet or restricted outlet	1H	.9⊦		.6M	.8.	вн	.7M	.5M	.4M		.3L	.21	-	
AA contains unrestricted outlet	.9H	.8H		.5M	.7	'M	.6M	.4M	.3L	1	.2L	.1L	-	
restricted of	utlet) locate	ed dowi	nstream (of the A							within the			(,
14F. Short and Long T in-channel flow, precipite flooding or ponding, chee i. Rating (Working from Abbreviations for surface and T/E = temporary/epl	Ferm Surfac ation, upland ck NA n top to bott e water dura hemeral [se	ce Wated surface A here a tom, used ations a	er Storage te flow, or nd procee the mat re as follo	e: (App ground ed to 14 rix beloows: P/I	polies to dwater 4G.) by to a P = pe	o wetlar flow. rrive at	nds that flood If no wetland [circle] the f nt/perennial;	d or pond fr ds in the AA functional p S/I = seaso	rom over A are sub	rbank o	or o			
14F. Short and Long T in-channel flow, precipite flooding or ponding, cherical Rating (Working from Abbreviations for surface	Ferm Surface ation, upland ck NA NA no top to both the water durate the meral [see Figure 1] water containe	ce Wated surface A here a tom, used ations a	er Storage ee flow, or nd procee ee the mat re as follo ctions for	e: (App ground ed to 14 rix beloows: P/I	AA. plies to dwater 4G.) pw to a P = per definit	o wetlar flow. rrive at	nds that flood If no wetland [circle] the f nt/perennial;	d or pond fr ds in the AA functional p S/I = seaso	rom over A are sub points an onal/inte	rbank o	or o	≤1 acr		
14F. Short and Long T in-channel flow, precipite flooding or ponding, cherically the state of th	Ferm Surfac ation, upland ck NA n top to bott e water dura hemeral [se water containe re subject to	ce Wate d surface A here a tom, use ations a e instru	er Storage ee flow, or nd procee ee the mat re as follo ctions for	e: (App grounded to 14 rix beloows: P/I further	AA. plies to dwater 4G.) pw to a P = per definit	o wetlar flow. rrive at	nds that flood If no wetland [circle] the f nt/perennial;	d or pond fr ds in the AA functional p S/I = seaso s].)	rom over A are sub points an onal/inte	rbank opject to	or o			T/E
14F. Short and Long T in-channel flow, precipite flooding or ponding, chemically characteristics. Rating (Working from Abbreviations for surface and T/E = temporary/ept Estimated maximum acre feet of in wetlands within the AA that at periodic flooding or ponding Duration of surface water at wetland	Ferm Surface ation, upland ck NA NA n top to bottle water dura hemeral [see I water container e subject to lands within the	ce Water de surface A here a storm, use ations a a e instru	er Storage e flow, or nd procee e the mat re as follo ctions for	e: (App ground ground ed to 14 rix belo wws: P/l further >5acref	AA. plies to dwater 4G.) pw to a P = per definit	o wetlar flow. rrive at rmane tions o	nds that flood If no wetland Circle the f nt/perennial; If these term	d or pond fr ds in the AA functional p S/I = seaso s].)	rom over A are sub points an onal/inte	rbank opject to	g.		e foot	
14F. Short and Long T in-channel flow, precipita flooding or ponding, cherical in Rating (Working from Abbreviations for surface and T/E = temporary/epl Estimated maximum acre feet of in wetlands within the Ad that air periodic flooding or ponding	Ferm Surface ation, upland ck NA NA no top to botto e water durate hemeral [see Fiveter container e subject to lands within the south of 10 years.	ce Wated surface A here a tom, used toms a te instru	er Storage er flow, or and procese the mater as folloctions for	e: (Appression of the second o	AA. polies to dwater 4G.) pow to a P = per definition of the per	o wetlar flow. rrive at rmane tions o	nds that flood If no wetland [circle] the f nt/perennial; f these term	d or pond frids in the AA functional p S/I = seases].) 1.1 to 5 acre f	rom over	rbank object to	g. nt;		e foot	T/E
14F. Short and Long T in-channel flow, precipite flooding or ponding, cherically cherical flooding or ponding, cherical flooding or ponding from Abbreviations for surface and T/E = temporary/epl Estimated maximum ace feet of in wetlands within the AA that at periodic flooding or ponding Duration of surface water at wetlaAA Wetlands in AA flood or pond ≥ Metlands in AA flood or pond ≥ Maximum	Ferm Surface ation, upland ck NA NA no top to botte water dura hemeral [se f water container a subject to lands within the 5 out of 10 years depth of i	ce Wated surface A here a storm, used strong a see instru	er Storage effow, or and proceed the matter as folloctions for P/P	e: (App ground ed to 14 rix belo wws: P/I further >5 acref S/I .9H	AA. plies to dwater 4G.) bw to a P = per definition of 6 income.	o wetlar flow. Trive at trive	nds that floor If no wetland If no wetland If circle] the fint/perennial; If these terms If the terms I	d or pond fr ds in the AA functional p S/I = seaso s].) 1.1 to 5 acre f	rom over A are subspoints an onal/inter feet .5M .4M A) = 7.5	rbank (piect to	g. nt; P/P .4M	≤1 acr	e foot S/I .3L	T/E .2L .1L
14F. Short and Long T in-channel flow, precipite flooding or ponding, cherically cherical flooding or ponding, cherical flooding or ponding, cherical flooding or ponding and T/E = temporary/ept Estimated maximum acre feet of in wetlands within the AA that at periodic flooding or ponding Duration of surface water at wetlaAA Wetlands in AA flood or pond < : Maximum depression 14G. Sediment/Nutrier toxicants through influx of here and proceed to 14h	Ferm Surface ation, upland ck NA NA not top to bottle water durate hemeral [see Finaler container exalphed to the subject to lands within the sout of 10 years and example of surface of 1.)	ce Wated d surface A here a storm, used to surface a see instrument and surface and surfac	er Storage er flow, or and proceed the mater as folloctions for the process of th	e: (App ground ed to 14 rix beloows: P/I further >5 acref S/I .9H .8H erage containe	AA. plies to dwater 4G.) bw to a P = per definition of 6 included ver val: (At input.	o wetlar flow. rrive at rmane tions of the sory little pplies If no	circle] the fint/perennial; f these terms P/P .8H .7M .7M to wetlands wetlands in finter that floor in the second in the se	d or pond from the AA functional properties of the AA functional properties of the AA functional properties of the AA are stored or the	rom over A are subspoints an onal/inter feet .5M .4M A) = 7.5	rbank object to	g. nt; P/P .4M .3L feet. Sm. ediments	≤1 acr	e foot S/I .3L .2L n wate	T/E .2L .1L .1L
14F. Short and Long T in-channel flow, precipite flooding or ponding, cherically cherical flooding or ponding, cherical flooding or ponding, cherical flooding or ponding or pon	Ferm Surface attion, upland ck NA NA not possible to water durathemeral [see water container er subject to lands within the south of 10 years of 10 years of surface of 1.)	ce Wated surface A here a stom, used toom, used tooms a see instructed and toodson to Retention ground toom, used deliver levels impaire	er Storage er flow, or and proceed the mater as folloctions for the process of th	e: (App. grounded to 12 rix belows: P/l further >5 acref S/l .9H .8H .8H	plies to dwater 4G.) by to a P = per definition of 6 income distributions are incompared to the second of the sec	o wetlar flow. rrive at rmane tions of the solutions of	nds that floor If no wetland If no wetlands If these terms If the interpret is a cress If the interpret is a	d or pond from the AA functional post of S/I = seasons signature in S/I = s	rom over a are subtraction on all interest and a subtraction on all interest and a subtraction on all interest and a subtraction of a subtract	rbank object to	g. nt; P/P .4M .3L feet. Sm ediments h input, ch ng [H = hig bodies in nee eent, nut rients ential to deliv other function s of nutrients	≤1 acr all ope , nutrie neck [gh, M =	e foot S/I .3L en wate nts, or N control of section of sectio	T/E .2L .1L .1L .7 A rate, pment for A receives ediments, by impaired.
14F. Short and Long T in-channel flow, precipita flooding or ponding, chemically chemical flooding or ponding, chemical flooding or ponding, chemical flooding or ponding flooding flooding or ponding flooding floodi	Ferm Surface attion, upland ck NA NA not top to botte water durathemeral [see water container er subject to lands within the sout of 10 years of 10 years of surface of 1.) In top to botte in top to botte in top to botte in put levels	ce Wated d surface A here a tom, use ations a e instru	er Storage er flow, or and procese the mater as folloctions for the mater as follows.	e: (App. grounded to 12 rix belows: P/l further >5 acref S/l .9H .8H .8H	plies to dwater 4G.) by to a P = per definition of 6 income distributions are incompared to the second of the sec	o wetlar flow. rrive at rmane tions of the solutions of	nds that floor If no wetland If no wetlands If these terms If the interpret is a cress If the interpret is a	d or pond from the AA functional post of S/I = seasons signature in S/I = s	rom over a are subtraction on all interest and a subtraction on all interest and a subtraction on all interest and a subtraction of a subtract	rbank object to	g. nt; P/P .4M .3L feet. Sm. ediments h input, ch ng [H = hig bodies in necent, nutrients ential to deliv other function	≤1 acr all ope , nutrie neck [gh, M =	e foot S/I .3L en wate nts, or N control of section of sectio	T/E .2L .1L .1L .7 A rate, pment for A receives ediments, by impaired.
14F. Short and Long T in-channel flow, precipita flooding or ponding, chemically chemically considered and T/E = temporary/epi Estimated maximum acre feet of in wetlands within the AA that an periodic flooding or ponding Duration of surface water at wetled AA Wetlands in AA flood or pond ≥ Maximum acre feet of in AA flood or pond ≤ Maximum acre flooding or ponding Duration of surface water at wetled AA Wetlands in AA flood or pond ≤ Maximum acre flooding or ponding in flux (and ponding flooding floo	Ferm Surface ation, upland ck NA	ce Wated d surface A here a tom, use ations a e instru	er Storage er flow, or and procese the matere as folloctions for the process of t	e: (Appropriate of the propriate of the	plies to dwater 4G.) by to a P = per definition of 6 income distributions are incompared to the second of the sec	o wetlar flow. rrive at rmane tions o T/E .8H .7M ches o oy little pplies If no or component substantial procession and the policy of component substantial procession pression pr	nds that floor If no wetland If no wetlands If these terms If the interpret is a cress If the interpret is a	d or pond from the AA functional post of S/I = seasons signature in S/I = s	rom over are subpoints an onal/interfeet T/ .5M .4M A) = 7.5 ial to rec subject points are model is the subject are subj	rbank object to	g. nt; P/P .4M .3L feet. Sm ediments h input, ch ng [H = hig bodies in nee eent, nut rients ential to deliv other function s of nutrients	≤1 acr all ope , nutrie neck [gh, M =	e foot S/I .3L .1 .2L .2L .2L .2L .2L .2L .2L	T/E .2L .1L .1L .7 A rate, pment for A receives ediments, by impaired.
14F. Short and Long T in-channel flow, precipita flooding or ponding, cherical flooding or ponding, cherical flooding or ponding, cherical flooding or ponding for and T/E = temporary/epl Estimated maximum acre feet of in wetlands within the Ad that an periodic flooding or ponding Duration of surface water at wetladd. Wetlands in AA flood or pond < Maximum depression of Sediment/Nutrier toxicants through influx of here and proceed to 14h i. Rating (working from or L = low]) Sediment, nutrient, and toxicant within AA	Ferm Surface ation, upland ck NA	ce Wated surface A here a tom, use ations a see instru	er Storage er flow, or and proceed the matter as folloctions for the matter as follows. The matter as follows a	e: (Appropriate of ground of the contained of the contain	AA. plies to dwater 4G.) bw to a P = per definition of 6 incompared to a per definition of 6 incompa	o wetlar flow. rrive at rmane tions o T/E .8H .7M ches o oy little pplies If no or component substantial procession and the policy of component substantial procession pression pr	nds that flood If no wetland If these terms If the wetlands in the Internal It of the It is antially trients or ent.	d or pond fructional properties in the AA functional properties in the AA functional properties in the AA are structional	rom over are subpoints an onal/interfeet T/ .5M .4M A) = 7.5 ial to rec subject points are model is the subject are subj	rbank opject to	g. nt; P/P .4M .3L feet. Sm ediments h input, ch ng [H = hig bodies in nee eent, nut rients ential to deliv other function s of nutrients	≤1 acr all ope all ope the check [the check [the check contains a contains are saulor toxicar ant.	e foot S/I .3L .1 .2L .2L .2L .2L .2L .2L .2L	T/E .2L .1L .1L .7 A rate, pment for A receives adments, y impaired. ns of

B-25

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

Comments:

Cover of wetland streambank	top to bottom, use	the mati	rix belov		ive at [ci					rating)				1	
r shoreline by species with ability ratings of ≥6 (see ppendix F).	Permanent /	Perennial			Sea	asonal / Int	termittent			Ten	nporary /	Ephemera	al		
65%	11	1				.9H					.7M				
5-64%	.71	л 1				.6N					.5M	1		1	
35%	.3	_				2L					.1L	_		1	
omments: Rooted	vegetation ald	ng stre	eamba	inks o	f Woo	dson (Creek	has a	stabili	ty ratir	ng of 6	6 (rusl	nes, se	edges,	and
[H=high, I B = Struct outlet; the	Food Chain Supporting from top to M=moderate, or L= tural diversity ratin final three rows p onal/intermittent; T	bottom, of the standard section in the standard section is bottom from \$10 to \$	this fund 13; Fact duration	ction.F or C = of sur	actor A = whether face wat	= acrea or not the ter in the	ge of ve the AA o e AA, w	egetated contains here P/	l compoi s a surfa P=perma	nent in t ce or su anent/pe	he AA; bsurfac erennia	Factor ce I;			
Vegetated High	component >5 acres Moderate	.ow	Hiç		tated comp			ow	Hig			ponent < erate		.ow	
	es No Yes	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	
7P IH .9H .9	.8H .8H	. / IVI	.9П									.4101	.4101	.3L	
1 1	1 1	1						.5M	CNA	.5M					
.8H .8H .8	.7M .7M	.6M	.8H	.7M	.7M	.6M	.6M	.SIVI	.6M	.SIVI	.5M	.3L	.3L	.2L	
/E/A .8H .7M .7	.6M .6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.5M	.3L	.3L	.2L .1L	
omments: The F	.6M .6M	oased (.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	_				
TIEIA .8H .7M .7	ischarge/Recharter ators retland e known or observeduring dormant seen toe of a natural at the wetland edge oded during drough noutlet, but no inless	.5M Dased (classification)	on per	ennia	.6M	.5M s in Wo te indi ii. Ro Perm Wetk	cators echarge eable sand con	.4M n Cree ini & ini & inica ubstrate tains inl	.5M	.4M without outlet	.4M	.2L	.2L eding la	.1L	
omments: The F 14J. Groundwater D i. Discharge Indic The AA is a slope w Springs or seeps ar Vegetation growing Wetland occurs at t Seeps are present a AA permanently floo Wetland contains a Shallow water table Other:	ischarge/Recharators etland e known or observeduring dormant see the toe of a natural at the wetland edge oded during drough noutlet, but no inleand the site is satural at the wetland edge of the country of the count	based of ason/drouslope t periods t ation from the product of the action from the product of	on per heck the surfa	ennia he app	e and the	.5M te indi ii. Ro Perm Wetk Strea Other	cators echarge eable seand commis a ker:	.4M n Cree in i & in i & indica ubstrate tains inli	.5M ii below tors present et but no osing' str	w) without outlet eam; dis	underly scharge	ing imp	.2L eding la	.1L	

14K. Uniqueness:

Replacement potential

		plant asso	ciation listed as MTNHP	"S1" by the	asso	ciation listed a		and	structural diver low-moder		is
Estimated relation	ve abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abund	ant
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 disturbanc	e at AA (#12i)	.8H	.7H	.6M	.6M	.4M	.3L	.3L	.2L	.1L	
Comments:	This AA has moo	derate distu	ırbance.								
14L. Recreati	ion/Education Pote	ential: i. ls	the AA a knov	wn rec./ed. S	Site 🔾	Y • N	(If yes, rate as	circle] High	n [1] and go to	ii; if no go	to iii
ii.	Check categories to	hat apply to t	ne AA:Edu	cational/;scien	tific study;_	Consump	tive rec.;N	on-consum	ptive rec.;	Other	
iii.	Based on the location then proceed to iv; if	ion, diversity, no, then rate	size, and other as [circle] Low [0	r site attribute 0.1])	s, is there	strong poter	ntial for rec./ed	. use?	OY	I (If yes,	go to
iv.	Rating (use the mat	rix below to ar	rive at [circle] the	e functional po	ints and rat	ing [H=high, N	∕l=moderate, or	L=low] for	this function)		
Ownership			Low		Distu	rbance at A Moderate	A (#12i)		High		
Public owners	ship		1H			.5M			.2L		
Private owner	ship		.7M			.3L			.1L		
.3L	AA is on private	land off m	ain highway.								
Comments:											
General Site	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	28.62
C. General Wildlife Habitat	Н	.9	1	25.758
D. General Fish Habitat	М	.6	1	17.172
E. Flood Attenuation	М	.6	1	17.172
F. Short and Long Term Surface Water Storage	Н	1	1	28.62
G. Sediment/Nutrient/Toxicant Removal	Н	1	1	28.62
H. Sediment/Shoreline Stabilization	Н	1	1	28.62
Production Export/Food Chain Support	Н	.9	1	25.758
J. Groundwater Discharge/Recharge	Н	1	1	28.62
K. Uniqueness	L	.2	1	5.724
L. Recreation/Education Potential	L	.3	1	8.586
Totals:		8.5	12	243.27
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
"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 pearest whole #) of total possible functional points

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

1 11 111	IV
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MDT Montana Wetland Assessment Form (revised 5/25/1999)

0 5	ne Woods	on Creek		2. MDT proje	ct#	STPX-S	TPP :	30(15)	Co	ntrol#	5912
3. Evaluation	Date	8/12/2013 4. E v	aluators	B Schultz, B Sa	andefur		5.	. Wetland/Site#	# (s)	AA-2 V	VC-West
6. Wetland Lo	ocation(s): T	6N	R 8E	Sec1 9		T 6N		R 8E S	ec2	16	
Approx Static	oning or Mile	posts									
Watershed	10030101		Wat	tershed/County	7-N	/lissour/Su	un/Sn	nith Watersheds	/ Mea	gher Cou	ınty
7. Evaluating	Agency	Confluence for M	DT	8. Wet	land si	ze			7.15		
Purpose of				acres How as		4. [Moos	sured e.g. by GP	· C		
_		fected by MDT	•	9. Ass			ivicas	sured e.g. by GF	7.15		
	•	re-construction ost construction		area (A	A) size				7.10		
Other	wettanus. p	ost construction	· ·	(acres) How as		d: N	Measi	ured e.g. by GP	S		
								a.oa o.g. 2, 0.			
10. Classifica HGM Class	ation of Weti	land and Aquati	c Habitats i	IN AA							
(Brinson)	System	Subsystem	Class (Cov	vardin)	Modifi	er (Coward	lin)	Water Regime			% of AA
Slope	Palustrine	none	Unconsolid	lated Bottom	Excava	ted		Permanently floor	ded		10
Slope	Palustrine	none	Emergent V	Wetland	Excava	ted		seasonally floode	d		75
Depressional	Palustrine	none	Emergent V	Vetland				temporarily floode	ed		15
	7										
12. General C i. Regardin											
		se. (use mairix i	pelow to de	etermine [circle]				<u>* </u>	500 fee	et of) AA	
C	Conditions with		Managed state; is i otherwise roads or		ominant ural gged, or contain	Land not cu moderately selectively l subject to m	s adja ultivated grazed logged minor cl	acent to (within b d, but may be d or hayed or l; or has been learing; contains lings; noxious weed	Land logge place hydro buildi	cultivated of cu	or heavily grazed or o substantial fill ing, clearing, or ration; high road or or noxious weed or
AA occurs and is r	managed in predo I, logged, or othen occupied buildings		Managed state; is a otherwise roads or or ANVS	Preded in predominantly nate not grazed, hayed, log e converted; does not buildings; and noxiou	ominant ural gged, or contain s weed	Land not cu moderately selectively l subject to m few roads o or ANVS co	es adja ultivated grazed logged minor cl or build over is	acent to (within b d, but may be d or hayed or l; or has been learing; contains lings; noxious weed	Land logge place hydro buildi ANVS	cultivated of d; subject t ment, gradi logical alte ng density; S cover is >	or heavily grazed or o substantial fill ing, clearing, or ration; high road or or noxious weed or
AA occurs and is not grazed, hayed contain roads or o ANVS cover is <=' AA not cultivated, or selectively logg clearing, fill placer	managed in predo I, logged, or othen occupied buildings 15%. but may be mode led; or has been s ment, or hydrologi	hin AA minantly natural state; wise converted; does n	Managed state; is a otherwise roads or or ANVS	Predd in predominantly nat not grazed, hayed, log e converted; does not buildings; and noxiou cover is < =15%.	ominant ural iged, or contain s weed	Condition: Land not cu moderately selectively I subject to m few roads o or ANVS co	es adja ultivated grazed logged minor cl or build over is	acent to (within a d, but may be d or hayed or t; or has been learing; contains lings; noxious weed <=30%.	Land logge place hydro buildi ANVS	cultivated of subject to ment, gradiological alterng density; S cover is >	or heavily grazed or o substantial fill ing, clearing, or ration; high road or or noxious weed or 30%.
AA occurs and is not grazed, hayed contain roads or o ANVS cover is <=' AA not cultivated, or selectively logg clearing, fill placer few roads or buildi <=30%. AA cultivated or he relatively substant	managed in predo I, logged, or othen occupied buildings 15%. but may be mode led; or has been s ment, or hydrologi ings; noxious wee eavily grazed or lo tial fill placement, ation; high road o	hin AA minantly natural state, wise converted; does it; and noxious weed or rately grazed or hayed ubject to relatively min cal alteration; contains id or ANVS cover is begged; subject to grading, clearing, or r building density; or	Managed state; is a otherwise roads or or ANVS	Predd in predominantly nat not grazed, hayed, log e converted; does not buildings; and noxiou cover is < =15%.	ural ural gged, or contain s weed	Condition: Land not cu moderately selectively I subject to m few roads o or ANVS co	es adja ultivated grazed logged minor cl or build over is w dis	d, but may be d or hayed or ; or has been learing; contains lings; noxious weed <=30%.	Land logge place hydro buildi ANVS	cultivated of d; subject t ment, gradilogical alte ng density; 6 cover is >	or heavily grazed or o substantial fill ing, clearing, or ration; high road or or noxious weed or 30%.
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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	M	L

Rating (circle)	Н			М	L	
Comments: One vegetated class is present: emergence.	gent wetland.					
SECTION PERTAIN	NING TO I	FUNCTIO	N VAL	UES ASSI	ESSMENT	
4A. Habitat for Federally Listed or Proposed Thr	reatened or En	dangered Pl	ants or An	imals:		
i. AA is documented (D) or suspected (S) to co	ontain (circle o	ne basedon	definition	contained in ins	structions):	
rimary or critical habitat (list species)	o s					
econdary habitat (list Species))					
cidental habitat (list species))					
o usable habitat	S					
i. Rating (use the conclusions from i above and the matrix Highest Habitat Level doc/primary sus/primary	doc/sec ondary			and rating) doc/incidental	sus/incidental	None
Functional Points 1H .9H	.8H	.71	и	.5L	.3L	0L
Durces for USFWS T&E - July 2013 Documented use						
4B. Habitat for plant or animals rated S1, S2, or pove)	S3 by the Mor	tana Natural	Heritage F	Program: (not in	ncluding specie	s listed in14
i. AA is documented (D) or suspected (S) to o	contain (circle	one basedo	n definitior	n contained in i	nstructions):	
rimary or critical habitat (list species)	D O S	We	stern Toad	(S2)		
econdary habitat (list Species)) D • S	Fer	ruginous H	awk (S3B), Grea	ter Sage-Grous	e (S2)
ncidental habitat (list species)	D O S	Am	erican Whi	te Pelican (S3B)		
o usable habitat	s					
Rating (use the conclusions from i above and the points and rating [H=high, M=moderate, or L=low]			cle] the fund	ctional		
Level	:/sec on dary	Sus./secondary	Doc./inci	idental Sus./ind	cidental None	
Functional Points and Rating	.7M	.6M	.2	L .	1L OL	
ources for MTNHP County list, observation	ns on sita					

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 extensive him him phalatite teatures not available in the surrounding area interviews with local biologists with knowledge of the AA ferater (based on any of the following (check)): observations of scattered wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc. **Wildlife habitat features** (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class ver to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their precise composition of the considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their precise composition of the considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their precise composition of the considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their prevent composition of the considered evenly distributed. The permanent/perennial, S1 = sessonal/intermittent, TE = temporary/ephement; and A = serie (see £1.5). The A P/P S/I T/E A P/	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 (any of the following (check)): observations of scattered wildlife groups or individuals or relatively few species during peak periods or common occurrence of wildlife groups or individuals or relatively few species during peak periods or common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc. observations of scattered wildlife groups or individuals or relatively few species during peak periods or common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc. dequate (absent uplant food sources interviews with local biologists with knowledge of the AA device #10, Abordon uplant food sources interviews with local biologists with knowledge of the AA device #10, Abordon uplant food sources interviews with local biologists with knowledge of the AA device #10, Abordon uplant food sources interviews with local biologists with knowledge of the AA device #10, Abordon uplant food sources interviews with local biologists with knowledge of the AA device #10, Abordon uplant food sources interviews with local biologists with knowledge of the AA device #10, Abordon uplant food sources interviews with local biologists with knowledge of the AA developed the habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class view to be onsidered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition to a few percentages and their percentages an	i. General					se in th	e AA	Mc	dera	te											
abundant wildlife sign such as scat, tracks, nest structures, game traits, etc. presence of extremely initing habitar features not available in the surrounding area interviews with local biologists with knowledge of the AA wrate (based on any of the following (check)): Observations of scattered wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife sign such as scat, tracks, nest structures, game traits, etc. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class er to be considered eventy distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the service water durations are as follows: PPP = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = and [see instructions for further definitions of these terms]) **Cuctaral** Interviews with local biologists with knowledge of the AA Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class er to be considered eventy distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percental composition of the season substance of the terms of their percental vegetated classes must be within 20% of each other in terms of their percental vegetated classes must be within 20% of each other in terms of their percental vegetated classes must be within 20% of each other in terms of their percental vegetated classes must be within 20% of each other in terms of their percental vegetated vegetated vegetated vegetated vegetated vegetated vegetated vegetated vegetated ve	abundant wildlife sign such as scat, tracks, neist structures, game traits, etc. presence of extremely limiting habitat features not available in the surrounding area interviews with local biologists with knowledge of the AA wrate (based on any of the following (check)): Observations of exattered widdlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife sign such as scal, tracks, nest structures, game trails, etc. Wildlife habitat features (Working from #13. For class er to be considered evenly distributed in the period of the AA attractive with local biologists with knowledge of the AA Wildlife habitat features (Working from #13. For class er to be considered evenly distributed in the accuracy of the AA attractive with local biologists with knowledge of the AA Wildlife habitat features (Working from #13. For class er to be considered evenly distributed in the accuracy of the AA attractive with local b	itantial (bas	sed on a	ny of the	followi	ng [che	eck]):						Minir	nal (b	ased o	n any of	the follo	wing [c	:heck]):			
observations of scattered wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc. adequate adjacent upland food sources interviews with local biologists with knowledge of the AA Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class were to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of (see #10). Aboveviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = sent [see instructions for further definitions of these terms]) ructural rensity High Moderate Low Even Uneven Ev	observations of scattered wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc. adequate adjacent upland food sources interviews with local biologists with knowledge of the AA Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class ver to be considered eventy distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition or (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent, T/E = temporary/ephemeral; and A sent [see instructions for further definitions of these terms]). **Trick and P/P S/I T/E A P/P S/I T	abundant w presence of	ildlife si f extrem	gn such a ely limitir	as scat, ng habit	tracks at feat	s, nest stratures not a	uctures availab	s, game	e trails,	etc.	•	lit	tle to r	no wildli adjacen	fe sign t upland	food so	urces		·		
art to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of included in the province of	art o be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of see e101. Abdreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A ent [see instructions for further definitions of these terms]) **Cutural** **High** **Moderate** **Low** **By High** **Moderate** **Low** **By High** **Moderate** **Low** **Low** **By High** **Moderate** **Low** **Low**	observation common oc adequate ad	s of sca ccurrence djacent	ttered wi e of wildl upland fo	ildlife gr life sign ood sou	oups o such a rces	or individu as scat, tr	acks, r						riods								
Noderate Low Noderate Low Noderate Low Noderate Low Noderate Low Noderate N	Noderate Low Noderate Low Noderate	er to be con: (see #10). A ent [see inst	sidered Abbrevia	evenly di ations for	istribute surface	d, the wate	most and r durations	l least p s are a	orevale	nt vege	tated o	lasses	must be	within	า 20% ต	of each o	ther in t	erms o	f their p	ercent o	compos	ition o
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Exceptional High Moderate Low	Exceptional High Moderate Locational 1E .9H .8H .7I .7I .5M .3 .3 .4M .2L .1	Rating				ons fr	om i an	nd ii al	bove	and t	ne ma								nal po	oints a	ınd ra	ting)
bstantial 1E .9H .8H .7M oderate .9H .7M .5M .3L nimal .6M .4M .2L .1L	bstantial 1E .9H .8H .7I oderate .9H .7M .5M .3 nimal .6M .4M .2L .1	idence of	f wildli	fe use	(i)		F	Evœr	ntiona	ı					bitat t	eature			<u> </u>			1.0
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nimal .6M .4M .2L .1L	nimal .6M .4M .2L .1	derate						=				Ť										
nments 9H rating decrease due to Bald Eagle being changed from S3 to S4 species.	.9H rating decrease due to Bald Eagle being changed from S3 to S4 species.	nimal						_									_					_
		nments	.9H ı	ating c	decrea	ise d	ue to Ba	ald E	agle l	peing	chanç	ged fro	om S3	to S	4 spe	cies.						

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.)

i. Habitat Quality (circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Po	ermanent/ Perenni	ial	Seas	onal/ Intermitte	ent	Temp	orary/ Epheme	ral
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	>25%	10-25%	<10%	>25%	10-25%	<10%	>25%	10-25%	<10%
Shading - >75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	Е	E	Н	н	Н	М	М	М	М
Shading – 50 to 75% of streambank or shoreline within AA contains rip. Or wetland scrub-shrub or forested communities	Н	Н	М	М	М	М	М	L	L
Shading - <50% of streambank or shoreline within AA contains rip. Or wetland scrub-shrub or forested communities	Н	М	М	М	L	L	L	L	L

	m water fisher	on the ME or aquation	AA preclud DEQ list of w	ed or signific aterbodies in	antly reduced by need of TMDL Y	by a culvert, developme	ent with listed	er man-made	structure mpaired U	or Ises"
	se the conclusional H-bigh					ve at [circle] the function	al points and	I rating	
Types of fish known or suspected within AA	ional, H=high, I	vi=moderat			ed Habitat Quality (i		ī	Low		\exists
Native game fish	Exceptional 1E		High .9H		IVI	.7M		Low 5M	1	
Introduced game fish	.9H		.8H			6M		.4M		
Non-game fish	.7M		.6M	1		.5M		.3L		
No fish	.5M		.3L			.2L		.1L		
Comments										
		to bottom,	NA here ar	nd proceed t	o the next fun	ction.)				flooded
Estimated wetland area in AA		≥ 10 acres	1011.		<10>2 acres			≤ 2 acres		
subject to periodic flooding % of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%	
AA contains not outlet or restricted outlet	1H	.9H	.6M	.8H	.7M	.5M	.4M	.3L	.2L	
AA contains unrestricted outlet	.9Н	.8H	.5M	.7M	.6M	.4M	.3L	.2L	.1L	
14F. Short and Long T in-channel flow, precipite flooding or pending, obe	ation, upland s		rage: (App	lies to wetla						
i. Rating (Working from Abbreviations for surface and T/E = temporary/epl Estimated maximum are feet of	n top to botton e water duration hemeral [see in the see in the se	ere and pro n, use the ons are as	matrix below follows: P/F for further	Iwater flow. G.) w to arrive a P = permane definitions	If no wetlands t [circle] the funt/perennial; sof these terms	s in the AA unctional po	are subject oints and rati onal/intermitt	ng.		
i. Rating (Working from Abbreviations for surface and T/E = temporary/epl Estimated maximum acre feet of in wetlands within the Af that ail periodic flooding or ponding	n top to botton e water duration hemeral [see in water contained re subject to	ere and pro n, use the ons are as	matrix belows: P/F	Iwater flow. G.) w to arrive a P = permane definitions	If no wetlands t [circle] the funt/perennial; sof these terms	s in the AA unctional po	are subject oints and rati onal/intermitt	ng.	≤1 acre fo	ot
i. Rating (Working from Abbreviations for surface and T/E = temporary/ep Estimated maximum ace feet of in wetlands within the A4 that a	n top to botton e water duration hemeral [see in water contained re subject to	ere and pro n, use the ons are as	matrix below follows: P/F for further	Iwater flow. G.) w to arrive a P = permane definitions	If no wetlands t [circle] the funt/perennial; sof these terms	s in the AA unctional po	are subject oints and rati onal/intermitt	ng.	≤1 acre fo	
i. Rating (Working from Abbreviations for surface and T/E = temporary/epl Estimated maximum are feet of in wetlands within the AA that periodic flooding or ponding Duration of surface water at wetl	n top to botton water duration hemeral [see if water contained re subject to lands within the	ere and pronounce the ons are as nstructions	matrix below follows: P/F s for further	Iwater flow. G.) w to arrive a p = permane definitions of	If no wetlands t [circle] the funt/perennial; sof these terms	unctional posts in the AA unctional posts S/I = seaso].) 1.1 to 5 acre for	are subject pints and rational/intermitt	ing. ent;		T/E
i. Rating (Working from Abbreviations for surface and T/E = temporary/epl Estimated maximum acre feet of in wetlands within the Ad that ai periodic flooding or ponding Duration of surface water at wetland	n top to botton water duration hemeral [see if water contained re subject to lands within the 5 out of 10 years	ere and promotion, use the ons are as instructions P/P 1H .9H	matrix below follows: P/F s for further >5 aαefe S/I .9H .8H	w to arrive a P = permane definitions of set T/E .8H	If no wetlands t [circle] the funt/perennial; sof these terms P/P .8H .7M	s in the AA unctional post/l = seaso].) 1.1 to 5 acre for S/l .6M .5M	are subject points and rational/intermitt eet T/E .5M .4M	ent; P/P .4M	.3	L .1L
i. Rating (Working from Abbreviations for surface and T/E = temporary/epl Estimated maximum acre feet of in wetlands within the AA that as periodic flooding or ponding Duration of surface water at wetlaA Wetlands in AA flood or pond ≤ Wetlands in AA flood or pond < Duration	n top to botton water duration hemeral [see if water contained re subject to lands within the 5 out of 10 years	ere and prominer, use the ons are as instructions P/P 1H .9H	matrix belor follows: P/F s for further >5 a α e f e	w to arrive a P = permane definitions of the set T/E	If no wetlands t [circle] the funt/perennial; s of these terms P/P .8H .7M	s in the AA unctional pos/I = seaso].) 1.1 to 5 acre for S/I = .6M .5M .5M	are subject points and rational/intermitt eet T/E .5M .4M	ent; P/P .4M	.3	T/E
i. Rating (Working from Abbreviations for surface and T/E = temporary/epl Estimated maximum acre feet of in wetlands within the AA that ail periodic flooding or ponding Duration of surface water at wetladd. Wetlands in AA flood or pond ≥ Wetlands in AA flood or pond ≥ Duration depression 14G. Sediment/Nutrier toxicants through influx of here and proceed to 14h	n top to botton e water duration hemeral [see is water contained re subject to lands within the 5 out of 10 years of ponding Pon = average nt/Toxicant Rof surface or get.)	ere and promotion, use the ons are as instructions P/P 1H .9H //P based 4 feet over the o	matrix belor follows: P/F s for further >5 aαe fe S/I .9H .8H on depth o er approximand Remover or direct	w to arrive a P = permane definitions of eat T/E .8H .7M f inundation nately one a ral: (Applies input. If no	If no wetlands t [circle] the funt/perennial; sof these terms P/P .8H .7M .observed duacre = 4 acre to wetlands wetlands in the	s in the AA unctional post/ S/I = seaso].) 1.1 to 5 acre for S/I .6M .5M uring 2013 feet.	are subject bints and rational/intermitt eet T/E .5M .4M site visit. M al to receive subject to su	ing. ent; P/P .4M .3L Maximum descriptions of the contents	.3 .2 epth of p	L .1L onding in large
i. Rating (Working from Abbreviations for surface and T/E = temporary/epl Estimated maximum acre feet of in wetlands within the AA that an periodic flooding or ponding Duration of surface water at wetladd. Wetlands in AA flood or pond ≥ Wetlands in AA flood or pond ≥ Duration depression Comments: Duration depression 14G. Sediment/Nutrier toxicants through influx of here and proceed to 14h i. Rating (working from or L = low]) Sediment, nutrient, and toxicant within AA	n top to botton e water duration hemeral [see if water contained re subject to lands within the 5 out of 10 years of ponding P on = average nt/Toxicant R of surface or of 1.) in top to bottom input levels	ere and promotion, use the ons are as instructions P/P 1H .9H //P based 4 feet over etention a ground waten, use the deliver levels a leiver levels are levels could make the original makes and the original makes and the original makes are levels are levels and the original makes are levels are levels are levels and the original makes are levels are levels and the original makes are levels are levels are levels are levels are levels and the original makes are levels are leve	matrix below follows: P/F s for further >5 aαe fe s for further s for depth of er approximand Remover or direct matrix below for surrounding I of sediments, not and other function or sediments for sedimentation.	w to arrive a definitions of the set of the	If no wetlands t [circle] the funt/perennial; sof these terms P/P 8H 7M observed duacre = 4 acre to wetlands wetlands in the second seco	s in the AA unctional properties of the AA solution of the AA unctional properties of the AA solution of the AA solution of the AA solution of the AA unctional properties of the AA u	are subject coints and rational/intermitt eet T/E .5M .4M site visit. In al to receive subject to su coints and rational for the subject to su coints and rational formulation, such the mentation, such the mentation, such the mentation, such the mentation, such the subject to such the mentation, such the mentation, such the mentation, such the such that the subject to such the mentation is such that the subject to subject to such that the subject to subjec	ent; P/P .4M .3L Maximum do sediments, ch input, ch ting [H = hig erbodies in nee iment, nutrients oberhal to delive at other function	s/I .3 .3 .2 epth of p	T/E L .2L .1L onding in large s, or NA oderate, development for sor AA receives s of sediments, antially impaired, or signs of
i. Rating (Working from Abbreviations for surface and T/E = temporary/ep) Estimated maximum acre feet of in wetlands within the AA that as periodic flooding or ponding Duration of surface water at wetled AA Wetlands in AA flood or pond ≥ Wetlands in AA flood or pond ≥ Duration depression 14G. Sediment/Nutrier toxicants through influx of here and proceed to 14h i. Rating (working from or L = low)) Sediment, nutrient, and toxicants	n top to bottom e water duration hemeral [see if water contained re subject to lands within the 5 out of 10 years of ponding P on = average nt/Toxicant R of surface or g 1.) n top to bottom input levels	ere and promine, use the ons are as instructions P/P 1H 9H //P based 4 feet over the ove	matrix below follows: P/F s for further >5 acrefe	w to arrive a P = permane definitions of set T/E .8H .7M f inundation nately one a al: (Applies input. If no w to arrive a and use with pour utrients, or com ons are not subs n, sources of no rophication pre < 70%	If no wetlands t [circle] the funt/perennial; sof these terms P/P 8H 7M observed duacre = 4 acre to wetlands in the funt to counds at itsantial to counds at itsantial to sent.	s in the AA unctional per S/I = seaso [].) 1.1 to 5 acre for S/I = .6M .5M .5M .5M .5M .syl = .6M .syl = .	are subject bints and rational/intermitt eet T/E .5M .4M site visit. N all to receive subject to su oints and rational ration and rati	ent; P/P .4M .3L Maximum do sediments, ch input, ch ting [H = hig erbodies in nee iment, nutrients otenital to delive at other function es of nutrients othication preser	s/l .3 .2 epth of p nutrients eck h, M = m d of TMDL c, or toxicants or high levels so are substicer toxicants, at.	T/E L .2L L .1L onding in large s, or NA oderate, development for sor AA receives s of sediments, antially impaired, or signs of
i. Rating (Working from Abbreviations for surface and T/E = temporary/ep) Estimated maximum acre feet of in wetlands within the AA that as periodic flooding or ponding Duration of surface water at wetladA Wetlands in AA flood or pond ≥ Wetlands in AA flood or pond ≥ Duration depressing 14G. Sediment/Nutrient toxicants through influx to here and proceed to 14h i. Rating (working from or L = low]) Sediment, nutrient, and toxicant within AA	n top to botton e water duration hemeral [see is water contained re subject to water of 10 years 5 out of 10 years of ponding Pon = average nt/Toxicant R of surface or gent.) n top to bottom input levels	ere and promotion, use the constructions P/P 1H .9H //P based 4 feet over etention a ground wate AA receives of leiver levels such the motion and toxicants. > 70% //es	matrix below follows: P/F s for further >5 acrefe s for further S/I	w to arrive a permane definitions of the set	If no wetlands t [circle] the funt/perennial; sof these terms P/P 8H 7M observed duacre = 4 acre to wetlands wetlands in the second seco	s in the AA unctional properties of the AA solution of the AA unctional properties of the AA solution of the AA solution of the AA solution of the AA unctional properties of the AA u	are subject coints and rational/intermitt eet T/E .5M .4M site visit. In al to receive subject to su coints and rational for the subject to su coints and rational formulation, such the mentation, such the mentation, such the mentation, such the mentation, such the subject to such the mentation, such the mentation, such the mentation, such the such that the subject to such the mentation is such that the subject to subject to such that the subject to subjec	ent; P/P .4M .3L Maximum de sediments, ch input, ch input, ch input, ch input, ch ing [H = hig erbodies in nee iment, nutrients of intential to delive at other function es of nutrients o hication preserved.	s/I .3 .3 .2 epth of p	T/E L .2L .1L onding in large s, or NA oderate, development for sor AA receives s of sediments, antially impaired, or signs of

abilit	ating (wo er of <u>wetlar</u>	d stream		to botto	m, use	the mat	rix belo			circle] the e water adj				rating)				1	
or shoreline by species with stability ratings of ≥6 (see Appendix F).				Per	Permanent / Perennial					Seasonal / Intermittent					Temporary / Ephemeral				
5%					11-		.9Н								.7M				
649	6				.71	л <u> </u>				.6M					.5M			1	
5%					.3					.2L					.1L			1	
_ m	ments	Palu	string	hahit	at in A	A den	ressio	n con	sidoro	d large	enoi	igh to	he sub	niect to		actio	n		
	illellis.	. I alu	Sunc	Парік	at III <i>F</i>	iA depi	63310	II COII	sidere	u laige	GIIOC	igii to	De Sui	Jeci ii	wave	actio	11.		
	i.	[H=high B = Stone outlet; S/I=seterms]	gh, M=n tructura the fina easonal	noderato I diversi al three /intermit	e, or L= ty rating rows po ttent; T/	bottom, low] for g from # ertain to /E/A=ten	this fund 13; Fact duration	ction. F tor C = n of sur ephem	actor A whethe face wa eral or a	= acreager or not to atter in the absent [s	ge of ve he AA o e AA, w see inst	egetated contains here P/	d compo s a surfa /P=perm	nent in ace or su anent/p her defin	the AA; ubsurfac erennial nitions c	Factor ce l; of these			
	Hig		Mod	ponent >5 erate	L	.ow No		gh No	Mod	ponent 1-5 lerate	Lo	OW No.		gh No	Mode	erate	L	ow No	
P	Yes 1H	.9H	Yes .9H	.8H	Yes .8H	.7M	Yes .9H	.8H	Yes .8H	.7M	Yes	.6M	Yes .7M	.6M	Yes .6M	.4M	Yes .4M	.3L	
	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L	
E/A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L	
	Groun i. Disc! The AA Springs Vegetati W etland Seeps a AA perm W etland Shallow Other:	narge II is a slop or seep on grow occurs occurs re prese	er Disc ndicator pe wetla s are kr ving duri at the tr ent at th r floodec	harge/ rs and nown or ing dorn oe of a r e wetlar d during	observenantseand edge drough	ed ason/dro slope tperiods	heck t	he app		ii. Re	cators echarge eable si ind con m is a k	in i & Indica ubstrate tains inl	ii belo	w) without	underly	ing imp	_	-	
				l la a 4b a	inform	ation fro		ii above		e table t	pelow to	arrive	at [circle	the					

14K. Uniqueness:

Replacement potential

	plant	asso	ciation listed as MTNHP	"S1" by the	asso	ciation listed MTNI		2" by the	•	and s	tructural dive		3) is
Estimated relative abundance (#	11) rare)	common	abundant	rare	commor		abunda	ant	rare	common	abun	dant
Low disturbance at AA (#12i)	1⊦		.9Н	.8H	.8H	.6M		.5M		.5M	.4M	.3L	
Moderate disturbance at AA (#1	.91	1	.8H	.7M	.7M	.5M		.4M		.4M	.3L	.2L	
High disturbance at AA (#12i)	.81	1	.7H	.6M	.6M	.4M		.3L		.3L	.2L	.1L	
Comments: AA had low	disturbance	e wit	h low specie	s diversity.									
14L. Recreation/Education	Potential:	i. Is t	the AA a knov	wn rec./ed.	Site C	Y • N	l (If ye	es, rate	as [circ	cle] High	[1] and go to	o ii; if no g	go to iii)
ii. Check catego	ries that appl	y to tl	he AA:Edu	cational/;scier	ntific study;_	Consum	ptive i	rec.;	Non-	consump	otive rec.;	_Other	
iii. Based on the then proceed to	location, dive	rsity,	size, and other as [circle] Low [0	r site attribute 0.1])	es, is there	strong pote	ential	for rec.	/ed. us	se?	○Y •	N (If yes	s, go to
iv. Rating (use th	e matrix below	to an	rive at [circle] the	e functional po	oints and rat	ing [H=high,	M=m	oderate	or L=I	ow] for t	his function)		
Ownership					Distu	rbance at A	4 <i>A (</i> #	:12i)					
Public ownership			Low			Moderate	e ı				High	1	
·			1H			.5M					.2L		
Private ownership			.7M			.3L					.1L		
.7M Comments:	ately owned	with	n low recreat	ional poten	tial.								
General Site 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

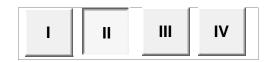
cited rare types or associations

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S) AA-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	7.15
C. General Wildlife Habitat	Н	.9	1	6.435
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	5.72
G. Sediment/Nutrient/Toxicant Removal	Н	1	1	7.15
H. Sediment/Shoreline Stabilization	L	.3	1	2.145
Production Export/Food Chain Support	М	.7	1	5.005
J. Groundwater Discharge/Recharge	Н	1	1	7.15
K. Uniqueness	L	.3	1	2.145
L. Recreation/Education Potential	М	.7	1	5.005
Totals:		6.7	10	47.905
Percent of Possible Score		67	%	

Cate	gory I Wetland: (Must satisfy one of the following criteria; if does not meet criteria, go to Category II)
سطرو	
#	Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or
\perp	Score of 1 functional point for Uniqueness; or
Ш	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
Cate	gory 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
\perp	Score of .9 or 1 functional point for General Fish/Aquatic Habitat; or
Ш	"High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or
Ш	Score of .9 functional point for Uniqueness; or
V	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)
Cate	gory 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
Çate	gory III)
\sqcup	"Low" rating for Uniqueness; and
	"Low" rating for Production Export/Food Chain Support; and
	otal 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 nam	ne Woods	on Creek			2. M	DT proje	ct#	STPX	(-STPI	P 30(15)		Control#	5912
3. Evaluation	Date	8/12/2013	4. Evalu	ators	B Schi	ultz, B Sa	ındefur			5. Wetland	d/Site# (s) AA-3 \	NC-East
6. Wetland Lo	cation(s): 1	6N	R	8E	Sec	1 16	-	Т		R	Sec	c2	
Approx Statio	ning or Mile	posts											
Watershed	10030101			Wat	tershed	/County	7-1	/lissour	i/Sun/	Smith Wate	rshed/M	eagher Cour	nty
7. Evaluating	Agency	Confluence	for MDT			8. Wetl	and siz	ze			29.	.57	
Purpose of	Evaluation					acres							
	otentially a	•	•	ject		How as			Mea	asured e.g.		F.7	
_	Wetlands: p					area (A	A) size				29.	.57	
	Wetlands: p	ost constr	uction			(acres) How as		۷.	Mea	sured e.g. l	hy GPS		
Other						now as	36336(.	IVICA	isureu e.g. i	by Oi 3		
10. Classifica	ition of Wet	land and A	quatic H	abitats	in AA								
(Brinson)	System	Subsystem	n C	lass (Cov	wardin)		Modifie	er (Cow	ardin)	Water Re	gime		% of AA
Riverine	Palustrine	none	Α	quatic Be	ed		Excava	ted		semi-perm	nanently flo	ooded	10
Riverine	Palustrine	none	Е	mergent \	Wetland					seasonally	/ flooded		90
same major Mo 12. General Co i. Regarding	ondition of	AA	•		,						within 50	0 for at a f \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
С	onditions wit	hin AA		state; is otherwis roads or	not grazed e converte	minantly nate I, hayed, log d; does not and noxious	ural ged, or contain	Land no modera selectiv subject few roa	ot cultiva tely graz rely loggo to minor ds or bu	djacent to (Nated, but may be zed or hayed or ed; or has been to clearing; contaildings; noxious is <=30%.	n ains s weed	logged; subject of placement, grad hydrological alte	or heavily grazed or so substantial fill ing, clearing, or tration; high road or or noxious weed or
AA occurs and is m not grazed, hayed, contain roads or oc ANVS cover is <=1	logged, or other ccupied buildings	wise converted	does not		low dis	turbance)		low d	isturbance		moderate	e disturbance
AA not cultivated, to r selectively logge clearing, fill placem few roads or buildin <=30%.	ed; or has been s nent, or hydrolog	subject to relativical alteration; of	ely minor contains	mo	derate	disturba	nce	mo	oderat	e disturba	nce	high d	isturbance
AA cultivated or he relatively substanti hydrological alterat noxious weed or A	al fill placement, tion; high road o	grading, clearir r building densi	ng, or	h	igh dist	urbance			high c	disturbance	e .	high d	isturbance
Comments: (ty	•												
The AA consist bordered by parand inferred hydrony	sture and cu	ltivated agri	cultural fi	ields. T	he wetla	ands/wate	ers in th	e AA w					ate and is ed on proximity
ii. Prominent r Cirsium arvens		uatic nuisa	nce, othe	er exoti	c specie	es:							
iii. Brief descr The AA is bord	•			_									

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 ve	getated cla	sses: emerç	ent wet	ands and aq	uatic be	ed							
	SECT	ION PER	RTAIN	IING TO	FUN	ICTION	I VAL	_UES	ASSE	SSM	ENT		
14A. Habitat for Fed	erally Liste	ed or Propo	sed Thr	eatened or l	Endang	jered Plan	its or An	imals:					
i. AA is documen	ted (D) or s	suspected (S) to co	ntain (circle	one ba	asedon de	finition	contain	ed in ins	truction	s):		
Primary or critical ha	abitat (list	species)	(c)									
Secondary habitat (I	ist Species	s)	(D	⊚ s									
Incidental habitat (li	st species))	D	⊚ s									
No usable habitat			•	S									
ii. Rating (use the cor	clusions fron	n iabove and	he matrix	below to arriv	e at [circ	e] the functi	onal point	s and ratir	ng)				
Highest Habitat Level	doc/prima	ary sus/p	imary	doc/seconda	ary	sus/secon	dary	doc/incid	dental	sus/inc	idental	None	
Functional Points and Rating	1H		ЭН	.8H		.7M		.5L		.31	-]	0L	
Sources for documented use	USFWS	T&E List	uly 201:	3									
4B. Habitat for plar above) i. AA is docume												listed ir	114A
Primary or critical ha	abitat (list	species)	•	D O S		West	ern Toac	d (S2)					
Secondary habitat (I	ist Species	s)	С	D • S		Ferru	ginous H	ławk (S3	B), Great	er Sage	-Grouse	(S2)	
Incidental habitat (li	st species)	•	D O S		Amer	ican Wh	ite Pelica	an (S3B)				
No usable habitat) s									
i. Rating (use the copoints and rating [F						e at [circle] the fun	ctional					
Highest Habitat Doo	c./primary	Sus./primary	Doc.	/secondary	Sus./s	econdary	Doc./inc	idental	S us ./inci	dental	None		
Functional Points and Rating	1H	.8H		.7M		6M	.2	2L	.1	L	OL		
Sources for documented use	MTNHP Co	unty List; on	stie obs	servations.									

14C. Genera i. Evi		fe Habi of overa			use in tl	ne AA	Мо	dera	te													
Substantial (ba	ased on a	any of the	followi	ng [ch	eck]):						Mini	nal (b	ased o	n any of t	he follo	wing [c	heck]):					
observation abundant presence of interviews	wildlife si of extrem	ign such : nely limitir	as scat, ng habit	track	s, nest st tures not	ructure: availab	s, game	trails,	etc.	•	lit s	tle to r	no wildli adjacen	fe observ fe sign it upland local biol	food so	urces						
Moderate (base	ed on an	y of the fo	ollowing	[chec	:k]):																	
observation common comm	ccurrenc adjacent	e of wildl upland fo	life sign ood sou	such rces	as scat, f	tracks, ı						eriods										
ii. Wildlife h cover to be co AA (see #10).	nsidered Abbrevi	evenly d ations for	istribute surface	ed, the wate	most an	d least _l ns are a	orevale	nt veg e	tated o	classes	must b	e within	ո 20% c	of each o	ther in te	erms of	their pe	ercent c	ompos	ition of	the	
absent [see in: Structural diversity	structions	s for furth	er defin		of these	terms])						Мо	derate					Lo	w			
(see #13) Class cover																						
distribution (all vegetated classes)		Ever	า			Une	ven			Ev	en			Une	ven			Eve	en			
Duration of surface																						
water in ≥ 10% of AA	P/P	S/I	T/E	Α	P/P	S/I	T/E	А	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	А		
disturbance at AA (see #12i)	E	E	Е	Н	Е	Е	Н	н	E	Н	Н	М	E	Н	М	М	Е	Н	М	М		
Moderate disturbance at AA (see	Н	Н	Н	Н	Н	Н	н	м	Н	Н	М	М	Н	М	М	L	Н	М	L	L		
#12i)																						
disturbance at AA (see #12i)	M	M	М	L	М	М	L	L	М	М	L	L	М	L	L	L	L	L	L	니		
	,		•		•	•		,	,	•		•			,					•		
iii. Rating	_			ons fr	rom i a	nd ii a	bove	and t	ne ma								nal po	ints a	nd ra	ting)		
Evidence o	ot Wil all	re use	(1)			Exœ	otiona	l			<i>vvriali</i> High		ibitat i	feature		ig (II) derate	.			Lo	w	
Substantia	al						1E				.9H					Н				.71		
Moderate						<u> </u>	9H	1			.7M				.5	M				.31	_	
Minimal							6M				.4M				2	2L				.11	-	
Comments	Dep	ression	s with	in th	e AA w	ere a	lmost	dry d	uring	the A	ugust	2013	site v	visit.								
14D. General such that the historically u	AA co	oUld be	used	by fi	ish [i.e.	, fish	use is	prec	uded	by pe	rchec	l <u>cu</u> lv	ert ór	other b	arrier	, etc.]	. If the	AA is	s not	or wa	s not	
use occurs i	se occurs in the AA but is not desired from a resource management perspective [such as fish use within an irrigation canal], the abitat Quality [i below] should be marked as "Low", applied accordingly in ii below, and noted in the comments.)																					
or low (or low (L) quality rating.																					
Duration of surfa	ice water i	in AA		ar obic	oto oveh	. 05			Perennia		,			/ Intermitte		. 07	-	orary/ E]	
Cover - % of wat as submerged lo banks, floating-le	gs, large r eaved veg	rocks & bo etation, etc	ulders, o	verhan	ging	>25	70	10-2	07/0	<10%	ro :	>25%	10	0-25%	<10%	>25	07/0	10-25	70	<10%		
Shading - >75% contains riparian communities	or wetlan	d scrub-sh	rub or fo	rested		E		Е		Н		Н		Н	М	1	М		1	М		
Shading – 50 to contains rip. Or vice communities					iin aa	H	1	Н		М		М		М	М		М	L	.]	L		

Н	M	M	M	М	_ M	L	
М	М	М	٦	L	L	٢	L

Н

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

including cold or wari (circle)	erbody include	d on th	ne MDEQ i	ist of wa	iterbodies i					with liste	er man-mad d "Probable odified habi	Impail	red Use	s"
	se the conclus						o arriv	ve at [circ	le] the	e function	nal points ar	nd ratir	ng	
Types of fish known or	ional, H=high,		oderate, L=			n) fied Habitat Qu				-				
Suspected within AA Native game fish	Exceptiona 1E			High .9H				.7M	1		Low 5M		1	
Introduced game fish	.9H	_	 	.8H		-		6M	1		.41		1	
Non-game fish	.7M			.6M				.5M			.31	-		
No fish	.5M			.3L				.2L			.11	-		
Comments														
		k o to bo	NA ttom, use t function.	here an	d proceed	to the nex	t fund circle]	ction.)					not floo	oded
% of flooded wetland classified as forested, scrub/shrub, or	75%	25-75	% <	25%	75%	25-759	%	<25%		75%	25-75%	<25	5%	
both AA contains not outlet or restricted outlet	1H	.9H	1 .	6М	.8H	.7N	1 1	.5M	+	.4M	.3L		2L	
AA contains unrestricted outlet		_				_	-		T		.2L	_		
	9H	.8H		5M	.7M	.6N	1	.4M	4 4	.3L	.ZL		1L	
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B-39

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

Comments:

	ating (wo	d streaml		to botto	m, use	the mat	rix belo			circle] the e water adj				rating)				1
tabilit	eline by spe ratings of ≥ dix F).			Per	manent /	Perennial			Se	asonal / Int	ermittent			Ter	mporary / I	Ephemera	I	
65%					1H					.9H	1				.7M			
5-64%	•				.71	1				.6M	Π				.5M			
35%					.3L	1				.2L					.1L	T		1
эm	ments:					areas neriod				ed sho	rline, I	arger	area ir	n SE c	orner	of the	site p	otentia
	i.	[H=high B = St outlet;	the final associated in the final assonal.	noderate I diversi al three	e, or L= ty rating rows pe	low] for a g from # ertain to	this fund 13; Fact duration	ction. For C = n of sur	actor A whethe face wa	o arrive and a created are acreated are acreated are acreated are acreated as a created are acre	ge of ve he AA o e AA, w	egetated contains here P/	l compo s a surfa P=perm	nent in to ce or su anent/p	the AA; ubsurfac erennia	Factor e l;		
4 3	Hig			ponent >5 erate		.ow	Hi	Vege igh		ponent 1-5 lerate		ow	Hi	Vege gh	tated com	ponent <1 erate		OW
0	Yes	No	Yes	No 1	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
6/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
/E/A	.8Н	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L
4J.	Groun i. Disch The AA i Springs of Vegetation Wetland Seeps ar AA perm Wetland Shallow Other:	dwate narge Ir s a slop or seep on grow occurs re prese anently contain	er Disc ndicato pe wetla s are kr ring dur at the t ent at th flooded	harge/ rs nd nown or ring dorm oe of a r e wetlar I during tlet, but	Recharons observed nantsean atural sean dedge drough no inlet	arge: (c	heck t	he app		ii. Re	cators echarge eable si ind con m is a k	ini& Indicat ubstrate tains inle	ii belo	without	-		_	
	iii. func known D	tional p	oints a	nd rating arge are	g [H=hiç <i>Criteri</i> ea or or	gh, L=lov a	v] for th	is functi	ion.	e table t	pelow to		at [circle		1	Rating		

14K. Uniqueness:

Replacement potential

			ociation listed as MTNHP			ciation listed as	s "S2" by the		tructural diver	sity (#13) is
Estimated relativ	eabundance(#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 distur	bance at AA (#12i)	.9Н	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L
High disturbance	e at AA (#12i)	.8H	.7H	.6M	.6M	.4M	.3L	.3L	.2L	.1L
Comments:	There is modera	te disturba	nce within th	ne AA.						
14L. Recreati	on/Education Pot	ential: i. Is	the AA a kno	wn rec./ed.	Site O	Y • N	(If yes, rate as [o	circle] High	[1] and go to	ii; if no go to iii
ii.	Check categories t	hat apply to t	he 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	, size, and othe as [circle] Low	er site attribute [0.1])	es, is there	strong poten	tial for rec./ed.	use?	OY	(If yes, go to
iv.	Rating (use the mat	rix below to ar	rive at [circle] th	ne functional po	ints and rat	ing [H=high, M	l=moderate, or l	L=low] for t	his function)	
Ownership			Low		Distu	rbance at AA Moderate	\ (#12i)		High	
Public owners	hip		Low 1H			.5M			.2L	
Private owners	ship		.7M			.3L			.1L	
.3L Comments:	Site is privately	owned.								
General Site	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

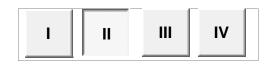
cited rare types or associations

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S) AA-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	29.57
C. General Wildlife Habitat	М	.5	1	14.785
D. General Fish Habitat	NA	0	0	0
E. Flood Attenuation	М	.5	1	14.785
F. Short and Long Term Surface Water Storage	M	.6	1	17.742
G. Sediment/Nutrient/Toxicant Removal	Н	1	1	29.57
H. Sediment/Shoreline Stabilization	Н	.9	1	26.613
I. Production Export/Food Chain Support	Н	.8	1	23.656
J. Groundwater Discharge/Recharge	Н	1	1	29.57
K. Uniqueness	L	.2	1	5.914
L. Recreation/Education Potential	L	.3	1	8.871
Totals:		6.8	11	201.076
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)
"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)



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 2008



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



Photo Point 1 – Photo 1 Bearing: 208 Degrees

Location: North Side Taken in 2012



Photo Point 1 – Photo 1 Bearing: 208 Degrees

Location: North Side Taken in 2013



Photo Point 1 – Photo 2 Bearing: 226 Degrees

Location: North Side 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 2 Bearing: 226 Degrees

Location: North Side Taken in 2012



Photo Point 1 – Photo 2 Bearing: 226 Degrees

Location: North Side Taken in 2013



Photo Point 1 – Photo 3 Bearing: 249 Degrees

Location: North Side Taken in 2008



Photo Point 1 – Photo 3 Bearing: 249 Degrees

Location: North Side Taken in 2010



Photo Point 1 – Photo 3 Bearing: 249 Degrees

Location: North Side Taken in 2011



Photo Point 1 – Photo 3 Bearing: 249 Degrees

Location: North Side Taken in 2012



Photo Point 1 – Photo 3 Bearing: 249 Degrees

Location: North Side Taken in 2013



Photo Point 2 – Photo 1 Bearing: 197 Degrees

Location: East-central Taken in 2008



Photo Point 2 – Photo 1 Bearing: 197 Degrees

Location: East-central Taken in 2010



Photo Point 2 – Photo 1 Bearing: 197 Degrees

Location: East-central Taken in 2011



Photo Point 2 – Photo 1 Bearing: 197 Degrees

Location: East-central Taken in 2012



Photo Point 2 – Photo 1 Bearing: 197 Degrees

Location: East-central Taken in 2013



Photo Point 2 – Photo 2 Bearing: 230 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 2 Bearing: 230 Degrees

Location: East-central Taken in 2011



Photo Point 2 – Photo 2 Bearing: 230 Degrees

Location: East-central Taken in 2012



Photo Point 2 – Photo 2 Bearing: 230 Degrees

Location: East-central Taken in 2013



Photo Point 2 – Photo 3 Bearing: 266 Degrees

Location: East-central Taken in 2008



Photo Point 2 – Photo 3 Bearing: 266 Degrees

Location: East-central Taken in 2010



Photo Point 2 – Photo 3 Bearing: 266 Degrees

Location: East-central Taken in 2011



Photo Point 2 – Photo 3 Bearing: 266 Degrees

Location: East-central Taken in 2012



Photo Point 2 – Photo 3 Bearing: 266 Degrees

Location: East-central Taken in 2013



Photo Point 3 – Photo 1 Bearing: 95 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 1 Bearing: 95 Degrees

Location: West Side Taken in 2011



Photo Point 3 – Photo 1 Bearing: 95 Degrees

Location: West Side Taken in 2012



Photo Point 3 – Photo 1 Bearing: 95 Degrees

Location: West Side Taken in 2013



Photo Point 3 – Photo 2 Bearing: 132 Degrees

Location: West Side Taken in 2008



Photo Point 3 – Photo 2 Bearing: 132 Degrees

Location: West Side Taken in 2010



Photo Point 3 – Photo 2 Bearing: 132 Degrees

Location: West Side Taken in 2011



Photo Point 3 – Photo 2 Bearing: 132 Degrees

Location: West Side Taken in 2012



Photo Point 3 – Photo 2 Bearing: 132 Degrees

Location: West Side Taken in 2013



Photo Point 3 – Photo 3 Bearing: 224 Degrees

Location: West Side Taken in 2008



Photo Point 3 – Photo 3 Bearing: 224 Degrees

Location: West Side Taken in 2010



Photo Point 3 – Photo 3 Bearing: 224 Degrees

Location: West Side Taken in 2011



Photo Point 3 – Photo 3 Bearing: 224 Degrees

Location: West Side Taken in 2012



Photo Point 3 – Photo 3 Bearing: 224 Degrees

Location: West Side Taken in 2013



Photo Point 4 – Photo 1 Bearing: 203 Degrees

Location: East Side Taken in 2008



Photo Point 4 – Photo 1 Bearing: 203 Degrees

Location: East Side Taken in 2010



Photo Point 4 – Photo 1 Bearing: 203 Degrees

Location: East Side Taken in 2011



Photo Point 4 – Photo 1 Bearing: 203 Degrees

Location: East Side Taken in 2012



Photo Point 4 – Photo 1 Bearing: 203 Degrees

Location: East Side Taken in 2013



Photo Point 4 – Photo 2 Bearing: 225 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 2 Bearing: 225 Degrees

Location: East Side Taken in 2011



Photo Point 4 – Photo 2 Bearing: 225 Degrees

Location: East Side Taken in 2012



Photo Point 4 – Photo 2 Bearing: 225 Degrees

Location: East Side Taken in 2013



Photo Point 4 – Photo 3 Bearing: 262 Degrees

Location: East Side Taken in 2008



Photo Point 4 – Photo 3 Bearing: 262 Degrees

Location: East Side Taken in 2010



Photo Point 4 – Photo 3 Bearing: 262 Degrees

Location: East Side Taken in 2011



Photo Point 4 – Photo 3 Bearing: 262 Degrees

Location: East Side Taken in 2012



Photo Point 4 – Photo 3 Bearing: 262 Degrees

Location: East Side Taken in 2013



Photo Point 4 – Photo 4 Bearing: 296 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 4 Bearing: 296 Degrees

Location: East Side Taken in 2011



Photo Point 4 – Photo 4 Bearing: 296 Degrees

Location: East Side Taken in 2012



Photo Point 4 – Photo 4 Bearing: 296 Degrees

Location: East Side Taken in 2013



Photo Point 4 – Photo 5 Bearing: 324 Degrees

Location: East Side Taken in 2008



Photo Point 4 – Photo 5 Bearing: 324 Degrees

Location: East Side Taken in 2010



Photo Point 4 – Photo 5 Bearing: 324 Degrees

Location: East Side Taken in 2011



Photo Point 4 – Photo 5 Bearing: 324 Degrees

Location: East Side Taken in 2012



Photo Point 4 – Photo 5 Bearing: 324 Degrees

Location: East Side Taken in 2013



Photo Point 1 – Panorama Bearing: 220 Degrees

Location: North Side Taken in 2013



Photo Point 2 – Panorama Bearing: 200 Degrees

Location: East-central Taken in 2013



Photo Point 3 – Panorama Bearing: 180 Degrees

Location: West Side Taken in 2013



Photo Point 4 – Panorama Bearing: 250 Degrees

Location: East Side Taken in 2013



Transect 1 – Photo 1
Bearing: 134 Degrees

Location: Start (west end)
Taken in 2008



Transect 1 – Photo 1 Bearing: 134 Degrees

Location: Start (west end) **Taken in 2010**



Transect 1 – Photo 1
Bearing: 134 Degrees

Location: Start (west end) **Taken in 2011**



Transect 1 – Photo 1 Bearing: 134 Degrees

Location: Start (west end)
Taken in 2012



Transect 1 – Photo 1
Bearing: 134 Degrees

Location: Start (west end)
Taken in 2013

Intentionally Blank



Transect 1 – Photo 2
Bearing: 314 Degrees

Location: End Taken in 2010



Transect 1 – Photo 2
Bearing: 314 Degrees

Location: End Taken in 2011



Transect 1 – Photo 2
Bearing: 314 Degrees

Location: End Taken in 2012



Transect 1 – Photo 2 Bearing: 220 Degrees

Location: End Taken in 2013



Transect 2 – Photo 1
Bearing: 75 Degrees

Location: Start Taken in 2010



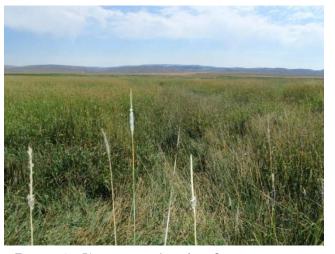
Transect 2 – Photo 1
Bearing: 75 Degrees

Location: Start Taken in 2011



Transect 2 – Photo 1
Bearing: 75 Degrees

Location: Start Taken in 2012



Transect 2 – Photo 1
Bearing: 80 Degrees

Location: Start Taken in 2013



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 2 – Photo 2
Bearing: 255 Degrees

Location: End Taken in 2012



Transect 2 – Photo 2
Bearing: 260 Degrees

Location: End Taken in 2013



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: 187 Degrees

Location: Start Taken in 2012



Transect 3 – Photo 1
Bearing: 174 Degrees

Location: Start Taken in 2013



Transect 3 – Photo 1
Bearing: 7 Degrees

Location: End Taken in 2010



Transect 3 – Photo 1
Bearing: 7 Degrees

Location: End Taken in 2011



Transect 3 – Photo 1
Bearing: 7 Degrees

Location: End Taken in 2012



Transect 3 – Photo 1
Bearing: 180 Degrees

Location: End Taken in 2013



Bank Erosion Pin #1 Taken in 2010



Bank Erosion Pin #1 Taken in 2011



Bank Erosion Pin #1 Taken in 2012



Bank Erosion Pin #1 Taken in 2013



Bank Erosion Pin #2 Taken in 2013



Cross-Section 1 Bearing: 180 Degrees

Location: XS-1 Taken in 2011



Cross-Section 2 Bearing: 170 Degrees

Location: XS-2 Taken in 2011



Cross-Section 1 Bearing: 180 Degrees

Location: XS-1 Taken in 2012



Cross-Section 2 Bearing: 170 Degrees

Location: XS-2 Taken in 2012





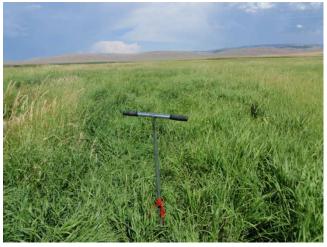
Cross-Section 2 Bearing: 170 Degrees

Location: XS-2 Taken in 2013



Data Point – *W-1u*Bearing: 180 Degrees

Location: Community 4
Taken in 2013



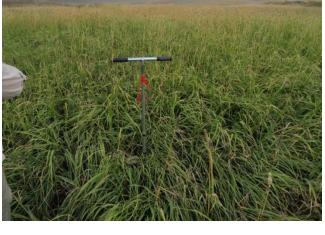
Data Point – W-1w Bearing: 0 Degrees

Location: Community 3
Taken in 2013



Data Point – *W-2u*Bearing: 180 Degrees

Location: Community 4
Taken in 2013



Data Point – *W-2w* **Bearing:** 0 Degrees

Location: Community 3
Taken in 2013

vvoodson	Creek 201	3 Wetland	Mitigation	Monitoring Rea	oort

Appendix D

Project Plan Sheet

MDT Wetland Mitigation Monitoring Woodson Creek Meagher County, Montana

