MONTANA DEPARTMENT OF TRANSPORTATION
WETLAND MITIGATION MONITORING REPORT: YEAR 2012

Sportsman's Campground
Deer Lodge County, Montana

Prepared for:

MONTANA DEPARTMENT OF TRANSPORTATION
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Helena, MT 59620-1001

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December 2012

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MDT Project Number STPP 46-5(12)51
Control Number A137

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CCI Project No: MDT.004

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Cover: The view is of an aquatic bed wetland at the Sportsman's Campground mitigation site looking east.

1. INTRODUCTION

The Sportsman's Campground Wetland Mitigation 2012 Monitoring Report documents the fifth year of monitoring at the Sportsman's Campground mitigation site. The wetland mitigation project was constructed in 2007 by the Montana Department of Transportation (MDT), prior to the adoption of the 2008 USACE mitigation guidelines requiring the development of success criteria. The purpose of the project was to create approximately 15.6 acres of palustrine emergent, scrub/shrub, and aquatic bed wetland habitat to serve as compensatory wetland mitigation for MDT's Sportsman's Campground East and Dickie Bridge reconstruction projects. Wetland impacts associated with these two MDT road projects totaled 14.36 acres, with an additional 0.18 acres of impact to existing wetlands that occurred during the mitigation project construction.

The project is located on Montana Department of Natural Resources and Conservation (DNRC) land that is protected by a MDT wetland conservation easement. The site is located on Montana State Highway 43, approximately 13 miles west of Wise River, Montana (Figure 1). The property is legally described as the northeast quarter of the northeast quarter of Section 36, Township 2 North, Range 13 West, Deer Lodge County. Figures 2 and 3 (Appendix A) show the Monitoring Activity Locations and Mapped Site Features, respectively. Appendix B contains the MDT Wetland Mitigation Site Monitoring Form, the US Army Corps of Engineers (USACE) 1987 Wetland Determination Data Forms (Environmental Laboratory 1987), and the 2008 MDT Montana Wetland Assessment Forms (Berglund and McEldowney 2008). Appendix C contains project site photographs and Appendix D includes the project plan sheet.

The 24-acre project site was used by MDT for gravel mining, equipment storage, and gravel stockpiling prior to construction of the wetland mitigation site in 2007. Gravel mining for the Sportsman's Campground East highway reconstruction project created a pit approximately 19.2 acres in area. The gravel pit area was excavated to varying depths to provide a range of inundation levels that included permanent, semi-permanent, and seasonal moisture regimes. Four small islands were also included in the design (Appendix D). The mitigation area is assumed to have a hydrologic connection via groundwater to the nearby Big Hole River located south of Highway 43. Additional seasonal groundwater recharge is provided by snowmelt from the nearby Pintlar Mountain Range north of the site.

Prior to implementation of the mitigation project, wetland habitat began to develop in two areas within the project site as result of gravel mining activities. The MDT will receive credit at a 1:1 ratio for the pre-existing, 1.31-acre open water/aquatic bed pond with an emergent/scrub-shrub fringe and the pre-existing, 0.66-acre emergent marsh wetland south of the pond. Wetland communities targeted for development included open water/aquatic bed, scrub/shrub, and shallow marsh/wet meadow in support of a diversity of plant and wildlife habitat.

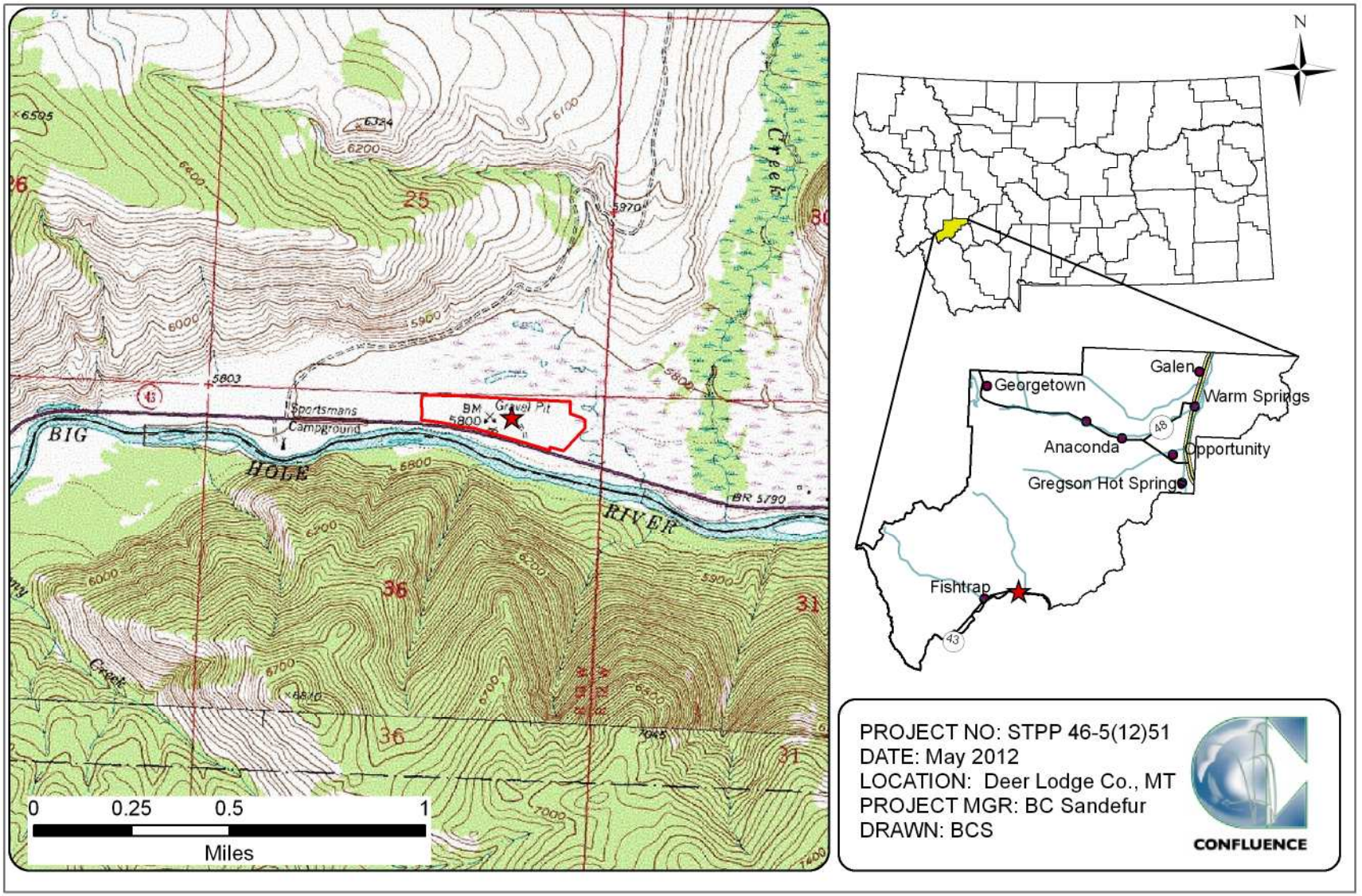

Figure 1. Project Location – Sportsman's Campground Wetland Mitigation Site.

No specific goals or success criteria were defined for this project, which was constructed prior to release of the 2008 USACE mitigation rule, which requires such components.

2. METHODS

The site was assessed on July 10, 2012. Information contained on the Mitigation Monitoring Form and the Wetland Determination Data Forms 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 collection included a wetland delineation; vegetation community, vegetation transect, soil, and hydrology data; bird and wildlife observations; photographic documentation; 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 jurisdictional 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 Wise River 3 WNW, Montana (245387) extends for an average of 51 days. Areas defined as wetlands would require 7 days of inundation or saturation within 12 inches of the ground surface to meet the hydrology criteria.

Hydrologic indicators as outlined on the Wetland Determination Data Form were documented at three data points (Sprt-1 to Sprt-3) within the project area. Hydrologic indicators were evaluated according to features observed during the site visit. All data were recorded on electronic field data sheets (Appendix B). Hydrologic assessments allow the evaluation of mitigation criteria addressing inundation/saturation requirements.

There were no groundwater monitoring wells installed at the site. Soil pits excavated during the wetland delineation were used to evaluate groundwater levels within 18 inches of the ground surface. The data were recorded electronically on the Wetland Determination Data Form (Appendix B).

2.2. Vegetation

The boundaries of dominant, species-based vegetation communities were determined in the field during the active growing season. The community boundaries were subsequently delineated on the 2012 aerial photograph provided by MDT. The percent cover of dominant species within a community

type was estimated and recorded using the following ranges that are listed on the Mitigation Monitoring Form: 0 (less than 1 percent), 1 (1 to 5 percent), 2 (6 to10 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 assessments of three vegetation belt transects (T-1, T-2, T-3) approximately 10 feet wide and 391, 400, and 377 feet long, respectively (Figure 2, Appendix A). The transect endpoints were recorded with a GPS unit. Spatial changes in the dominant vegetation communities were recorded along the stationed transect. The percent cover of each vegetation species within the "belt" was estimated using the same values and cover ranges listed for the community polygon data on the 2012 aerial photograph (Figure 3, Appendix B). Photographs were taken at the transect endpoints during the monitoring event (Appendix C). No woody species were planted at the site. Portions of the mitigation site contained woody plants prior to mitigation site construction.

The location of noxious weeds was noted in the field and mapped on the aerial photo (Figure 3, Appendix A). The noxious weed species identified are color-coded. The locations are denoted with the symbol "**x**", "▲", or "■" representing 0 to 0.1 acre, 0.1 to 1.0 acre, or greater than 1.0 acre in extent, respectively. Cover classes are represented by T, L, M, or H, for less than 1 percent, 1 to 5 percent, 2 to 25 percent, and 25 to 100 percent, respectively, as listed on Figure 3 (Appendix A).

2.3. Soil

Soil information was obtained from the *Soil Survey for Deer Lodge County* (USDA 2010) and *in situ* soil descriptions. Soil cores were excavated using a hand auger and evaluated according to procedures outlined in the USACE 1987 Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987). A description of the soil profile, including hydric indicators when present, was recorded on the 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 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987). In order to delineate a representative area as wetland, the technical criteria for hydrophytic vegetation, hydric soil, and wetland hydrology must be satisfied. The name and indicator status of vegetation 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. Many common names

used in the 2012 NWPL appear incomplete or erroneous. When used in this report, 2012 NWPL common names that appear to be incomplete or erroneous are provided with parenthetical clarification. For example, the common given name for the plant *Agrostis exarata* in the 2012 NWPL is "spiked bent". As this is likely an error, this species' common name would be reported here as "spiked bent (grass)". A Routine Level-2 Onsite 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).

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

The wetland boundary was determined in the field based on changes in plant communities and/or hydrology, and changes in soil characteristics. Topographic relief boundaries within the project area were also examined and cross referenced with soil and vegetation communities as supportive information for this delineation. Vegetation composition, soil characteristics, and hydrology were assessed at likely wetland and adjacent upland locations. If all three parameters met the criteria, the area was designated as wetland and mapped by vegetation community type. If any one of the parameters did not exhibit positive wetland indicators, the area was determined to be upland unless the site was classified as an atypical situation, potential problem area for vegetation, soil or hydrology, or special aquatic site, i.e., mudflat. The wetland boundary was delineated on the 2012 aerial photograph. Wetland areas were estimated using geographic information system (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. These signs were recorded while traversing the site for other required activities. Direct sampling methods, such as snap traps, live traps, and pitfall traps, were not used. A comprehensive wildlife species list was compiled for this report.

2.6. Functional Assessment

The 2008 MDT Montana Wetland Assessment Method (MWAM) (Berglund and McEldowney 2008) was used to evaluate functions and values on the site. This method provides an objective means of assigning wetlands an overall rating and a means of assessing mitigation success based on wetland functions. Functions are the self-sustaining properties of a wetland ecosystem that exist in the absence of society and relate to ecological significance without regard to subjective human values (Berglund and McEldowney 2008). The initial functional

assessment was completed prior to construction using the 1999 MWAM (Berglund, 1999). The 2008 MWAM was used for the first monitoring event completed in 2008. The 2008 revision of the 1999 method refines ratings for some wetland functions, land management, and fish and wildlife habitat. Field data for the MWAM were collected during the site visit. The entire mitigation wetland area was evaluated as one assessment area (AA) (Appendix B).

2.7. Photo Documentation

Photo points provide supplemental information documenting conditions of the wetlands, uplands, monitoring area, and vegetation transects; annual trends; and current land uses surrounding the site. Photographs were taken at established photo points throughout the mitigation site and transect end points during the site visit (Pages C-1 to C-15, Appendix C). Photo point locations were recorded with a resource grade GPS unit (Figure 2, Appendix A).

2.8. GPS Data

Site features and survey points were collected with a resource grade Thales Pro Mark III GPS unit during the 2012 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 fence boundaries, photograph points, transect endpoints, and wetland data points.

2.9. Maintenance Needs

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

3. RESULTS

3.1. Hydrology

The average total annual precipitation recorded from May 1943 to May 2012 at the Wise River 3 WNW meteorological station, Montana (249082) was 11.72 inches (WRCC 2012). Average annual precipitation totals recorded for 2008, 2009, 2010, and 2011 were 11.25 inches, 10.57 inches, 16.90 inches, and 9.51 inches, respectively. No data was reported for February 2011, which reduced the reported annual total. The long-term precipitation average between January and August is 8.33 inches. Recorded precipitation data for this period is 7.69 inches (2008), 8.37 inches (2009), 11.64 inches (2010), 6.54 inches (2011), and 5.49 inches (2012). This indicates that the area received below-average precipitation between the period of January through August in 2012.

Inundation depths in the open water cells ranged from 0.0 to 3.5 feet with an average depth of 2.0 feet during the July 2012 monitoring event (Monitoring Form, Appendix B). The water depth at the emergent vegetation-open water

boundary was 0.2 feet. Approximately 25 percent of the site was inundated on July 10, 2012, down from 70 percent on August 4, 2011 (Figure 3, Appendix A). Photographs of the site included in Appendix C show the decrease in inundated area across the site from 2011 to 2012, likely related to lower water levels in the Big Hole River observed during the site investigations. Site-wide indicators of wetland hydrology listed on the Mitigation Monitoring Form included inundation, algal mats, surface soil cracks, aquatic invertebrates, inundation visible on aerial imagery, and sparsely vegetated concave surfaces.

Data points Sprt-2 and Sprt-3, shown on Figure 2, Appendix A, were located within areas that met the wetland criteria. Data point Sprt-2 exhibited two secondary indicators including water-stained leaves and a positive FAC-Neutral test. The data point was located in an area with seasonal inundation. Data point Sprt-3 exhibited saturation at 8 inches below the ground surface (bgs), water marks, and drift deposits. No indicators of wetland hydrology were observed at Sprt-1, and was subsequently mapped in an upland.

3.2. Vegetation

The project area was historically dominated by native and introduced grass and sagebrush (*Artemisia* spp.) communities that are still present in the uplands and adjacent rangelands. Isolated stands of lodgepole pine (*Pinus contorta*) occur along the north and south boundaries of the site.

One hundred and eight plant species have been identified onsite from 2008 to 2012 (Table 1). According to the 2009 MDT Monitoring Report, wetland communities began to develop across a majority of the site in 2009. The areas with emergent species typically exhibited a minimum of four inches of topsoil over cobbles and gravels. The cobble/gravel bars (bare areas) were constructed with little or no topsoil to provide waterfowl habitat. The site contains numerous volunteer woody species that colonized the project area before mitigation construction. The plants include several willow species, balsam poplar (*Populus balsamifera*, called *Populus trichocarpa* on 1988 list), quaking aspen (*Populus tremuloides*), and lodgepole pine.

Vegetation community types were mapped based on topography, hydrology, and plant composition. The density and diversity of hydrophytic species continued to increase from 2010 to 2012. The six communities identified across the site in 2012 are detailed below.

Wetland community Type 1 – *Carex* spp./*Eleocharis palustris* was located on 4.22 acres in the east third of the site where the percent cover of wetland species was greater than 80 percent. Portions of 2010 communities 3, 5, and 6 (Type 6 – *Beckmannia syzigachne*/*Carex* spp. Wetland) were combined to form Community 1 in this area in 2011. In 2012, the community was dominated by Northwest Territory sedge (*Carex utriculata*), slender-beaked sedge (*Carex athrostachya*), water sedge (*Carex aquatilis*), Nebraska sedge (*Carex nebrascensis*), common spikerush *(Eleocharis palustris*), arctic rush (*Juncus arcticus*, named *Juncus*

balticus on 1988 list), Lemmon's willow (Salix lemmonii), and American sloughgrass (*Beckmannia syzigachne*). The cover included two rush (*Juncus* spp.), four sedge (*Carex* spp.) and two willow species (*Salix* spp.).
Upland community Type 2 – *Artemisia tridentata*/*Elymus* spp. was identified on 6.74 acres associated with the islands and the upland project perimeter. The cover was herbaceous and dominated by big sage (*Artemisia tridentata*), streamside wild rye (*Elymus lanceolatus*; called *Agropyron dasystachyum* - thickspike wheatgrass on 1988 list), slender wild rye (*Elymus trachycaulus*; slender wheatgrass – A*gropyron trachycaulum* on 1988 list), creeping wildrye (*Elymus repens*, called *Agropyron repens* – quackgrass on 1988 list), Kentucky bluegrass (*Poa pratensis*), and blue bunch wheatgrass (*Pseudoroegneria spicata* ssp., synonymy of *Agropyron spicata* on 1988 list). Thirty-three additional herbaceous and woody species were identified in Community 2. The percentage of bare ground was higher near the north and northwest property boundaries.

Wetland community Type 3 – *Eleocharis palustris* (common spike-rush) characterized 6.55 acres of the site, a decrease of 3.10 acres from 2011 as a result of the reclassification of the open water areas as aquatic macrophytes in 2012. This community was located throughout the western half of the wetland complex and as a wetland fringe around the upland islands. Community Type 5 – *Eleocharis palustris/Hordeum Jubatum* was combined with community 3 in 2012. The dominant vegetation species was common spikerush with lesser cover contributed by American sloughgrass, slender beaked sedge, and Lemmon's willow. There were nineteen additional wetland species documented within the community (Appendix B).

Wetland community Type 4 – *Salix* spp. encompassed 1.63 acres of the woody wetland fringe associated with the pre-existing open water pond and the well-developed wetland in the north central portion of the site. The community was dominated by Lemmon's willow, narrow-leaf willow (sandbar willow, *Salix exigua*), Pacific willow (*Salix lasiandra*), common spike-rush, Northwest Territory sedge, and slender beaked sedge.

Wetland community Type 7 – *Populus balsamifera*/*Salix* spp. was located on the wooded 0.35-acre island near the center of the site. Lemmon's willow, balsam poplar (*Populus balsamifera*), Pacific willow, and narrow-leaf willow dominated the vegetation cover. Fourteen other wetland species were identified in this community. Recruits of woody vegetation were observed within this community.

Table 1. Vegetation species observed from 2008 to 2012 at the Sportsman's Campground Wetland Mitigation Site.

Scientific Names	Common Names	WMVC Indicator Status[1]
Achillea millefolium	Common Yarrow	FACU
Agoseris aurantiaca	Orange-Flower Goat-Chicory	FACU
Agrostis gigantea	Black Bent	FAC
Agrostis stolonifera	Spreading Bent	FAC
Algae, green	Algae, green	NL
Alopecurus aequalis	Short-Awn Meadow-Foxtail	OBL
Alopecurus pratensis	Field Meadow-Foxtail	FAC
Argentina anserina	Common Silverweed	OBL
Artemisia cana	**Coaltown Sagebrush**	**FACU**
Artemisia tridentata	Big Sagebrush	UPL
Aster sp.	Aster	NL
Avena fatua	**Wild Oat**	**UPL**
Bassia hirsuta	Hairy Smother-Weed	UPL
Bassia scoparia	Mexican-Fireweed	FAC
Beckmannia syzigachne	American Slough Grass	OBL
Bidens cernua	Nodding Burr-Marigold	OBL
Bromus arvensis	Japanese Brome	UPL
Bromus inermis	Smooth Brome	FAC
Bromus tectorum	Cheatgrass	UPL
Calamagrostis canadensis	Bluejoint	FACW
Calochortus nuttallii	**Sego Lily**	**UPL**
Carex aquatilis	Leafy Tussock Sedge	OBL
Carex athrostachya	Slender-Beak Sedge	FACW
Carex microptera	Small-Wing Sedge	FACU
Carex nebrascensis	Nebraska Sedge	OBL
Carex praegracilis	Clustered Field Sedge	FACW
Carex scopulorum	Holm's Rocky Mountain Sedge	OBL
Carex utriculata	Northwest Territory Sedge	OBL
Carex vesicaria	Lesser Bladder Sedge	OBL
Centaurea maculosa	Spotted Knapweed	UPL
Cerastium arvense	Field Mouse-Ear Chickweed	FACU
Chamerion angustifolium	Narrow-Leaf Fireweed	FACU
Cicuta douglasii	Western Water-Hemlock	OBL
Cirsium arvense	Canadian Thistle	FAC
Cirsium vulgare	Bull Thistle	FACU
Dasiphora fruticosa	Golden-Hardhack	FAC
Deschampsia cespitosa	Tufted Hairgrass	FACW
Eleocharis palustris	Common Spike-Rush	OBL
Elymus lanceolatus	Streamside Wild Rye	FACU
Elymus repens	Creeping Wild Rye	FAC
Elymus trachycaulus	Slender Wild Rye	FAC
Epilobium ciliatum	Fringed Willowherb	FACW

[1]Draft 2012 NWPL (Lichvar and Kartesz 2009).
New species identified in 2012 are shown in bold type.

Table 1 (Continued). Vegetation species observed from 2008 to 2012 at the Sportsman's Campground Wetland Mitigation Site.

Scientific Names	Common Names	WMVC Indicator Status[1]
Equisetum arvense	Field Horsetail	FAC
Equisetum hyemale	Tall Scouring-Rush	FACW
Festuca pratensis	Meadow Fescue	FACU
Geum macrophyllum	Large-Leaf Avens	FAC
Glyceria elata	Tall Manna Grass	FACW
Glyceria grandis	American Manna Grass	OBL
Glycyrrhiza lepidota	American Licorice	FAC
Hordeum brachyantherum	Meadow Barley	FACW
Hordeum jubatum	Fox-Tail Barley	FAC
Iva axillaris	Deer-Root	FAC
Juncus arcticus	Arctic Rush	FACW
Juncus articulatus	Joint-Leaf Rush	OBL
Juncus bufonius	Toad Rush	FACW
Juncus compressus	Round-Fruit Rush	OBL
Juncus effusus	Lamp Rush	FACW
Juncus longistylis	Long-Style Rush	FACW
Juncus tenuis	**Lesser Poverty Rush**	**FAC**
Lepidium perfoliatum	Clasping Pepperwort	FACU
Linaria vulgaris	Butter and Eggs	UPL
Lupinus polyphyllus	**Blue-Pod Lupine**	**FAC**
Lupinus wyethii	Wyeth's Lupine	UPL
Melilotus officinalis	Yellow Sweet-Clover	FACU
Mentha arvensis	American Wild Mint	FACW
Myriophyllum sp.	Water-Milfoil	NL
Pedicularis groenlandica	**Bull Elephant's-Head**	**OBL**
Persicaria amphibia	Water Smartweed	OBL
Phleum pratense	Common Timothy	FAC
Pinus contorta	Lodgepole Pine	FAC
Plantago major	Great Plantain	FAC
Poa palustris	Fowl Blue Grass	FAC
Poa pratensis	Kentucky Blue Grass	FAC
Polemonium acutiflorum	Sticky Tall Jacob's Ladder	UPL
Populus balsamifera	Balsam Poplar	FAC
Populus tremuloides	**Quaking Aspen**	**FACU**
Potentilla sp.	**Cinquefoil**	**NL**
Pseudoroegneria spicata	Blue-Bunch Wheatgrass	UPL
Ratibida columnifera	Upright Prairie Coneflower	UPL
Rosa woodsii	**Woods' Rose**	**FACU**
Rumex crispus	Curly Dock	FAC
Ruppia maritima	**Beaked Ditch-Grass**	**OBL**
Salix exigua	Narrow-Leaf Willow	FACW

[1]Draft 2012 NWPL (Lichvar and Kartesz 2009).
New species identified in 2012 are shown in bold type.

Table 1 (Continued). Vegetation species observed from 2008 to 2012 at the Sportsman's Campground Wetland Mitigation Site.

Scientific Names	Common Names	WMVC Indicator Status[1]
Salix lasiandra	Pacific Willow	FACW
Salix lemmonii	Lemmon's Willow	FACW
Schoenoplectus acutus	Hard-Stem Club-Rush	OBL
Scirpus microcarpus	Red-Tinge Bulrush	OBL
Scutellaria galericulata	**Hooded Skullcap**	**OBL**
Silene pratensis	Bladder campion	UPL
Silene vulgaris	Maidenstears	UPL
Sisymbrium altissimum	Tall Hedge-Mustard	FACU
Sisyrinchium montanum	**Strict Blue-Eyed-Grass**	**FAC**
Solidago canadensis	Canadian Goldenrod	FACU
Spiranthes romanzoffiana	Hooded Ladies'-Tresses	FACW
Spirodela polyrrhiza	**Common Duckmeat**	**OBL**
Sporobolus airoides	Alkali-Sacaton	FAC
Stachys palustris	Marsh hedgenettle	FACW
Stuckenia filiformis	Slender-Leaf False Pondweed	OBL
Symphyotrichum chilense	Pacific American-Aster	FAC
Taraxacum officinale	Common Dandelion	FACU
Thlaspi arvense	Field Penny-Cress	UPL
Tragopogon dubius	Yellow Salsify	UPL
Trifolium hybridum	Alsike Clover	FAC
Trifolium pratense	Red Clover	FACU
Trifolium repens	White Clover	FAC
Triglochin maritima	Seaside Arrow-Grass	OBL
Typha latifolia	Broad-Leaf Cat-Tail	OBL
Vicia sativa	**Common Vetch**	**UPL**

[1]Draft 2012 NWPL (Lichvar and Kartesz 2009).
New species identified in 2012 are shown in bold type.

Wetland community Type 8 – Aquatic Macrophytes characterized the pre-existing, open water area located on the north boundary and the open water areas located in the lowest contours of the constructed depressions. In 2011, only the pre-existing, open-water area (0.95 acres) was classified as an aquatic macrophytes community. This community increased to 4.53 acres in 2012 due to the inclusion of the remaining open water areas into this aquatic macrophytes community. Aquatic beds are 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 as having aquatic plants at greater than 30 percent cover and water depths of greater than 0.5 m (and less than 2 meters) (MTNHP 2011). The community encompassed aquatic macrophytes consisting of *Myriophyllum* sp. (water milfoil species), common duckmeat (*Spirodela polyrrhiza*), and green algae (protist kingdom) were also observed on the water

surface. The water levels in the pond ranged from 2.0 to 3.5 feet deep in July 2012.

The steady development of a diversity of vegetation within the project boundary has been documented through yearly monitoring. Thirty-eight species were documented on the site in 2008 and 2009. This value increase to 67 in 2010, to 94 in 2011, and to 108 vegetation species in 2012. The percent cover of fox-tail barley (*Hordeum jubatum*), an annual pioneer species common in recently disturbed sites, has been steadily decreasing site wide since 2009 and reflects the successive establishment of persistent, perennial vegetation across the mitigation site.

Trends in plant species composition were measured on three transects (T-1, T-2, and T-3) from 2008 to 2012. Transect T-1 was established south to north in the west half of the mitigation area (Figure 2, Appendix A). The transect intercepted upland Type 2- *Artemisia tridentata*/*Elymus* spp. and wetland Type 3 – *Eleocharis palustris* (Table 2; Charts 1 and 2). Transect results are detailed on the Mitigation Monitoring Form (Appendix B). Photographs of transect T-1 end points are shown on pages C-10 and C-11 of Appendix C. Hydrophytic species comprised 68.8 percent of the transect in 2012, and was approximately the same as in 2011. Four new wetland species were observed in 2012.

Table 2. Data summary for transect T-1 from 2008 to 2012 at the Sportsman's Campground Wetland Mitigation Site.

Monitoring Year	**2008**	**2009**	**2010**	**2011**	**2012**
Transect Length (feet)	**391**	**391**	**391**	**391**	**391**
Vegetation Community Transitions along Transect	4	3	3	3	2
Vegetation Communities along Transect	4	3	3	3	2
Hydrophytic Vegetation Communities along Transect	1	2	2	2	1
Total Vegetative Species	14	15	32	22	29
Total Hydrophytic Species	5	6	14	13	17
Total Upland Species	9	9	18	9	12
Estimated % Total Vegetative Cover	50	65	65	70	75
% Transect Length Comprising Hydrophytic Vegetation Communities	34	69.3	59.3	68.3	68.8
% Transect Length Comprising Upland Vegetation Communities	37	37	40.7	31.7	31.2
% Transect Length Comprising Unvegetated Open Water	0	0	0.0	0.0	0.0
% Transect Length Comprising Bare Substrate	29	0	0.0	0.0	0.0

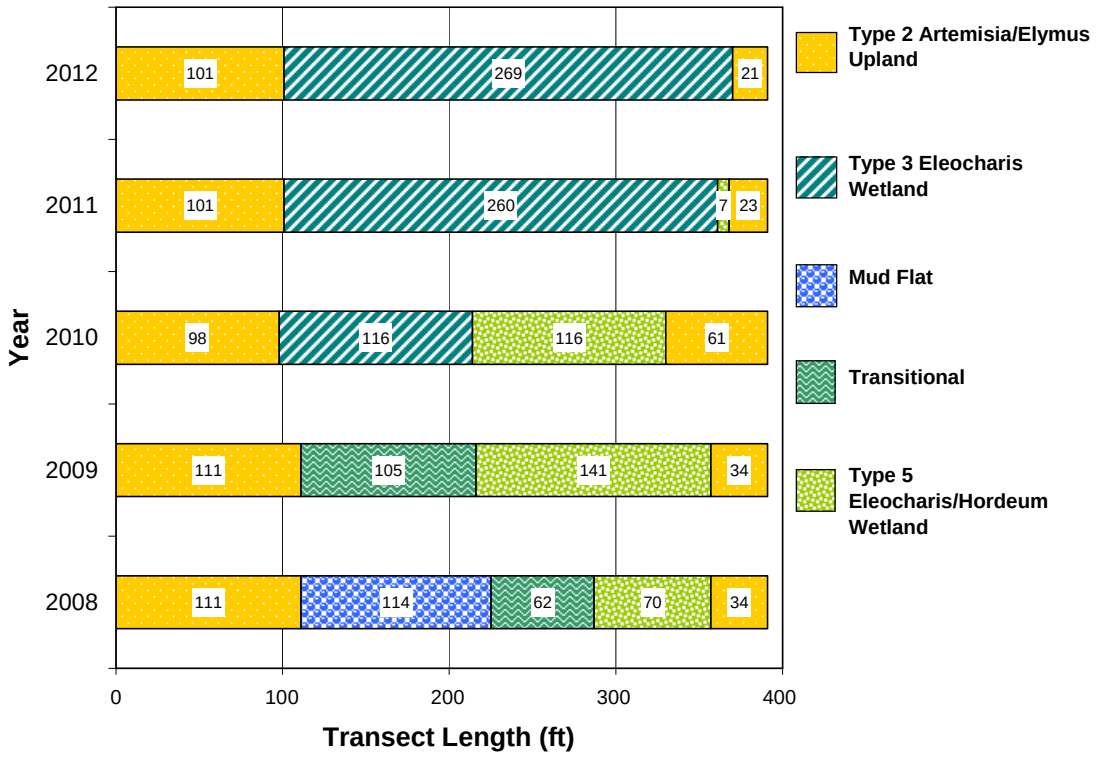

Chart 1. Transect maps showing vegetation types on transect T-1 from 2008 to 2012 from start (0 feet) to end (391 feet) at the Sportsman's Campground Wetland Mitigation Site.

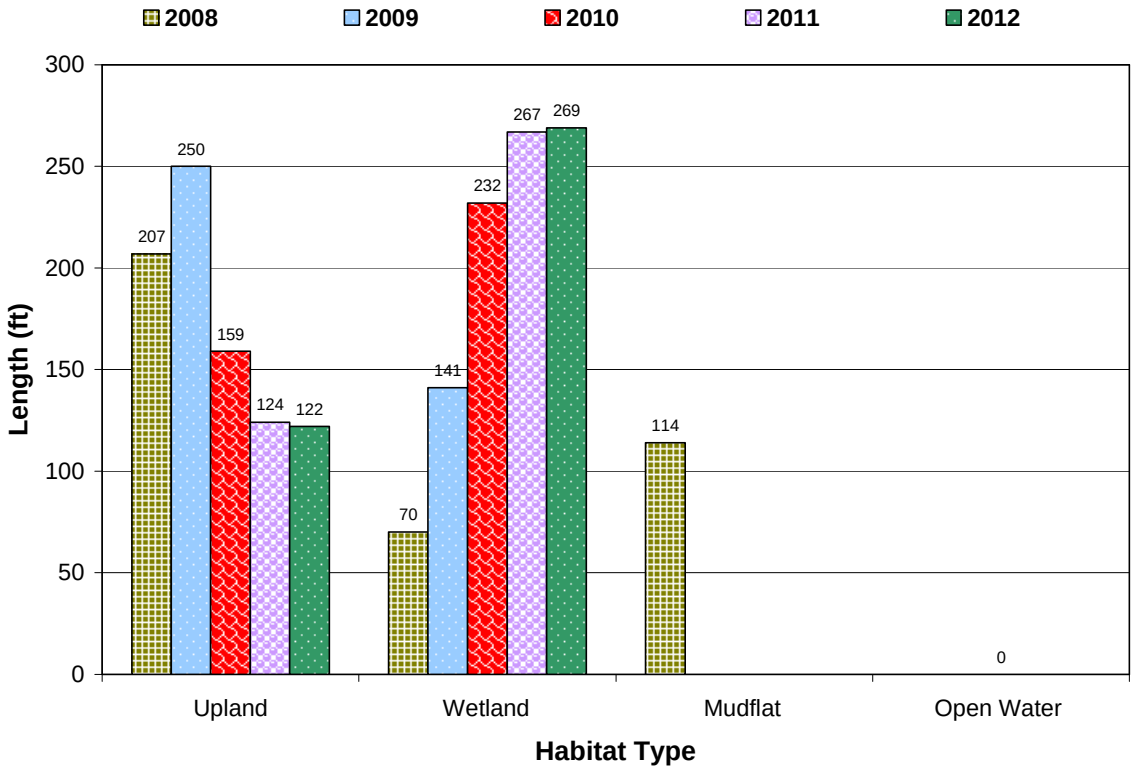

Chart 2. Length of habitat types within transect T-1 from 2008 to 2012 at the Sportsman's Campground Wetland Mitigation Site.

Transect T-2 was established south to north in the east half of the mitigation area (Figure 2, Appendix A). The transect intersected vegetation community Type 2 – *Artemisia tridentata*/*Elymus* spp Upland, Type 1 – *Carex* spp./*Eleocharis palustris* Wetland, and Type 8 – Aquatic Macrophytes Wetland. Approximately 95 percent of the transect comprised wetland communities in 2012, an increase of 29.5 percent from 2010. The prevalence of common spikerush (Community 3) in the open water areas of the depressions decreased in 2012. The areas were renamed aquatic beds in 2012 based on the increase in aquatic macrophytes. Transect details are summarized and graphed on Table 3 and Charts 3 and 4. Photographs of the transect T-2 end points are shown on page C-12 and C-13 of Appendix C.

Table 3. Data summary for transect T-2 from 2008 to 2012 at the Sportsman's Campground Wetland Mitigation Site.

Monitoring Year	**2008**	**2009**	**2010**	**2011**	**2012**
Transect Length (feet)	**400**	**400**	**400**	**400**	**400**
Vegetation Community Transitions along Transect	3	3	5	4	5
Vegetation Communities along Transect	3	3	3	3	3
Hydrophytic Vegetation Communities along Transect	2	2	2	2	2
Total Vegetative Species	14	15	25	27	23
Total Hydrophytic Species	9	10	19	19	16
Total Upland Species	5	5	6	8	7
Estimated % Total Vegetative Cover	30	45	50	60	65
% Transect Length Comprising Hydrophytic Vegetation Communities	56	56	65.8	95.5	95.3
% Transect Length Comprising Upland Vegetation Communities	2	2	2.3	4.5	4.7
% Transect Length Comprising Unvegetated Open Water	42	42	32.0	0.0	0.0
% Transect Length Comprising Bare Substrate	0	0	0.0	0.0	0.0

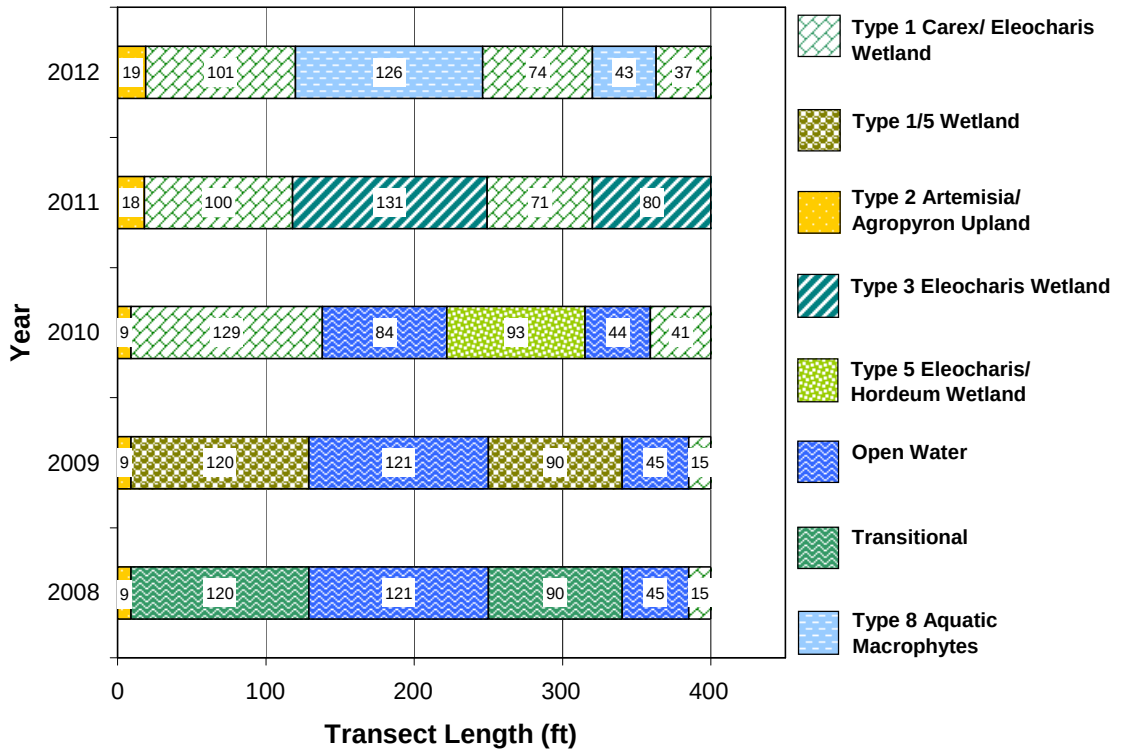

Chart 3: Transect maps showing vegetation types on transect T-2 from 2008 to 2012 from start (0 feet) to end (400 feet) at the Sportsman's Campground Wetland Mitigation Site.

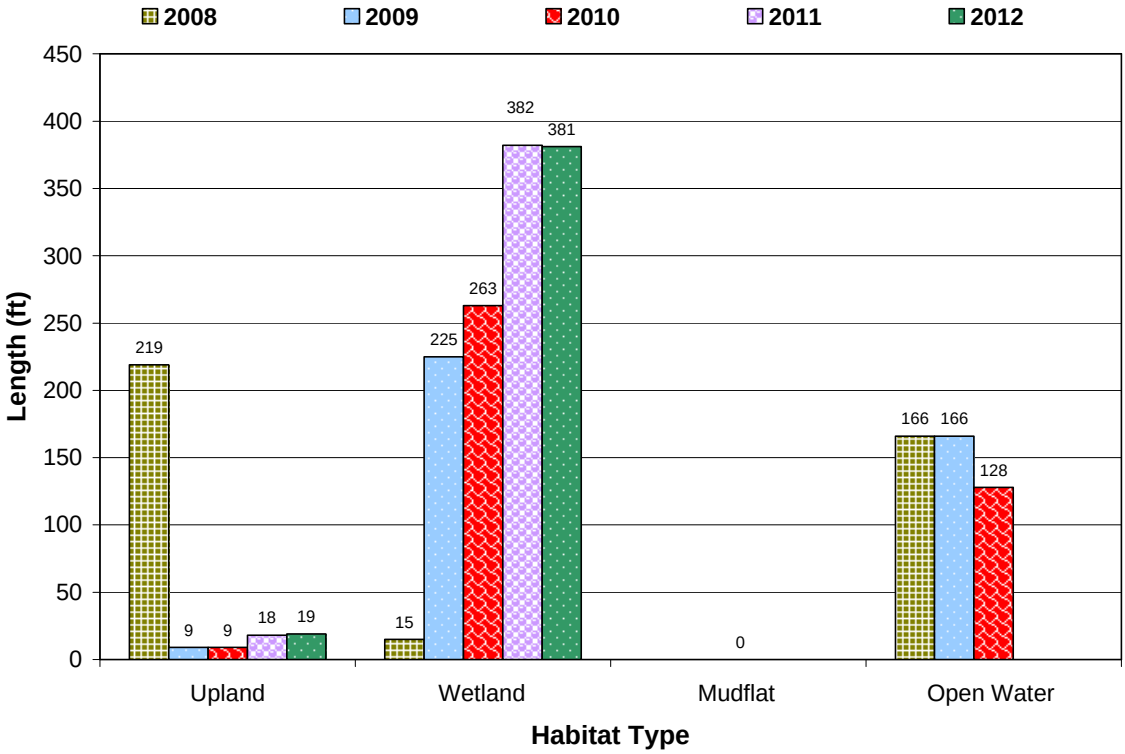

Chart 4. Length of habitat types within transect T-2 from 2008 to 2012 at the Sportsman's Campground Wetland Mitigation Site.

Transect T-3 crosses the pre-existing wooded island extending southwest to northeast near the center of the mitigation area. Transect T-3 intercepted community Type 2 – *Artemisia tridentata*/*Elymus* spp Upland, Type 3 – *Eleocharis palustris* Wetland, and Type 7 – *Populus balsamifera*/*Salix* spp. Wetland. Foxtail barley has been replaced by common spikerush site wide over the last three years. Approximately 83.3 percent of the transect intersected hydrophytic plant communities. Eight more hydrophytic species were identified on the transect in 2012. Transect details are shown on Table 4 and Charts 5 and 6 (Monitoring Forms, Appendix B). Photographs of the transect T-3 end points are shown on page C-14 and C-15 of Appendix C.

Table 4. Data summary for transect T-3 from 2008 to 2012 at the Sportsman's Campground Wetland Mitigation Site.

Monitoring Year	**2008**	**2009**	**2010**	**2011**	**2012**
Transect Length (feet)	**377**	**377**	**377**	**377**	**377**
Vegetation Community Transitions along Transect	7	7	4	6	4
Vegetation Communities along Transect	6	5	3	4	3
Hydrophytic Vegetation Communities along Transect	4	4	2	3	2
Total Vegetative Species	21	21	32	26	32
Total Hydrophytic Species	15	15	18	14	22
Total Upland Species	6	6	14	12	10
Estimated % Total Vegetative Cover	50	65	65	65	65
% Transect Length Comprising Hydrophytic Vegetation Communities	69	77	79	83	83.3
% Transect Length Comprising Upland Vegetation Communities	23	23	21	17	16.7
% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0
% Transect Length Comprising Bare Substrate	8	0	0	0	0

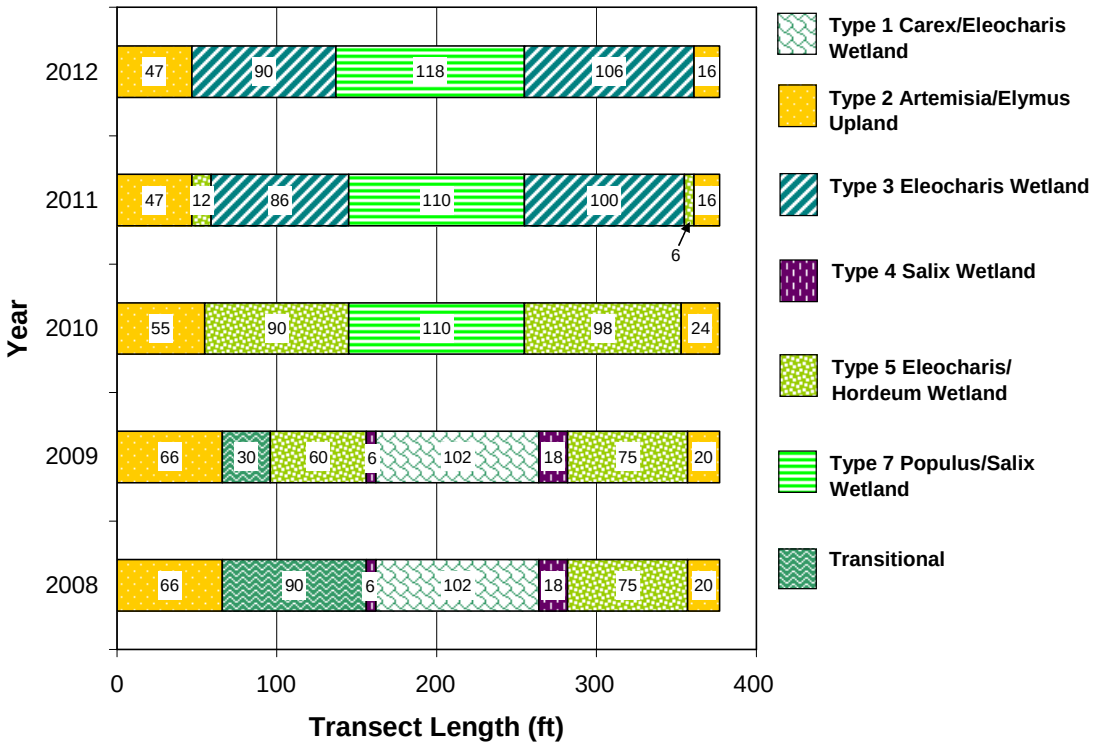

Chart 5. Transect maps showing vegetation types on transect T-3 from 2008 to 2012 from start (0 feet) to end (377 feet) at the Sportsman's Campground Wetland Mitigation Site.

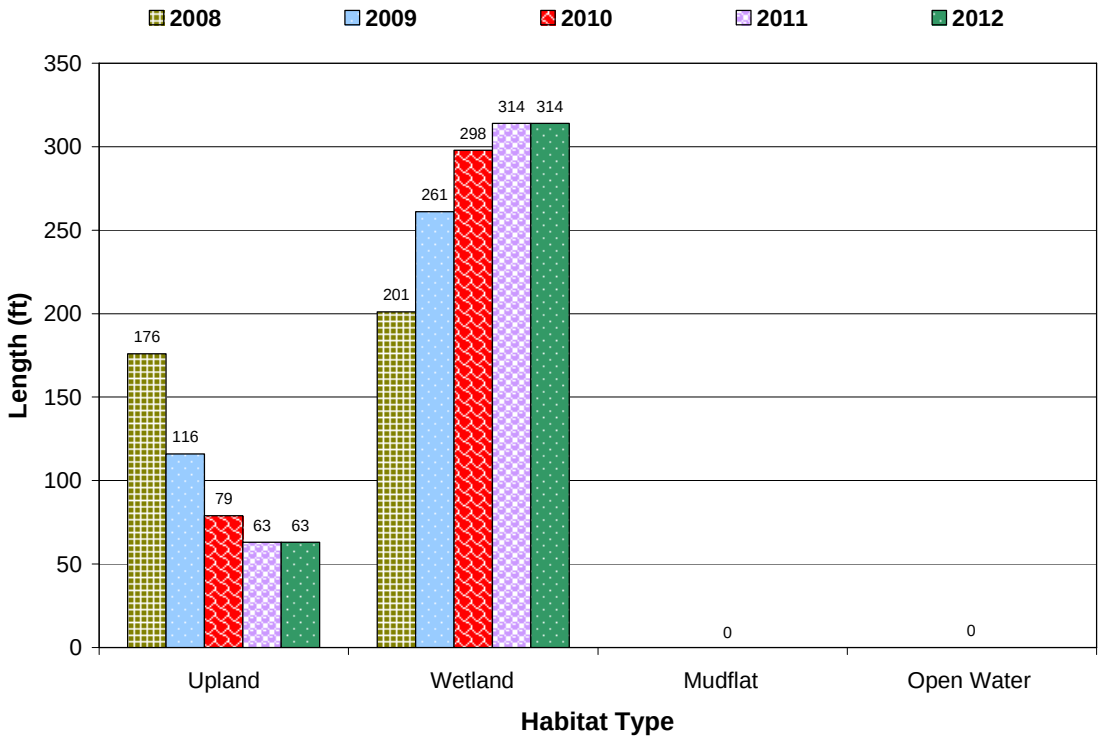

Chart 6. Length of habitat types within transect T-3 from 2008 to 2012 at the Sportsman's Campground Wetland Mitigation Site.

Three infestations of spotted knapweed (*Centaurea maculosa*), each encompassing less than 0.1 acres and less than 1.0 percent of the total cover within the infestation, were identified near the south boundary during the 2012 investigation (Figure 3, Appendix A). Five infestations of Canadian thistle (*Cirsium arvense*) located near the north and east boundaries were observed in 2012. The areal extent ranged from less than 0.1 acre to 1.0 acre and the percent cover was less than 1.0 percent to 5.0 percent. Both invasive species are classified as Priority 2B noxious weeds.

3.3. Soil

Soils on the project site were mapped before mitigation construction as Gravel Pit and Maurice loam, 2 to 8 percent slopes (USDA 2010). The Maurice series are deep, well-drained soils formed in alluvium or outwash. These non hydric soils are classified as a loamy-skeletal, mixed, superactive Ustic Haplocryolls. A thin layer of salvaged topsoil was placed across most of the project area following construction. Other areas received no topsoil treatment in order to promote shorebird and willow/cottonwood habitat. The areas identified on previous monitoring reports as "C G" represented areas of unvegetated cobble and gravel with no topsoil treatment. These areas were partially inundated during the July 2012 investigation and supported abundant willow regeneration.

The soil in upland test pit Sprt-1 was a sandy loam (10 YR 5/3) without any hydric indicators. Data point Sprt-2 revealed a dark, grayish brown sandy loam (10 YR 4/2) with dark yellowish brown (10YR 4/4) redox concentrations in the matrix. The soil profile at Sprt-3 revealed a black loamy sand (10 YR 2/1) with dark yellowish brown (10YR 4/4) redox concentrations in the matrix. The low chroma colors in Sprt-2 and Sprt-3 provided an indication of hydric soils. The test pit soils did not generally confirm the mapped soil unit due to site disturbance from construction.

3.4. Wetland Delineation

The 2008 MDT Monitoring Report identified 0.66 acres of wetland and 1.31 acres of open water within the monitoring boundaries prior to mitigation construction. The USACE agreed to provide credit to the MDT for these 1.97 acres of pre-existing wetlands.

The 2012 wetland delineation identified 15.31 acres of wetland created since 2008 (Table 5) and 1.97 acres of pre-existing wetland for a total wetland and aquatic habitat of 17.28 acres. The open water area constructed as a result of gravel mining prior to 2007 was reclassified as an aquatic bed wetland community (created wetland) in 2011 based on the presence of algae and aquatic macrophytes. The total wetland acreage increased by 1.34 acres from 2010 and 2011 but remained constant between 2011 to 2012. The upland buffer and upland islands encompassed 6.74 acres in 2012.

Table 5. Acreages for wetlands, open water, and landforms within the Sportsman's Campground Wetland Mitigation Site from 2008 to 2012.

Wetland Types	2008 (ac)	2009 (ac)	2010 (ac)	2011* (ac)	2012* (ac)
Pre-existing wetland	0.66	0.66	0.66	0.66	0.66
Created wetland	4.81	7.39	9.77	15.31	15.31
Pre-existing open water	1.31	1.31	1.31	1.31	1.31
Created open water	3.84	3.70	4.20	0	0
TOTAL	**10.62**	**13.06**	**15.94**	**17.28**	**17.28**
Landform	**2008**	**2009**	**2010**	**2011**	**2012**
Transitional areas	3.48	2.46	0	0	0
Mudflat	0.85	0	0	0	0
Unvegetated cobble/gravel	1.23	1.06	1.17	NI	NI
Upland buffer and islands	7.82	7.51	6.93	6.74	6.74

*NI – Not identified.

3.5. Wildlife

Twelve bird species were observed in 2012 (Table 6). The species identified in 2012 are listed in bold type. Six of the bird species were observed for the first time during the 2012 field visit and included American white pelican, bufflehead, chipping sparrow, northern flicker, tree swallow, and yellow-headed blackbird. Two pronghorn antelope (*Antilocapra americana*), a Richardson's ground squirrel (*Spermophilus richardsonii*), one muskrat (*Ondatra zibethicus*), two common gartersnake (*Thamnophis sirtalis*), and twelve unidentified tadpoles were observed in 2012. The tracks and scat of a deer (*Odocoileus* sp.) and moose (*Alces americanus*) were also observed.

Table 6. Wildlife species observed at the Sportsman's Campground Wetland Mitigation Site from 2008 to 2012.

COMMON NAME	SCIENTIFIC NAME
AMPHIBIAN	
Columbia Spotted Frog	*Rana luteiventris*
Frog spp	
Tadpoles (undetermined)	
BIRD	
American White Pelican	***Pelecanus erythrorhynchos***
American Wigeon	*Anas americana*
Belted Kingfisher	*Megaceryle alcyon*
Blue-winged Teal	***Anas discors***
Bufflehead	***Bucephala albeola***
Canada Goose	*Branta canadensis*
Chipping Sparrow	***Spizella passerina***
Cliff Swallow	*Petrochelidon pyrrhonota*
Common Nighthawk	*Chordeiles minor*
Dark-eyed Junco	*Junco hyemalis*
Gray Catbird	*Dumetella carolinensis*
Great Blue Heron	*Ardea herodias*

Species identified in 2012 are bolded.

Table 6 (cont). Wildlife species observed at the Sportsman's Campground Wetland Mitigation Site from 2008 to 2012.

COMMON NAME	SCIENTIFIC NAME
Killdeer	***Charadrius vociferus***
Mallard	*Anas platyrhynchos*
Mourning Dove	*Zenaida macroura*
Northern Flicker	***Colaptes auratus***
Osprey	*Pandion haliaetus*
Red-tailed Hawk	***Buteo jamaicensis***
Red-winged Blackbird	***Agelaius phoeniceus***
Song Sparrow	*Melospiza melodia*
Sparrow Spp.	
Spotted Sandpiper	***Actitis macularius***
Tree Swallow	***Tachycineta bicolor***
Western Gull	*Larus occidentalis*
Western Sandpiper	*Calidris mauri*
Wilson's Phalarope	***Phalaropus tricolor***
Wilson's Snipe	*Gallinago delicata*
Yellow-headed Blackbird	***Xanthocephalus xanthocephalus***
MAMMAL	
Badger	*Taxidea taxus*
Deer Sp.	
Moose	***Alces americanus***
Mule Deer	*Odocoileus hemionus*
Muskrat	***Ondatra zibethicus***
Pronghorn antelope	***Antilocapra americana***
Raccoon	*Procyon lotor*
Richardson's Ground Squirrel	***Spermophilus richardsonii***
White-tailed Deer	*Odocoileus virginianus*
REPTILE	
Common Gartersnake	***Thamnophis sirtalis***

Species identified in 2012 are bolded.

3.6. Functional Assessment

Project files at MDT indicate that wetlands identified within the mitigation site boundaries prior to construction were rated as Category IV systems using the 1999 MDT Montana Wetland Assessment Method (MWAM) (Berglund 1999). The post-mitigation construction wetland functions and values assessed from 2008 to 2012 used the 2008 Montana Wetland Assessment Method (Berglund and McEldowney 2008) (Wetland Assessment Form, Appendix B).

The 17.28-acre AA includes the constructed and pre-existing wetlands (Table 7). The functional ratings decreased slightly in 2012 based on the removal of the bald eagle as an MTNHP S3 species. The bald eagle had been documented on the mitigation site; the western toad (S2) is suspected for incidental habitat, thus the lower rating for MTNHP species habitat in 2012. The AA was rated as a Category II wetland with 73.33 percent of the possible total score. The functional units totaled 114.05. The 2012 functional points included high ratings for

General Wildlife Habitat, Short and Long Term Surface Water Storage, Sediment/Nutrient/Toxicant Removal, Sediment/Shoreline Stabilization, Production Export/Food Chain Support, Groundwater Discharge/Recharge, and Recreation/Education Potential.

3.7. Photo Documentation

Photographs taken at photo points one through four (PP1 through PP4, Figure 2, Appendix A) from 2009 to 2012 are shown on pages C-1 through C-9 of Appendix C. Transect end points taken from 2009 to 2012 are shown on pages C-10 to C-15 of Appendix C and photos of data points Sprt-1 through Sprt-3 are included on page C-16 of Appendix C.

3.8. Maintenance Needs

There are no man-made water level control features or nesting structures installed on this site. The project perimeter is fenced with barbed wire and in good condition.

Three infestations of spotted knapweed (*Centaurea maculosa*), each covering less than 0.1 acre and less than 1.0 percent of the total cover within the infestation, were identified near the south boundary during the 2012 investigation (Figure 3, Appendix A). Five infestations of Canadian thistle (*Cirsium arvense*) located near the north and east boundaries were observed in 2012. The areal extent ranged from less than 0.1 acre to 1.0 acre and the percent cover was less than 1.0 percent to 5.0 percent. Both invasive species are classified as Priority 2B noxious weeds.

Table 7. Summary of the wetland function/value ratings and functional points from 2008 to 2012 at the Sportsman's Campground Wetland Mitigation Site.

Function and Value Parameters from the 2008 MDT Montana Wetland Assessment Method	2008	2009	2010	2011	2012
Listed/Proposed T&E Species Habitat	Low (0.00)	Low (0.00)	Low (0.00)	Low (0.0)	Low (0.0)
MTNHP Species Habitat	Low (0.10)	Low (0.10)	Low (0.20)	Low (0.2)	Low (0.1)
General Wildlife Habitat	High (0.90)	High (0.90)	High (0.90)	High (0.9)	High (0.9)
General Fish Habitat	NA	NA	NA	NA	NA
Flood Attenuation	NA	NA	NA	NA	NA
Short and Long Term Surface Water Storage	High (0.90)	High (0.90)	High (1.00)	High (1.0)	High (1.0)
Sediment/Nutrient/Toxicant Removal	Mod (0.70)	Mod (0.70)	Mod (0.70)	High (1.0)	High (1.0)
Sediment/Shoreline Stabilization	NA	Low (0.30)	Mod (0.70)	High (1.0)	High (1.0)
Production Export/Food Chain Support	High (0.80)	High (0.80)	High (0.80)	High (0.8)	High (0.8)
Groundwater Discharge/Recharge	High (1.00)	High (1.00)	High (1.00)	High (1.0)	High (1.0)
Uniqueness	Mod (0.40)	Mod (0.40)	Mod (0.40)	Mod (0.6)	Mod (0.6)
Recreation/Education Potential (bonus points)	High (0.20)	High (0.20)	High (0.20)	High (0.2)	High (0.2)
Actual Points / Possible Points	**5.0 / 8**	**5.3 / 9**	**5.9 / 9**	**6.7 / 9**	**6.6 / 9**
% of Possible Score Achieved	**63%**	**59%**	**65.56%**	**74.44%**	**73.33%**
Overall Category	**II**	**II**	**II**	**II**	**II**
Total Acreage of Assessed Wetlands within Site Boundaries	**14.95**	**15.52**	**15.93**	**17.28**	**17.28**
Functional Units (acreage x actual points)	**74.8**	**82.25**	**93.99**	**115.78**	**114.05**

3.9. Current Credit Summary

The USACE approved a credit ratio of 1:1 (creation to impact) for the created wetlands, open water, and pre-existing wetlands at this site. Wetland impact debits associated with the Sportsman's Campground – East and Dickie Bridge – Wise River MDT projects totaled 14.36 acres. The MDT anticipated that 15.6 acres of wetland would be created at this site to compensate for the highway construction impacts.

The Sportsman's Campground mitigation site currently encompasses 15.31 acres of created, Class II wetland and 1.97 acres of pre-existing wetland developed prior to mitigation site construction (Table 8). The total of 17.28 acres of wetlands exceeds the projected goal of 15.6 acres and the 14.36 acres necessary to compensate for the impacts associated with the construction of aforementioned highway projects.

Table 8. Estimated credit acres from 2010 to 2012 for the Sportsman's Campground Wetland Mitigation Site.

Wetland and Open Water	Credit Ratio	2010 Delineated Acres*	2010 Credit Acres*	2011 Delineated Acres	2011 Credit acres	2012 Delineated Acres	2012 Credit acres
Pre-existing wetland	1:1	0.66	0.66	0.66	0.66	0.66	0.66
Created wetland	1:1	9.77	9.77	15.31	15.31	15.31	15.31
Pre-existing open water	1:1	1.31	1.31	1.31	1.31	1.31	1.31
Created open water	1:1	4.20	4.20	0.00	0.00	0.00	0.00
TOTAL		15.94	15.94	17.28	17.28	17.28	17.28

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Appendix A

Project Area Maps – Figure 2 & 3

MDT Wetland Mitigation Monitoring
Sportsman's Campground
Deer Lodge County, Montana

Figure 2: 2012 Monitoring Activity Locations

N

0 125 250 500

Feet

T-1 Finish
T-1 Start
T-2 Finish
T-2 Start
T-3 Finish
T-3 Start
PP1
PP2
PP3
PP4
Sprt-1
Sprt-2
Sprt-3
State Route 43
Big Hole River

Legend

- Vegetation Transect
- Monitoring Limits
- Data Points
- Photo Points

Base Photography Date: June 27, 2012

GRAPHICAL REPRESENTATION MAY OR MAY NOT DEPICT THE LEGAL DESCRIPTION OF ANY PARCEL HEREIN. THIS FIGURE IS A VISUAL AID ONLY; BOUNDARY RESTORATION MUST BE MADE BY A LICENSED LAND SURVEYOR. THIS FIGURE IS INTENDED TO DISPLAY INFORMATION RELEVANT TO THE REFERENCED REPORT. CONFLUENCE MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS DRAWING FOR ANY USE OTHER THAN THE ORIGINAL. ANY OTHER USE IS AT THE USER'S SOLE RISK.

LOCATION: Deer Lodge Co., MT

PROJECT NO: STPP 46-5(12)51

FILE: Sportsmans/Monitor2012.mxd

Project Name: Sportsmans Campground Wetland Mitigation

Drawing Title: 2012 Monitoring Activity Locations

DRAWN	CHECKED	APPROVED
BCS	BV	JJ

SCALE: Noted

Drawn: September 7, 2012

PROJ MGR: B Sandefur

CONFLUENCE consulting incorporated

Figure 2

REV -

Figure 3: 2012 Mapped Site Features

N

0 125 250 500

Feet

GRAPHICAL REPRESENTATION MAY OR MAY NOT DEPICT THE LEGAL DESCRIPTION OF ANY PARCEL HEREIN. THIS FIGURE IS A VISUAL AID ONLY; BOUNDARY RESTORATION MUST BE MADE BY A LICENSED LAND SURVEYOR. THIS FIGURE IS INTENDED TO DISPLAY INFORMATION RELEVANT TO THE REFERENCED REPORT. CONFLUENCE MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS DRAWING FOR ANY USE OTHER THAN THE ORIGINAL. ANY OTHER USE IS AT THE USER'S SOLE RISK.

State Route 43

Big Hole River

Legend

- Monitoring Limits
- Wetland Limits
- Vegetation Communities

Base Photography Date: June 27, 2012

Noxious Weeds

- Centaurea maculosa
- Cirsium arvense

Infestation SIze

- X = <0.1 acre
- ▲ = 0.1 to 1 acre
- ■= 1 to 5 acre

Cover Class

- T = Trace (<1% cover)
- L = Low (1-5% cover)
- M = Moderate (5-25% cover)
- H = High (25-100% cover)

Vegetation Community Types

1. Carex spp/Eleocharis palustris
2. Artemisia tridentata/Elymus spp.
3. Eleocharis palustris
4. Salix spp.
7. Populus balsamifera/Salix spp.
8. Aquatic macrophytes

Acreages

Project Area	24.02 acres
Wetlands	17.28 acres
Upland Buffer	6.01 acres
Upland Islands	0.73 acres

LOCATION: Deer Lodge Co., MT

PROJECT NO: STPP 46-5(12)51

FILE: Sportsmans/Veg2012.mxd

Project Name: Sportsmans Campground Wetland Mitigation

Drawing Title: 2012 Mapped Site Features

DRAWN BCS | CHECKED BV | APPROVED JJ

SCALE: Noted

Drawn: September 7, 2012

PROJ MGR: B Sandefur

CONFLUENCE consulting incorporated

Figure 3

REV -

Appendix B

2012 MDT Wetland Mitigation Site Monitoring Form
2012 Wetland Determination Data Forms – Routine Wetland Delineation, 1987 COE Protocol
2012 MDT Montana Wetland Assessment Forms

MDT Wetland Mitigation Monitoring
Sportsman's Campground
Deer Lodge County, Montana

MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site: Sportsman's Campground Assessment Date/Time 7/10/2012 9:10:23 AM

Person(s) conducting the assessment: B Sandefur, E Sandefur

Weather: AM T-storms, mid 80s Location: 13 miles west of Wise River on Hwy 43

MDT District: Butte Milepost: NA

Legal Description: T 2N R 13W Section(s) 36

Initial Evaluation Date: 8/7/2008 Monitoring Year: 5 #Visits in Year: 1

Size of Evaluation Area: 24 (acres)

Land use surrounding wetland:

Rangeland, State Route 43, Big Hole River

HYDROLOGY

Surface Water Source: Groundwater, precipitation

Inundation: ☑ Average Depth: 2 **(ft)** Range of Depths: 0-3.5 **(ft)**

Percent of assessment area under inundation: 25 %

Depth at emergent vegetation-open water boundary: 0.2 **(ft)**

If assessment area is not inundated then are the soils saturated within 12 inches of surface: Yes

Other evidence of hydrology on the site (ex. – drift lines, erosion, stained vegetation, etc**:**

Algal mats, cracked soil surface, aquatic macroinvertebrates, inundated and saturated on aerial photos, sparsely vegetated concave surfaces, FAC-neutral, water marks.

Groundwater Monitoring Wells

Record depth of water surface below ground surface, in feet.

Well ID	Water Surface Depth (ft)
No wells	

Additional Activities Checklist:

☑ Map emergent vegetation-open water boundary on aerial photograph.

☑ Observe extent of surface water during each site visit and look for evidence of past surface water elevations (drift lines, erosion, vegetation staining, etc.)

☐ Use GPS to survey groundwater monitoring well locations, if present.

Hydrology Notes:

Site hydrology fluctuates with water levels within Big Hole River, slightly lower water levels observed in 2012 than in 2011.

VEGETATION COMMUNITIES

Site Sportsman's Campground

(Cover Class Codes **0** = < 1%, **1** = 1-5%, **2** = 6-10%, **3** = 11-20%, **4** = 21-50% , **5** = >50%)

* Indicates accepted spp name not on '88 list.

Community # 1 **Community Type:** Carex spp. / Eleocharis palustris **Acres:** 4.22

Species	Cover class	Species	Cover class
Agrostis gigantea	1	Alopecurus pratensis	0
Argentina anserina	1	Beckmannia syzigachne	2
Calamagrostis canadensis	1	Carex aquatilis	2
Carex athrostachya	2	Carex nebrascensis	2
Carex utriculata	3	Deschampsia cespitosa	0
Eleocharis palustris	4	Geum macrophyllum	0
Glyceria elata	1	Hordeum jubatum	1
Juncus arcticus	2	Juncus effusus	1
Mentha arvensis	0	Plantago major	0
Rumex crispus	1	Salix exigua	1
Salix lemmonii	2	Scutellaria galericulata	0
Typha latifolia	1		

Comments:

Community # 2 **Community Type:** Artemisia tridentata / Elymus spp. **Acres:** 6.74

Species	Cover class	Species	Cover class
Achillea millefolium	1	Agrostis gigantea	1
Argentina anserina	1	Artemisia cana	0
Artemisia tridentata	4	Avena fatua	0
Bromus inermis	1	Bromus tectorum	1
Calamagrostis canadensis	0	Calochortus nuttallii	0
Centaurea maculosa	0	Cirsium arvense	0
Cirsium vulgare	0	Dasiphora fruticosa	1
Deschampsia cespitosa	0	Elymus lanceolatus	3
Elymus repens	0	Elymus trachycaulus	1
Equisetum hyemale	0	Festuca pratensis	1
Glycyrrhiza lepidota	0	Hordeum jubatum	1
Juncus arcticus	0	Lupinus polyphyllus	1
Melilotus officinalis	1	Pedicularis groenlandica	0
Phleum pratense	0	Pinus contorta	0
Poa pratensis	3	Potentilla sp.	1
Pseudoroegneria spicata	2	Rosa woodsii	0
Rumex crispus	0	Sisyrinchium montanum	0
Taraxacum officinale	1	Thlaspi arvense	0
Tragopogon dubius	1	Trifolium pratense	0
Vicia sativa	0		

Comments:

Community name changed from Artemisia tridentata/Agropyron spp. in 2011 to A. tridentata/Elymus spp. in 2012 based on adoption of 2012 Draft NWPL.

Community # 3 **Community Type:** Eleocharis palustris / **Acres:** 6.55

Species	Cover class	Species	Cover class
Agrostis gigantea	0	Alopecurus aequalis	1
Alopecurus pratensis	1	Argentina anserina	0
Beckmannia syzigachne	2	Carex aquatilis	0
Carex athrostachya	2	Carex nebrascensis	0
Carex praegracilis	1	Carex utriculata	1
Deschampsia cespitosa	1	Eleocharis palustris	5
Glyceria elata	0	Hordeum jubatum	0
Juncus arcticus	1	Juncus bufonius	0
Juncus effusus	1	Plantago major	0
Rumex crispus	0	Salix exigua	0
Salix lemmonii	2	Scirpus microcarpus	0
Typha latifolia	0		

Comments:

Community # 4 **Community Type:** Salix spp. / **Acres:** 1.63

Species	Cover class	Species	Cover class
Agrostis gigantea	0	Alopecurus pratensis	1
Beckmannia syzigachne	1	Carex athrostachya	2
Carex utriculata	3	Eleocharis palustris	4
Juncus effusus	0	Pinus contorta	1
Plantago major	0	Poa pratensis	0
Salix exigua	2	Salix lasiandra	2
Salix lemmonii	5	Typha latifolia	1

Comments:

Community # 7 **Community Type:** Populus balsamifera / Salix spp. **Acres:** 0.35

Species	Cover class	Species	Cover class
Calamagrostis canadensis	1	Carex athrostachya	2
Carex utriculata	1	Deschampsia cespitosa	1
Eleocharis palustris	0	Glyceria elata	1
Juncus compressus	0	Juncus effusus	2
Juncus tenuis	1	Lupinus polyphyllus	0
Pinus contorta	1	Populus balsamifera	3
Populus tremuloides	1	Rumex crispus	0
Salix exigua	1	Salix lasiandra	2
Salix lemmonii	4	Spiranthes romanzoffiana	0

Comments:

Community # 8 **Community Type:** Aquatic macrophytes / **Acres:** 4.53

Species	Cover class	Species	Cover class
Algae, green	2	Myriophyllum sp.	2
Open Water	5	Ruppia maritima	1
Spirodela polyrrhiza	0		

Comments:

Total Vegetation Community Acreage **24.02**

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

VEGETATION TRANSECTS

Site: Sportsman's Campground Date: 7/10/2012 9:10:23 AM

Transect Number: 1 **Compass Direction from Start:** 0

Interval Data:

Ending Station 101 **Community Type:** Artemisia tridentata / Elymus spp.

Species	Cover class	Species	Cover class
Artemisia tridentata	2	Elymus lanceolatus	2
Festuca pratensis	3	Hordeum jubatum	2
Lupinus polyphyllus	1	Poa pratensis	3
Pseudoroegneria spicata	2	Rumex crispus	0
Taraxacum officinale	1	Thlaspi arvense	0
Tragopogon dubius	1	Trifolium pratense	1
Vicia sativa	0		

Ending Station 370 **Community Type:** Eleocharis palustris /

Species	Cover class	Species	Cover class
Alopecurus aequalis	1	Beckmannia syzigachne	2
Carex praegracilis	0	Eleocharis palustris	5
Juncus bufonius	1	Juncus effusus	1
Plantago major	0	Salix lemmonii	2
Typha latifolia	1		

Ending Station 391 **Community Type:** Artemisia tridentata / Elymus spp.

Species	Cover class	Species	Cover class
Achillea millefolium	0	Agrostis gigantea	1
Artemisia tridentata	2	Avena fatua	0
Cirsium arvense	0	Deschampsia cespitosa	1
Elymus repens	1	Hordeum jubatum	2
Phleum pratense	0	Tragopogon dubius	0

Transect Notes:

Transect Number: 2 **Compass Direction from Start:** 0

Interval Data:

Ending Station 19 **Community Type:** Artemisia tridentata / Elymus spp.

Species	Cover class	Species	Cover class
Achillea millefolium	1	Artemisia tridentata	3
Calamagrostis canadensis	1	Cirsium vulgare	0
Equisetum hyemale	1	Glycyrrhiza lepidota	1
Poa pratensis	2	Potentilla sp.	2
Vicia sativa	0		

Ending Station 120 **Community Type:** Carex spp. / Eleocharis palustris

Species	Cover class	Species	Cover class
Alopecurus pratensis	1	Beckmannia syzigachne	2
Calamagrostis canadensis	1	Carex aquatilis	4
Carex athrostachya	2	Carex nebrascensis	1
Carex utriculata	4	Eleocharis palustris	4
Plantago major	0	Salix lemmonii	1
Scutellaria galericulata	0		

Ending Station 246 **Community Type:** Aquatic macrophytes /

Species	Cover class	Species	Cover class
Algae, green	2	Open Water	5

Ending Station 320 **Community Type:** Carex spp. / Eleocharis palustris

Species	Cover class	Species	Cover class
Beckmannia syzigachne	1	Eleocharis palustris	5
Hordeum jubatum	0	Salix lemmonii	2

Ending Station 363 **Community Type:** Aquatic macrophytes /

Species	Cover class	Species	Cover class
Algae, green	1	Open Water	5
Ruppia maritima	0		

Ending Station 400 **Community Type:** Carex spp. / Eleocharis palustris

Species	Cover class	Species	Cover class
Alopecurus pratensis	1	Beckmannia syzigachne	1
Carex aquatilis	3	Carex athrostachya	4
Carex nebrascensis	2	Carex utriculata	3
Eleocharis palustris	5	Salix lemmonii	1

Transect Notes:

Transect Number: 3 **Compass Direction from Start:** 35

Interval Data:

Ending Station 47 **Community Type:** Artemisia tridentata / Elymus spp.

Species	Cover class	Species	Cover class
Achillea millefolium	0	Artemisia tridentata	2
Calochortus nuttallii	1	Centaurea maculosa	1
Elymus lanceolatus	1	Festuca pratensis	2
Phleum pratense	2	Taraxacum officinale	1
Tragopogon dubius	1	Vicia sativa	1

Ending Station 137 **Community Type:** Eleocharis palustris /

Species	Cover class	Species	Cover class
Alopecurus aequalis	1	Beckmannia syzigachne	2
Carex athrostachya	2	Carex utriculata	1
Eleocharis palustris	4	Glyceria elata	2
Hordeum jubatum	2	Juncus arcticus	2
Juncus bufonius	0	Rumex crispus	1
Salix lemmonii	1	Typha latifolia	1

Ending Station 255 **Community Type:** Populus balsamifera / Salix spp.

Species	Cover class	Species	Cover class
Calamagrostis canadensis	1	Carex athrostachya	1
Carex utriculata	4	Eleocharis palustris	3
Glyceria elata	2	Juncus compressus	1
Juncus effusus	1	Lupinus polyphyllus	0
Pinus contorta	2	Populus balsamifera	4
Rumex crispus	0	Salix exigua	3
Salix lemmonii	4		

Ending Station 361 **Community Type:** Eleocharis palustris /

Species	Cover class	Species	Cover class
Agrostis gigantea	1	Carex athrostachya	1
Eleocharis palustris	5	Hordeum jubatum	1
Salix exigua	1	Salix lemmonii	3
Typha latifolia	1		

Ending Station 377 **Community Type:** Artemisia tridentata / Elymus spp.

Species	Cover class	Species	Cover class
Achillea millefolium	1	Agrostis gigantea	1
Artemisia tridentata	1	Bromus inermis	1
Phleum pratense	2	Pinus contorta	1
Taraxacum officinale	1	Trifolium pratense	1

Transect Notes:

PLANTED WOODY VEGETATION SURVIVAL

Sportsman's Campground

Planting Type	#Planted	#Alive	Notes
			No woody species planted on site

Comments

Abundant volunteer woody species present throughout site, including several species of willows, cottonwoods, and some lodge-pole pine.

Sportsman's Campground

WILDLIFE

Birds

Were man-made nesting structures installed? No

If yes, type of structure: _____

How many? _____

Are the nesting structures being used? No

Do the nesting structures need repairs? No

Nesting Structure Comments:

Species	#Observed	Behavior	Habitat
American White Pelican	30	FO	OW
Blue-winged Teal	8	F, L, N	OW, SS, WM
Bufflehead	1	F	OW
Chipping Sparrow	1	F, L	SS, UP, WM
Killdeer	11	F, L, N	AB, MF, OW, WM, US
Northern Flicker	1	FO	SS, UP, WM
Red-tailed Hawk	1	FO	UP
Red-winged Blackbird	10	F	OW, SS, UP, WM
Spotted Sandpiper	5	F, L, N	AB, MF, US
Tree Swallow	2	F, L	I, OW, SS, UP, WM
Wilson's Phalarope	6	F, L	AB, MF, OW
Yellow-headed Blackbird	3	F, L	UP

Bird Comments

BEHAVIOR CODES

BP = One of a breeding pair **BD** = Breeding display **F** = Foraging **FO** = Flyover **L** = Loafing **N** = Nesting

HABITAT CODES

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

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

Mammals and Herptiles

Species	# Observed	Tracks	Scat	Burrows	Comments
Common Gartersnake	2	No	No	No	
Deer Sp.		Yes	Yes	No	
Frog sp.	12	No	No	No	Tadpoles (undetermined)
Moose		Yes	Yes	No	
Muskrat	1	No	No	No	
Pronghorn	2	No	No	No	
Richardson's Ground Squirrel	1	No	No	Yes	

Wildlife Comments:

Sportsman's Campground

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
9265	45.885845	-113.157982	350	Veg tran 1, start
9267	45.886765	-113.157806	180	Veg tran 1, end
9269	45.886559	-113.159927	90	PP-2
9270	45.886559	-113.159927	135	PP-2
9271	45.885986	-113.157051	90	PP-1
9272	45.885986	-113.157051	0	PP-1
9273	45.885799	-113.157021	35	Veg tran 3, start
9275	45.886322	-113.156036	215	Veg tran 3, end
9283	45.885921	-113.151314	270	PP-4, photo 1
9284	45.885921	-113.151314	215	PP-4, photo 2
9290	45.885178	-113.15313	0	Veg tran 2, start
9302	45.886318	-113.153107	180	Veg tran 2, end
9303	45.886913	-113.154465	270	PP-3, photo 1
9304	45.886913	-113.154465	180	PP-3, photo 2
9305	45.886913	-113.154465	135	PP-3, photo 3
9314	45.885376666667	-113.15219		Sprt-1
9315	45.885526666667	-113.1522633333		Sprt-2
9317	45.886495	-113.1547916667		Sprt-3

Comments:

Sportsman's Campground

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 forms.

Functional Assessment Comments:

Maintenance

Were man-made nesting structure installed at this site? No

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.

WETLAND DETERMINATION DATA FORM – Routine Weltand Delineation, 1987 COE Protocol

Project/Site: Sportsman's Campground City/County: Deer Lodge Sampling Date: 7/10/2012

Applicant/Owner: MDT State: MT Sampling Point: Sprt-1

Investigator(s): B Sandefur Section, Township, Range: S 36 T 2N R 13W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex Slope (%):

Subregion (LRR): LRR E Lat: 45.8853766666667 Long: -113.15219 Datum: WGS84

Soil Map Unit Name: Reclaimed Gravel Pit

Do Normal Circumstances Exist on this site? Yes ☑

Is the site significantly disturbed (Atypical Situation)? Yes ☐

Is the area a potential Problem Area? Yes ☐

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☑	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	
Wetland Hydrology Present?	Yes ☐	No ☑	

Remarks:
DP on upland side of wetland boundary along topo break into veg com 2.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
	0 = Total Cover		
Herb Stratum (Plot size: 5ft)			
1. Artemisia tridentata	40	☑	UPL
2. Juncus arcticus	10	☐	FACW
3. Festuca pratensis	20	☑	FACU
4. Phleum pratense	10	☐	FAC
5. Poa pratensis	15	☐	FAC
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
11.	0	☐	
	95 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.	0	☐	
2.	0	☐	
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Dominance Test is >50% ☐

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks:

SOIL

Sampling Point: Sprt-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/2	100					Sandy Loam	
7-13	10YR 5/3	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Soils List
- ☐ Listed on National Soils List
- ☐ Other (explain in remarks)

Taxonomy Subgroup: ustic Haplocryolls

Confirm Mapped Type?: ☐

Hydric Soil Present? Yes ☐ No ☑

Remarks:

No hydric indicators within upper foot of soil pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators

- ☐ Innundated
- ☐ Saturated in upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage patterns in wetlands

Secondary Indicators (2 or more required)

- ☐ Oxidized Rhizospheres along Living Roots
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☑

Remarks: No wetland hydro signs, data point on rise along excavated wetland basin.

WETLAND DETERMINATION DATA FORM – Routine Weltand Delineation, 1987 COE Protocol

Project/Site: Sportsman's Campground City/County: Deer Lodge Sampling Date: 7/10/2012

Applicant/Owner: MDT State: MT Sampling Point: Sprt-2

Investigator(s): B Sandefur Section, Township, Range: S 36 T 2N R 13W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex Slope (%): 0

Subregion (LRR): LRR E Lat: 45.8855266666667 Long: -113.152263333333 Datum: WGS84

Soil Map Unit Name: Reclaimed Gravel Pit

Do Normal Circumstances Exist on this site? Yes ☑

Is the site significantly disturbed (Atypical Situation)? Yes ☐

Is the area a potential Problem Area? Yes ☐

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑	No ☐	
Wetland Hydrology Present?	Yes ☑	No ☐	

Remarks:
DP on wet side of wetland boundary in veg com 1.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft)			
1. Salix lemmonii	45	☑	FACW
2. Salix exigua	15	☑	FACW
3.	0	☐	
4.	0	☐	
5.	0	☐	
	60 = Total Cover		
Herb Stratum (Plot size: 5ft)			
1. Beckmannia syzigachne	35	☑	OBL
2. Alopecurus pratensis	35	☑	FAC
3. Eleocharis palustris	35	☑	OBL
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
11.	0	☐	
	105 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.	0	☐	
2.	0	☐	
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Dominance Test is >50% ☑

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:

SOIL

Sampling Point: Sprt-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	95	10YR 4/4	5	C	M	Sandy Loam	very rocky soils

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☑ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Soils List
- ☐ Listed on National Soils List
- ☐ Other (explain in remarks)

Taxonomy Subgroup: Ustic Haplocryolls

Confirm Mapped Type?: ☐

Hydric Soil Present? Yes ☑ No ☐

Remarks:

Very difficult to excavate deeper than 10in, hydric indicators to soil surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators

- ☐ Innundated
- ☐ Saturated in upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage patterns in wetlands

Secondary Indicators (2 or more required)

- ☐ Oxidized Rhizospheres along Living Roots
- ☑ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☑ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): _____

Wetland Hydrology Present? Yes ☑ No ☐

Remarks: Data point with seasonal inundation and high water table.

WETLAND DETERMINATION DATA FORM – Routine Weltand Delineation, 1987 COE Protocol

Project/Site: Sportsman's Campground City/County: Deer Lodge Sampling Date: 7/10/2012

Applicant/Owner: MDT State: MT Sampling Point: Sprt-3

Investigator(s): B Sandefur Section, Township, Range: S 36 T 2N R 13W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex Slope (%): 0

Subregion (LRR): LRR E Lat: 45.886495 Long: -113.154791666667 Datum: WGS84

Soil Map Unit Name: Reclaimed Gravel Pit

Do Normal Circumstances Exist on this site? Yes ☑

Is the site significantly disturbed (Atypical Situation)? Yes ☐

Is the area a potential Problem Area? Yes ☐

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑	No ☐	
Wetland Hydrology Present?	Yes ☑	No ☐	

Remarks:
DP in veg com 4 with abundant willow recruitment.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft)			
1. Salix lemmonii	45	☑	FACW
2. Salix lasiandra	10	☐	FACW
3.	0	☐	
4.	0	☐	
5.	0	☐	
	55 = Total Cover		
Herb Stratum (Plot size: 5ft)			
1. Eleocharis palustris	60	☑	OBL
2. Juncus effusus	20	☑	FACW
3. Carex athrostachya	15	☐	FACW
4. Plantago major	5	☐	FAC
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
11.	0	☐	
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.	0	☐	
2.	0	☐	
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Dominance Test is >50% ☑

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:

SOIL

Sampling Point: Sprt-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	85	10YR 4/4	15	C	M	Loamy Sand	Very rocky to surface

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☑ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Soils List
- ☐ Listed on National Soils List
- ☐ Other (explain in remarks)

Taxonomy Subgroup: Ustic Haplocryolls

Confirm Mapped Type?: ☐

Hydric Soil Present? Yes ☑ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators

- ☐ Innundated
- ☑ Saturated in upper 12 inches
- ☑ Water Marks
- ☑ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage patterns in wetlands

Secondary Indicators (2 or more required)

- ☐ Oxidized Rhizospheres along Living Roots
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☑ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☑ No ☐ Depth (inches): 8

Wetland Hydrology Present? Yes ☑ No ☐

Remarks: Area with shallow water table and seasonal inundation.

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project name Sportsman's Campground Mitigation Site **2. MDT project#** STPP 46-5(12)51 **Control#**

3. Evaluation Date 7/10/2012 **4. Evaluators** B Sandefur **5. Wetland/Site# (s)** Sportman's constructed wetlands

6. Wetland Location(s): **T** 2N **R** 13W **Sec1** 36 **T** **R** **Sec2**

Approx Stationing or Mileposts

Watershed 10020004 **Watershed/County** Upper Missouri River Watershed/Deer Lodge County

7. Evaluating Agency Confluence for MDT

8. Wetland size acres 17.28

Purpose of Evaluation

How assessed: Measured e.g. by GPS

☐ **Wetlands potentially affected by MDT project**

9. Assesssment area (AA) size (acres) 17.28

☐ **Mitigation Wetlands: pre-construction**

How assessed: Measured e.g. by GPS

☑ **Mitigation Wetlands: post construction**

☐ **Other**

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
Depressional	Emergent Wetland	Excavated	Permanent/Perennial	45
Depressional	Scrub-Shrub Wetland	Excavated	Seasonal/Intermittant	25
Depressional	Aquatic Bed	Excavated	Permanent/Perennial	10
Depressional	Emergent Wetland	Excavated	Seasonal/Intermittant	20				

11. Estimated Relative Abundance Common

12. General Condition of AA

i. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (**ANVS**) lists)

Conditions within AA	*Predominant conditions adjacent to (within 500 feet of) AA*		
	Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings; and noxious weed or ANVS cover is <=15%.	Land not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings; noxious weed or ANVS cover is <=30%.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is >=30%.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is <=15%.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is <=30%.	moderate	moderate disturbance	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is >=30%.	high disturbance	high disturbance	high disturbance

Comments: (types of disturbance, intensity, season, etc)

Grazing pasture surrounding site. No grazing within mitigation area. Hwy 47 on south boundary. Site managed in conservation easement.

ii. Prominent noxious, aquatic nuisance, other exotic species:

Canada thistle (Cirsium arvense) and spotted knapweed (Centaurea maculosa), Priority 2B weeds.

iii. Provide brief descriptive summary of AA and surrounding land use/habitat

AA is a gravel pit reclaimed for the purpose of providing wetland mitigation credit to MDT. Pasture on north, west, east boundaries. Hwy 47 and Big Hole River on south boundary. AA includes pre-existing scrub/shrub and aquatic bed wetlands.

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

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management preventing (passive) existence of additional vegetated classes?		Modified Rating
>=3 (or 2 if 1 is forested) classes	H	NA	NA	NA
2 (or 1 if forested) classes	M	NA	NA	NA
1 class, but not a monoculture	M	<NO	YES>	L
1 class, monoculture (1 species comprises>=90% of total cover)	L	NA	NA	NA

Comments: Emergent, scrub/shrub, and aquatic bed vegetated classes

SECTION PERTAINING to FUNCTIONS VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:

i. AA is Documented (D) or Suspected (S) to contain (check one based on definitions contained in instructions):

Primary or critical habitat (list species) ◉ D ◉ S

Secondary habitat (list Species) ◉ D ◉ S

Incidental habitat (list species) ◉ D ◉ S

No usable habitat ☑ S

ii. Rating (use the conclusions from i above and the matrix below to arrive at [check] the functional points and rating)

Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
Functional Points and Rating	1H	.9H	.8H	.7M	.3L	.1L	0L

Sources for documented use Not listed for Township and Range on USF&WS

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above)

i. AA is Documented (D) or Suspected (S) to contain (check one based on definitions contained in instructions):

Primary or critical habitat (list species) ◉ D ◉ S

Secondary habitat (list Species) ◉ D ◉ S

Incidental habitat (list species) ○ D ◉ S Western Toad (S2) (sus/inc)

No usable habitat ☐ S

ii. Rating (use the conclusions from i above and the matrix below to arrive at [check] the functional points and rating)

Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
S1 Species: *Functional Points and Rating*	1H	.8H	.7M	.6M	.2L	.1L	0L
S2 and S3 Species: *Functional Points and Rating*	.9H	.7M	.6M	.5M	.2L	.1L	0L

Sources for documented use MTNHP for Deer Lodge County

14C. General Wildlife Habitat Rating:

i. Evidence of overall wildlife use in the AA (check substantial, moderate, or low based on supporting evidence): Moderate

Substantial (based on any of the following [check]):

- ☐ observations of abundant wildlife #s or high species diversity (during any period)
- ☐ abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- ☐ presence of extremely limiting habitat features not available in the surrounding area
- ☐ interviews with local biologists with knowledge of the AA

Minimal (based on any of the following [check]):

- ☐ few or no wildlife observations during peak use periods
- ☐ little to no wildlife sign
- ☐ sparse adjacent upland food sources
- ☐ interviews with local biologists with knowledge of the AA

Moderate (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 sign such as scat, tracks, nest structures, game trails, etc.
- ☑ adequate adjacent upland food sources
- ☐ interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, check appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover 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 the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of these terms])

Structural diversity (see #13)	High								Moderate								Low			
Class cover distribution (all vegetated classes)	Even				Uneven				Even				Uneven				Even			
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Low disturbance at AA (see #12i)	E	E	E	H	E	E	H	H	E	H	H	M	E	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	H	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	L	M	M	L	L	M	L	L	L	L	L	L	L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating)

Evidence of wildlife use (i)	*Wildlife habitat features rating (ii)*			
	Exceptional	High	Moderate	Low
Substantial	1E	.9H	.8H	.7M
Moderate	.9H	.7M	.5M	.3L
Minimal	.6M	.4M	.2L	.1L

Comments Habitat in AA suitable for a diversity of birds. Twelve bird species, six new, were observed in 2012.

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then check ☑ **NA** here and proceed to 14E.)

i. Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [check the functional points and rating)

Duration of surface water in AA	Permanent / Perennial						Seasonal / Intermittent						Temporary / Ephemeral					
Aquatic hiding / resting / escape cover	Optimal		Adequate		Poor		Optimal		Adequate		Poor		Optimal		Adequate		Poor	
Thermal cover optimal / suboptimal	O	S	O	S	O	S	O	S	O	S	O	S	O	S	O	S	O	S
FWP Tier I fish species	1E	.9H	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.3L
FWP Tier II or Native Game fish species	.9H	.8H	.7M	.6M	.5M	.5M	.8H	.7M	.6M	.5M	.4M	.4M	.6M	.5M	.4M	.3L	.2L	.2L
FWP Tier III or Introduced Game fish	.8H	.7M	.6M	.5M	.5M	.4M	.7M	.6M	.5M	.4M	.4M	.3L	.5M	.4M	.3L	.2L	.2L	.1L
FWP Non-Game Tier IV or No fish species	.5M	.5M	.5M	.4M	.4M	.3L	.4M	.4M	.4M	.3L	.3L	.2L	.2L	.2L	.2L	.1L	.1L	.1L

Sources used for identifying fish sp. potentially found in AA:

ii. Modified Rating (**NOTE:** Modified score cannot exceed 1 or be less than 0.1)
a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity ***or*** *is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support,* ***or*** *do aquatic nuisance plant or animal species (see* ***Appendix E****) occur in fish habitat?* **Y** ◯ **N** ◉ *If yes, reduce score in* ***i*** *above by 0.1:* **Modified Rating**

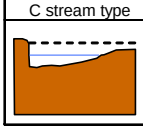
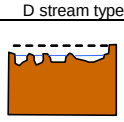
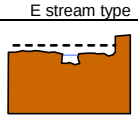
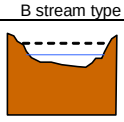
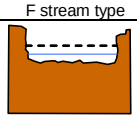
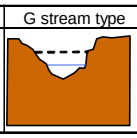
b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? ◯ **Y** ◉ **N** *If yes, add 0.1 to the adjusted score in* ***i*** *or* ***iia*** *above:*
Modifed Rating

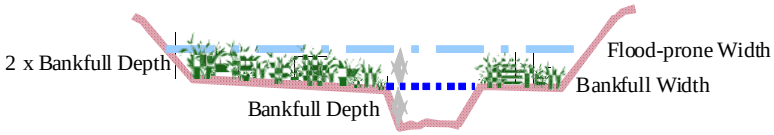
iii. Final Score and Rating: 0 NA **Comments:** Site is comprised of isolated depression wetlands that do not support a fishery.

14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, click ☑ **NA** here and proceed to 14F.)

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

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	Slightly entrenched - C, D, E stream types			Moderately entrenched – B stream type			Entrenched-A, F, G stream types		
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains **no outlet or restricted outlet**	1H	.9H	.6M	.8H	.7M	.5M	.4M	.3L	.2L
AA contains **unrestricted outlet**	.9H	.8H	.5M	.7M	.6M	.4M	.3L	.2L	.1L

Slightly Entrenched ER = >2.2			**Moderately Entrenched ER = 1.41 – 2.2**	**Entrenched ER = 1.0 – 1.4**		
C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type
						



Floodrpone width / **Bankfull width** = **Entrenchment ratio**

ii. Are ≥10 acres of wetland in the AA subject to flooding **AND** are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (check)? **Y** ◯ **N** ◉

Comments:

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, click ☐ **NA** here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at [check] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>5 acre feet			1.1 to 5 acre feet			≤1 acre foot		
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond **≥ 5 out of 10 years**	1H	.9H	.8H	.8H	.6M	.5M	.4M	.3L	.2L
Wetlands in AA flood or pond **< 5 out of 10 years**	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	.1L

Comments: Assumes capacity for approx. 16 acres flooded to depth of 2 ft.

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, click ☐ **NA** here and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating [H = high, M = moderate, or L = low])

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds at levels such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants **or** AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	≥ 70%		< 70%		≥ 70%		< 70%	
Evidence of flooding / ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1H	.8H	.7M	.5M	.5M	.4M	.3L	.2L
AA contains **unrestricted outlet**	.9H	.7M	.6M	.4M	.4M	.3L	.2L	.1L

Comments: The majority of site contained inundated wetlands with emergent vegetation in 2012.

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

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

*% Cover of **wetland** streambank or shoreline by species with stability ratings of ≥6 (see **Appendix F**).*	*Duration of surface water adjacent to rooted vegetation*		
	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
≥ 65%	1H	.9H	.7M
35-64%	.7M	.6M	.5M
< 35%	.3L	.2L	.1L

Comments: Assumes wetland cells subject to wave action. Creeping spikerush and beaked sedge dominated the shoreline of the inundated wetlands and upland islands sitewide.

14I. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [check])

General Fish Habitat Rating (14D.iii.)	**General Wildlife Habitat Rating (14C.iii.)**		
	E/H	M	L
E/H	H	H	M
M	H	M	M
L	M	M	L
N/A	H	M	L

ii. Rating (Working from top to bottom, use the matrix below to arrive at [check] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14I.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

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

iii. Modified Rating (**NOTE:** Modified score cannot exceed 1 or be less than 0.1.) **Vegetated Upland Buffer (VUB)**: Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control).

a) Is there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference? **Y** ◉ **N** ○ *If yes, add 0.1 to the score in **ii** above and adjust rating accordingly:* **Modified Rating** .8H

Comments: AA includes entire site (17.28 acres), high biological activity, no outlet, 50ft wide upland buffer.

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

i. Discharge Indicators

- ☐ The AA is a slope wetland
- ☐ Springs or seeps are known or observed
- ☐ Vegetation growing during dormant season/drought
- ☐ Wetland occurs at the toe of a natural slope
- ☐ Seeps are present at the wetland edge
- ☐ AA permanently flooded during drought periods
- ☐ Wetland contains an outlet, but no inlet
- ☑ Shallow water table and the site is saturated to the surface
- ☐ Other:

ii. Recharge Indicators

- ☐ Permeable substrate present without underlying impeding layer
- ☐ Wetland contains inlet but no outlet
- ☐ Stream is a known 'losing' stream; discharge volume decreases
- ☐ Other:

iii. Rating (use the information from i and ii above and the table below to arrive at [check] the functional points and rating)

	Duration of saturation at AA Wetlands *FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM*			
Criteria	P/P	S/I	T	None
Groundwater Discharge or Recharge	1H	.7M	.4M	.1L
Insufficient Data/Information		NA		

Comments: Site inundated or saturated to ground surface in 2012.

14K. Uniqueness:

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

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland **or** plant association listed as "S1" by the MTNHP			AA does not contain previously cited rare types **and** structural diversity (#13) is high **or** contains plant association listed as "S2" by the MTNHP			AA does not contain previously cited rare types or associations **and** structural diversity (#13) is low-moderate		
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L
High disturbance at AA (#12i)	.8H	.7H	.6M	.6M	.4M	.3L	.3L	.2L	.1L

Comments:

14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity)

i. Is the AA a known or potential rec./ed. site: (check) **Y** ◉ **N** ○ (if 'Yes' continue with the evaluation; if 'No' then click ☐ **NA** here and proceed to the overall summary and rating page)

ii. Check categories that apply to the AA: ☐ Educational/scientific study; ☑ Consumptive rec.; ☑ Non-consumptive rec.; ☐ Other

iii. Rating (use the matrix below to arrive at [check] the functional points and rating)

Known or Potential Recreation or Education Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	.2H	.15H
Private ownership with general public access (no permission required)	.15H	.1M
Private or public ownership without general public access, or requiring permission for public access	.1M	.05L

Comments:

Site owned by MDT. Area open to hunting, bird watching, hiking.

General Site Notes

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Sportman's constructed wetlands

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0	1	0	☐
B. MT Natural Heritage Program Species Habitat	L	.1	1	1.728	☐
C. General Wildlife Habitat	H	.9	1	15.552	☑
D. General Fish Habitat	NA	0	0	0	☐
E. Flood Attenuation	NA	0	0	0	☐
F. Short and Long Term Surface Water Storage	H	1	1	17.28	☑
G. Sediment/Nutrient/Toxicant Removal	H	1	1	17.28	☑
H. Sediment/Shoreline Stabilization	H	1	1	17.28	☐
I. Production Export/Food Chain Support	H	.8	1	13.824	☐
J. Groundwater Discharge/Recharge	H	1	1	17.28	☑
K. Uniqueness	M	.6	1	10.368	☐
L. Recreation/Education Potential (bonus points)	H	.2	NA	3.456	☐
Totals:		6.6	9	114.048	
Percent of Possible Score			**73.33** %		

Category I Wetland: (must satisfy **one** of the following criteria; otherwise 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**
- ☐ Percent of possible score > 80% (round to nearest whole #).

Category II Wetland: (Criteria for Category I not satisfied **and** meets any **one** of the following criteria; otherwise go to Category IV)
- ☐ Score of 1 functional point for MT Natural Heritage Program Species Habitat; **or**
- ☑ Score of .9 or 1 functional point for General Wildlife Habitat; **or**
- ☐ Score of .9 or 1 functional point for General Fish 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**
- ☑ Percent of possible score > 65% (round to nearest whole #).

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; otherwise go to Category III)
- ☐ "Low" rating for Uniqueness; **and**
- ☐ Vegetated wetland component < 1 acre (do not include upland vegetated buffer); **and**
- ☐ Percent of possible score < 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING:
(check appropriate category based on the criteria outlined

I	II	III	IV

Appendix C

Project Site Photographs

MDT Wetland Mitigation Monitoring
Sportsman's Campground
Deer Lodge County, Montana

Photo Point 1 – *Photo 1*
Bearing: East
Location: South central
Taken in 2009

Photo Point 1 – *Photo 1*
Bearing: East
Location: South central
Taken in 2010

Photo Point 1 – *Photo 1*
Bearing: East
Location: South central
Taken in 2011

Photo Point 1 – *Photo 1*
Bearing: East
Location: South central
Taken in 2012

Photo Point 1 – *Photo 2*
Bearing: North
Location: South central
Taken in 2009

Photo Point 1 – *Photo 2*
Bearing: North
Location: South central
Taken in 2010

Photo Point 1 – *Photo 2*
Bearing: North
Location: South central
Taken in 2011

Photo Point 1 – *Photo 2*
Bearing: North
Location: South central
Taken in 2012

Photo Point 2 – *Photo 1*
Bearing: East
Location: West edge of site
Taken in 2009

Photo Point 2 – *Photo 1*
Bearing: East
Location: West edge of site
Taken in 2010

Photo Point 2 – *Photo 1*
Bearing: East
Location: West edge of site
Taken in 2011

Photo Point 2 – *Photo 1*
Bearing: East
Location: West edge of site
Taken in 2012

Photo Point 2 – *Photo 2*
Bearing: Southwest
Location: West edge of site
Taken in 2009

Photo Point 2 – *Photo 2*
Bearing: Southwest
Location: West edge of site
Taken in 2010

Photo Point 2 – *Photo 2*
Bearing: Southwest
Location: West edge of site
Taken in 2011

Photo Point 2 – *Photo 2*
Bearing: Southwest
Location: West edge of site
Taken in 2012

Photo Point 3 – *Photo 1*
Bearing: West
Location: North Central
Taken in 2009

Photo Point 3 – *Photo 1*
Bearing: West
Location: North Central
Taken in 2010

Photo Point 3 – *Photo 1*
Bearing: West
Location: North Central
Taken in 2011

Photo Point 3 – *Photo 1*
Bearing: West
Location: North Central
Taken in 2012

Photo Point 3 – *Photo 2*
Bearing: South
Location: North Central
Taken in 2009

Photo Point 3 – *Photo 2*
Bearing: South
Location: North Central
Taken in 2010

Photo Point 3 – *Photo 2*
Bearing: South
Location: North Central
Taken in 2011

Photo Point 3 – *Photo 2*
Bearing: South
Location: North Central
Taken in 2012

Photo Point 3 – *Photo 3*
Bearing: Southeast
Location: North Central
Taken in 2009

Photo Point 3 – *Photo 3*
Bearing: Southeast
Location: North Central
Taken in 2010

Photo Point 3 – *Photo 3*
Bearing: Southeast
Location: North Central
Taken in 2011

Photo Point 3 – *Photo 3*
Bearing: Southeast
Location: North Central
Taken in 2012

Photo Point 4 – *Photo 1*
Bearing: West
Location: East edge of site
Taken in 2009

Photo Point 4 – *Photo 1*
Bearing: West
Location: East edge of site
Taken in 2010

Photo Point 4 – *Photo 1*
Bearing: West
Location: East edge of site
Taken in 2011

Photo Point 4 – *Photo 1*
Bearing: West
Location: East edge of site
Taken in 2012

Photo Point 4 – *Photo 2* **Location:** East edge of site
Bearing: Southwest **Taken in 2009**

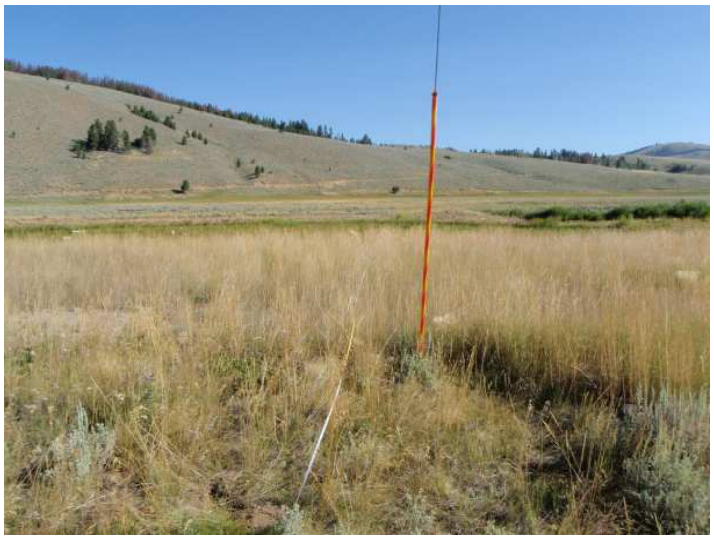
Photo Point 4 – *Photo 2* **Location:** East edge of site
Bearing: Southwest **Taken in 2010**

Photo Point 4 – *Photo 2* **Location:** East edge of site
Bearing: Southwest **Taken in 2011**

Photo Point 4 – *Photo 2* **Location:** East edge of site
Bearing: Southwest **Taken in 2012**

Transect 1 – *Photo 1*
Bearing: North

Location: Start
Taken in 2009



Transect 1 – *Photo 1*
Bearing: North

Location: Start
Taken in 2010

Transect 1 – *Photo 1*
Bearing: North

Location: Start
Taken in 2011

Transect 1 – *Photo 1*
Bearing: North

Location: Start
Taken in 2012

Transect 1 – *Photo 2* **Location:** End
Bearing: South **Taken in 2009**

Transect 1 – *Photo 2* **Location:** End
Bearing: South **Taken in 2010**

Transect 1 – *Photo 2* **Location:** End
Bearing: South **Taken in 2011**

Transect 1 – *Photo 2* **Location:** End
Bearing: South **Taken in 2012**

Transect 2 – *Photo 1*
Bearing: North

Location: Start
Taken in 2009

Transect 2 – *Photo 1*
Bearing: North

Location: Start
Taken in 2010

Transect 2 – *Photo 1*
Bearing: North

Location: Start
Taken in 2011

Transect 2 – *Photo 1*
Bearing: North

Location: Start
Taken in 2012

Transect 2 – *Photo 2*
Bearing: South

Location: North End
Taken in 2009

Transect 2 – *Photo 2*
Bearing: South

Location: North End
Taken in 2010

Photo Unavailable

Transect 2 – *Photo 2*
Bearing: South

Location: North End
Taken in 2012

Transect 3 – *Photo 1*
Bearing: North

Location: Start
Taken in 2009

Transect 3 – *Photo 1*
Bearing: North

Location: Start
Taken in 2010

Transect 3 – *Photo 1*
Bearing: North

Location: Start
Taken in 2011

Transect 3 – *Photo 1*
Bearing: North

Location: Start
Taken in 2012

Transect 3 – *Photo 1* **Location:** End
Bearing: South **Taken in 2009**

Transect 3 – *Photo 1* **Location:** End
Bearing: South **Taken in 2010**

Transect 3 – *Photo 1* **Location:** End
Bearing: South **Taken in 2011**

Transect 3 – *Photo 1* **Location:** End
Bearing: South **Taken in 2012**

Data Point 1 – *Sprt-1*
Bearing:
Location: Community 2
Taken in 2012

Data Point 2 – *Sprt-2*
Bearing:
Location: Community 1
Taken in 2012

Data Point 3 – *Sprt-3*
Bearing:
Location: Community 4
Taken in 2012

Appendix D

Project Plan Sheet

MDT Wetland Mitigation Monitoring
Sportman's Campground
Deer Lodge County, Montana

STATE	PROJECT NUMBER	SHEET NO.
MONTANA	STPP 46-5(21)51	WM8

PT 15+34.14 IS S. 74°51'52" W.
398.46 m FROM THE EN CORNER
OF SECTION 36. T.2 N. , R.13 W.

14+60 TO 15+00
REMOVE BERM
TO CONNECT
WETLANDS

NOTE: MOVE EXISTING TOPSOIL
STOCKPILES TO NEW
STOCKPILE AREA.

PERMANENT FENCE

PI = 13+05.42
Δ = 14° 26' 18"
R = 1,825 m
T = 231.17 m
L = 459.99 m

EXISTING WETLAND
(DO NOT DISTURB)

CONST. LIMITS

398 M² = 0.098 AC.

EXISTING WETLAND

EXISTING WETLAND

ISLAND
902 M² = 0.223 AC.

4039 M² = 1.00 ACRE POND
FLOOR ELEV. 1 764 m

EXISTING TOPSOIL STOCKPILE

TOPSOIL STOCKPILE AREA

TEMPORARY FENCE

PERMANENT FENCE

ISLAND
746 M² = 0.184 AC.

CONST. LIMITS

PWR

EXISTING MDT MAINTENANCE YARD

ISLAND
719 M² = 0.178 AC.

PT 15+34.14

S 76° 01' 25" E

EXISTING TOPSOIL STOCKPILES

STATE ROUTE 43

OUT HOUSE

OUT HOUSE

EXISTING WETLAND

12 13 14 15 16 17 18 19

25 30
36 31

PERMANENT FENCE

TOPSOIL STOCKPILE AREA

9 10

N 89° 32' 17" E

STAGING AREA

TEMPORARY FENCE

PC 10+74.25

OUTLET DT.

LEGEND

- EXISTING WETLAND
- EXISTING TREE
- FENCE
- EXISTING CONTOURS
- TEMPORARILY FLOODED
- ROSE PLANTING
- REMOVE BERM

T. 2 N. R. 13 W.

WETLAND MITIGATION SITE
AND FEATURES

SCALE 1: 1000

	DESIGNED BY
...\a137enplnz01.dgn	DRAWN BY
06 AUG 2003	APPROVED BY
11:00:05	REVISED BY
3 MBohnsen	
2	
1	

mten\a137enplnz01.dgn