MONTANA DEPARTMENT OF TRANSPORTATION
WETLAND MITIGATION MONITORING REPORT: YEAR 2010

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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MORRISON MAIERLE, INC.
An Employee-Owned Company

December 2010

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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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1. INTRODUCTION

The Sportsman's Campground Wetland Mitigation 2010 Monitoring Report documents the third 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). 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 the MDT's Sportsman's Campground East and Dickie Bridge, Wise River, reconstruction projects (PBS&J 2009). Wetland impacts associated with these two MDT road projects totaled 14.36 acres, with an additional 0.18 acre of impact to existing wetlands that occurred during the mitigation project construction (PBS&J 2009).

The project is located on MDT land adjacent to Montana State Highway 43, approximately 13 miles west of Wise River, Montana (Figure 1). The legal description is 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 mapped site features and monitoring activity locations, respectively. Appendix B contains the Mitigation Monitoring Forms, the US Army Corps of Engineers (USACE) Routine Wetland Determination Data Forms (Environmental Laboratory 1987), and the MDT Functional Assessment Forms. Appendix C contains relevant photographs and Appendix D includes the project plan sheet.

The 27.2-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. A project plan sheet is provided in Appendix D. The mitigation area is hydrologically connected via groundwater to the nearby Big Hole River located south of Highway 43. Additional seasonal groundwater recharge occurs as a result of snowmelt from the nearby Pintlar Mountain Range located north of the site.

Wetland habitat developed in two areas within the project site as result of gravel mining activities prior to implementation of the mitigation project. The MDT will receive credit for the pre-existing 1.31 acre open water pond with an emergent/scrub-shrub fringe and the pre-existing 0.66 acre emergent marsh wetland located south of the pond area. Target wetland communities developed as part of mitigation include open water/aquatic bed, scrub/shrub, and shallow marsh/wet meadow.

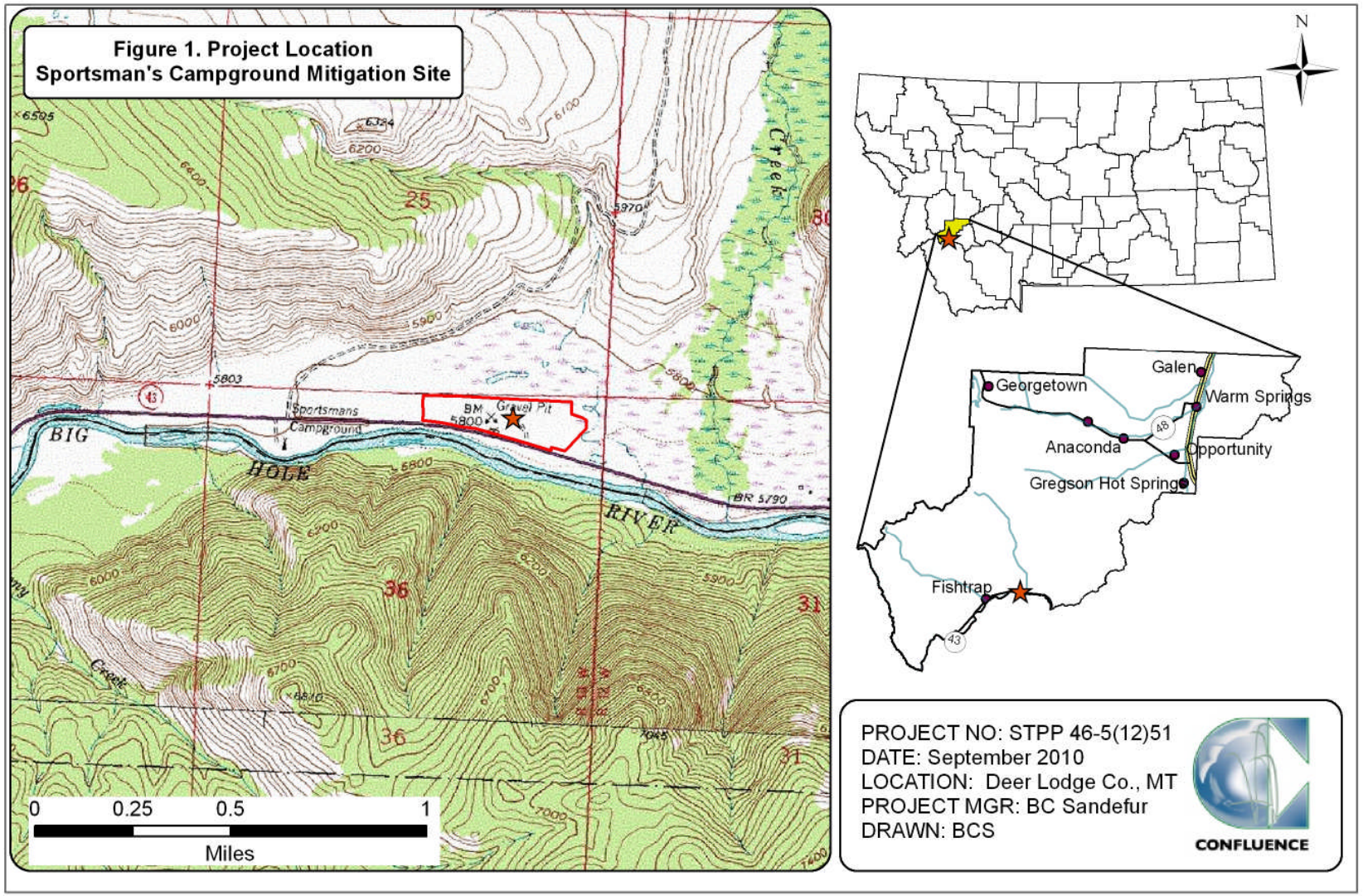


Figure 1. Project Location Sportsman's Campground Mitigation Site.

2. METHODS

The site was visited on August 20, 2010. Information contained on the Wetland Mitigation Site Monitoring Form and the USACE Wetland Determination Data Form was entered electronically in the field on a personal digital assistant (PDA) palmtop computer during the field investigation (Appendix B). Monitoring activity locations were mapped using a global positioning system (GPS) (Figure 2, Appendix A). Information collected included: wetland delineation, vegetation community mapping, vegetation transect monitoring, soil data collection, hydrology data collection, bird and wildlife use documentation, photographs, and a non-engineering examination of the infrastructure established within the mitigation project area.

2.1. Hydrology

Technical criteria for wetland hydrology guidelines have been established as "permanent or periodic inundation, or soil saturation within 12 inches of the ground surface for a significant period (usually 14 days or more or 12.5 percent) during the growing season" (Environmental Laboratory 1987). Systems with continuous inundation or saturation for greater than 12.5 percent of the growing season are considered 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).

Hydrological indicators as outlined on the USACE wetland determination data form were documented at four data points (Sprt-1 through Sprt-4) established within the project area. Hydrologic indicators were evaluated according to features observed during the site visit. The data were recorded on electronic field data sheets (Appendix B). Hydrologic assessments allow evaluation of mitigation goals addressing inundation/saturation requirements.

There were no groundwater monitoring wells 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 data form (Appendix B).

2.2. Vegetation

The boundaries of general dominant species-based vegetation communities were determined in the field during the active growing season and subsequently delineated on aerial photographs. The percent cover of dominant species within a community type was estimated and recorded using the following ranges that are listed verbatim on the monitoring forms: 0 (<1 percent), 1 (1-5 percent), 2 (6-10 percent), 3 (11-20 percent), 4 (21-50 percent), and 5 (>50 percent) (Appendix B).

Temporal changes in vegetation were evaluated through annual assessments of static belt transects (Figure 2, Appendix A). Vegetation composition was

assessed and recorded along 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 locations were recorded with a GPS unit. Spatial changes in the dominant vegetation communities were recorded along the stationed transect. 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 aerial photograph (Figure 3,Appendix B). The base map for the aerial photograph was flown on July 15, 2010. Photographs were taken at the endpoints of the transect during the monitoring event (Pages C-4 through C-6, Appendix C). No woody species were planted at the site.

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 "+", "▲", 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 USACE wetland determination 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 USACE delineation manual. In order to delineate a representative area as wetland, the technical criteria for hydrophytic vegetation, hydric soil, and wetland hydrology, as described in the 1987 Manual, must be satisfied. The indicator status of vegetation was derived from the National List of Plant Species that Occur in Wetlands: Northwest Region 9 (Reed 1988). A Routine Level-2 Onsite Determination Method (Environmental Laboratory 1987) was used to delineate wetland areas within the project boundaries. The information was recorded electronically on the USACE 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 Interim Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (USACE 2010b) was not required.

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

2.5. Wildlife

Observations and other positive indicators of use of mammal, reptile, amphibian, and bird species were recorded on the wetland 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 for the site was compiled.

2.6. Functional Assessment

The 2008 MDT Montana Wetland Assessment Method (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 provides a means of assessing mitigation success based on wetland functions. Functions are 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 2008 revision of the 1999 method refines ratings for some wetland functions, land management, and fish and wildlife habitat.

Field data for this assessment were collected during the site visit. One Functional Assessment Form was completed for the entire mitigation wetland area (Appendix B).

2.7. Photo Documentation

Monitoring at photo points provides supplemental information documenting wetland condition, trends, current land use surrounding the site, the upland buffer, the monitored area, and the vegetation transects. Photographs were taken at established photo points throughout the mitigation site and transect end points during the site visit (Pages C-1 to C-6, Appendix C). Photo point locations were recorded with a sub-meter 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 2010 monitoring season. Points were collected

using WAAS-enabled differential corrected satellites, typically improving resolution to sub-meter accuracy. The collected data were then transferred to a personal computer, exported into GIS, and drawn in Montana State Plane Single Zone NAD 83 meters. In addition to GPS, some site features within the site were hand-mapped onto an aerial photograph and then digitized. Site features and survey points that were mapped included fence boundaries, photograph points, transect beginnings and endings, wetland boundaries, and vegetation community boundaries.

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 is a cursory examination and did not constitute an engineering-level structural inspection.

3. RESULTS

3.1. Hydrology

The frost-free period defined for the geographic area is 30 to 70 days (USDA 2010). Areas defined as wetlands would require a minimum of 4 days of inundation or saturation within 12 inches of the ground surface to meet the hydrology criteria.

The average total annual precipitation recorded from May 1943 to April 2010 at the Wise River 3 WNW meteorological station (249082) was 11.66 inches (Western Regional Climate Center [WRCC] 2010). The precipitation total for 2009 was 10.57 inches. Monthly totals from January through May of 2009 were 3.29 inches. The total was 4.61 inches for the same period in 2010.

Inundation depths in the open water cells during the August 2010 monitoring event ranged from 0 to 3 feet with an average depth of 1 foot (Monitoring Form, Appendix B). The water depth at the emergent vegetation-open water boundary was 2 feet (Figure 3, Appendix A). Approximately 20 percent of the site was inundated. Open water areas encompassed approximately 4.2 acres with the site boundaries (Figure 3, Appendix A).

The four data points (Sprt-1 through Sprt-4 on Figure 2, Appendix A) were located within areas that met the wetland criteria. Data points Sprt-1 and Sprt-2 exhibited a water table 12 inches below the ground surface (bgs) and also saturation 3 inches and 8 inches bgs, respectively. Data point Sprt-3, located in the center of the north boundary, showed water marks, a primary indicator of wetland hydrology. Sample point Sprt-4, located in the southeast corner of the site, was saturated within 12 inches of the soil surface and also exhibited oxidized rhizospheres along living roots as a secondary indicator.

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 adjacent

rangelands. Isolated stands of lodgepole pine (*Pinus contorta*) occur along the south boundary of the site.

Sixty-seven plant species have been identified onsite from 2008 through 2010 (Table 1). Wetland communities began to develop across a majority of the site in 2009 (PBS&J 2009). The areas with emergent species typically exhibited a minimum of four inches of topsoil over cobbles and gravels. Bare areas had little or no topsoil.

Table 1. Vegetation species observed from 2008 to 2010 at the Sportsman's Campground Wetland Mitigation Site.

Scientific Names	Common Names	Region 9 Indicator Status[1]
Achillea millefolium	yarrow,common	FACU
Agropyron dasystachyum	wheatgrass,thick-spike	FACU-
Agropyron repens	**quackgrass**	FACU
Agropyron spicatum	wheatgrass,blue-bunch	FACU-
Agropyron trachycaulum	wheatgrass,slender	FAC
Agrostis alba	redtop	FACW
Agrostis stolonifera	**bentgrass,spreading**	FAC+
Alopecurus aequalis	**foxtail,short-awn**	OBL
Alopecurus pratensis	foxtail,meadow	FACW
Artemisia tridentata	sagebrush, big	NL
Bassia hirsuta	**smother-weed,hairy**	NI
Beckmannia syzigachne	sloughgrass,American	OBL
Bromus inermis	brome, smooth	NL
Bromus japonicus	**brome, Japanese**	FACU
Calamagrostis canadensis	reedgrass,blue-joint	FACW+
Carex athrostachya	sedge,slender-beak	FACW
Carex nebrascensis	sedge,Nebraska	OBL
Carex prionophylla	sedge,saw-leaf	FACW
Carex rostrata (utriculata)*	beaked sedge	OBL (NL)
Carex vesicaria	sedge,inflated	OBL
Centaurea maculosa	spotted knapweed	NL
Cirsium arvense	thistle,creeping	FACU+
Eleocharis palustris	spikerush,creeping	OBL
Epilobium angustifolium	**fireweed**	FACU+
Epilobium ciliatum	**willow-herb,hairy**	FACW-
Equisetum arvense	horsetail,field	FAC
Equisetum hyemale	**horsetail,rough**	FACW
Festuca pratensis	**fescue,meadow**	FACU+
Glyceria elata	**grass,tall manna**	FACW+

[1]Region 9 (Northwest) (Reed 1988).
New species identified in 2010 are show in **bold** type.
*Commonly accepted name not included on 1988 list.

Table 1. (Continued). Vegetation species observed from 2008 to 2010 at the Sportsman's Campground Wetland Mitigation Site.

Scientific Names	Common Names	Region 9 Indicator Status[1]
Glyceria grandis	**mannagrass, American**	NL
Glycyrrhiza lepidota	licorice,American	FAC+
Hordeum jubatum	barley,fox-tail	FAC+
Iva axillaris	**sumpweed,small-flower**	FAC
Juncus balticus	rush,Baltic	OBL
Juncus effusus	**rush,soft**	FACW+
Kochia scoparia	summer-cypress,Mexican	FAC
Lepidium perfoliatum	**pepper-grass,clasping**	FACU+
Linaria vulgaris	**toadflax, yellow**	NL
Lupinus wyethii	**lupine, Wyeth's**	NL
Lychnis alba	**campion, bladder**	NL
Melilotus officinalis	sweetclover,yellow	FACU
Mentha arvensis	**mint,field**	FAC
Phleum pratense	timothy	FACU
Pinus contorta	pine,lodge-pole	FAC-
Plantago major	**plantain,common**	FAC+
Poa pratensis	bluegrass,Kentucky	FACU+
Polemonium acutiflorum	**jacob's-ladder,sticky tall**	NI
Polygonum amphibium	smartweed,water	OBL
Populus balsamifera (trichocarp	cottonwood, black	FAC (NL)
Potamogeton filiformis	**pondweed,fine-leaf**	OBL
Potentilla anserina	**silverweed**	OBL
Potentilla fruticosa	**cinquefoil,shrubby**	FAC-
Ratibida columnifera	**coneflower, yellow prairie**	NL
Rumex crispus	dock,curly	FACW
Salix exigua	willow,sandbar	OBL
Salix lemmonii	willow, Lemmon's	FACW+
Scirpus acutus	bulrush,hard-stem	OBL
Scirpus microcarpus	**bulrush,small-fruit**	OBL
Sisymbrium altissimum	**mustard,tall tumble**	FACU-
Spiranthes romanzoffiana	ladies'-tresses,hooded	OBL
Taraxacum officinale	**dandelion,common**	FACU
Thlaspi arvense	penny-cress,field	NI
Tragopogon dubius	**yellow salsify**	NL
Trifolium pratense	**clover,red**	FACU
Trifolium repens	**clover,white**	FACU+
Triglochin maritimum	**arrow-grass,seaside**	OBL
Typha latifolia	cattail,broad-leaf	OBL

[1]Region 9 (Northwest) (Reed 1988).
New species identified in 2010 are show in **bold** type.
*Commonly accepted name not included on 1988 list.

Mapped vegetation community types were based on topography, hydrology, and plant composition. Four wetland communities, one upland community, and one transitional community were identified in 2009: Type 1-*Carex / Juncus* Wetland; Type 2 – Upland; Type 3 – Transitional; Type 4 – *Salix* Wetland; Type 5 – *Hordeum* / *Eleocharis* Wetland; and Type 6 – *Beckmannia* Wetland.

Vegetation communities identified in 2010 were similar to those mapped in 2009 and reflected a continuing transition to wetland species. Rooted and floating vegetation species indicative of aquatic bed habitat were propagating in some open water ponds. The 2010 vegetation communities named for the dominant species based on percent cover were Type 1 – *Carex* spp./*Eleocharis palustris* Wetland; Type 2 – *Artemisia tridentata*/*Agropyron* spp. Upland.; Type 3 – *Eleochais palustris* Wetland; Type 4 – *Salix* spp. Wetland; Type 5 – *Eleocharis palustris*/*Hordeum jubatum* Wetland; Type 6 – *Beckmannia syzigachne*/*Carex* spp. Wetland; and Type 7 – *Populus trichocarpa*/*Salix* spp. Wetland. The open water category (polygon 8 on Figure 3, Appendix A) was characterized by depressions with one to three feet of water and low vegetative cover. Green algae was observed on the water surface. Unvegetated cobble/gravel areas (C/G) constructed without topsoil were also mapped. Community types, open water areas, and cobble/gravel areas are mapped on Figure 3 (Appendix A) and are described on the Monitoring Forms (Appendix B).

Wetland community Type 1 – *Carex* spp./*Eleocharis palustris* was located in the southeast corner of the site in an area with a high percent of vegetation cover. The community was primarily dominated by beaked sedge (*Carex utriculata*), short-beaked sedge (*Carex athrostachya*), creeping spikerush *(Eleocharis palustris*), tall mannagrass (*Glyceria grandis*), and Lemmon's willow (*Salix lemmonii*). The cover of creeping spikerush increased and the cover of rush species (*Juncus* spp.) decreased from 2009 to 2010.

Wetland community Type 3 – *Eleocharis palustris* formed in the transition area southwest of the large center open water cell and in the southeast corner of the project. Creeping spike rush and Lemmon's willow dominated the plant species. Bare ground encompassed 21 to 50 percent of total cover. This community transitioned from upland to wetland in 2010.

Wetland community Type 4 – *Salix* spp. dominated by woody species was identified in the wetland fringe of several open water areas and in the well-developed wetland in the north central portion of the site. Sandbar willow (*Salix exigua*), Lemmon's willow, creeping spikerush, and beaked sedge were the predominant species.

Wetland community Type 5 – *Eleocharis palustris*/*Hordeum jubatum* formed in wetland areas adjacent to Type 4 and at the edge of inundated cells. The species composition was dominated by creeping spikerush, foxtail barley (*Hordeum jubatum*), and Lemmon's willow.

Wetland community Type 6 – *Beckmannia syzigachne*/*Carex* spp. was identified in wetland located at the east boundary, characterized by American sloughgrass (*Beckmannia syzigachne*), beaked sedge, short-beaked sedge, and foxtail barley.

Wetland community Type 7 – *Populus trichocarpa*/*Salix* spp. located near the center of the site was dominated by woody species including black cottonwood (*Populus trichocarpa*), Lemmon's willow, sandbar willow, creeping spikerush, short beaked sedge, blister sedge (*Carex vesicaria*), Baltic rush (*Juncus balticus*), and beaked sedge.

Upland community Type 2 – *Artemisia tridentata*/*Agropyron* spp. was identified in the upland islands in the center of the wetland cells and on the south edge of the project. The cover was herbaceous and dominated by big sage (*Artemisia tridentata*), slender wheatgrass (*Agropyron trachycaulum*), thickspike wheatgrass (*Agropyron dasystachyum*), blue bunch wheatgrass (*Agropyron spicatum*), redtop (*Agrostis alba*) and less than five percent cover of numerous other grasses and forbs.

Plant species composition was measured on three transects (T-1, T-2, and T-3) from 2008 to 2010. Transect 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*/*Agropyron* spp., wetland Type 3 – *Eleocharis palustris* with 21 to 50 percent bare ground, and wetland Type 5 – *Eleocharis palustris/Hordeum jubatum* (Table 2; Charts 1 and 2). Transect results are detailed on the Monitoring Form (Appendix B). Photographs of the Transect 1 end points are shown on pages C-4 and C-5 of Appendix C. Hydrophytic species dominated approximately 59.3 percent of the plant communities identified on T-1. The transect did not intersect open water. The 116 foot interval identified as mudflat in 2008 and transitional in 2009 developed into Type 5 wetland in 2010.

The data reported from 2008 and 2009 in Table 2 and Charts 1 and 2 was taken from the 2009 Sportsman's Campground Wetland Mitigation Monitoring Report (PBS&J 2009). The 2009 interval data for the category "% Transect Length Comprising Hydrophytic Vegetation Communities" appears to have been calculated incorrectly based on the 2009 Charts 1 and 2 and the monitoring forms. The percent transect length comprising hydrophytic communities on Transect 1 for 2009 was re-calculated to be 69.3 percent rather than the 73 percent reported based on the assumption that Type 5 was the only wetland type on the interval in 2009. The percent of the transect length consisting of hydrophytic communities identified in 2010 is 59.3 percent, an increase of 23.2 percent from 2009 to 2010. The communities identified as transition in 2009 developed into wetland in 2010.

Table 2. Data summary for Transect 1 from 2008 to 2010 at the Sportsman's Campground Mitigation Site.

Monitoring Year	2008	2009	2010
Transect Length (feet)	391	391	391
Vegetation Community Transitions along Transect	4	3	3
Vegetation Communities along Transect	4	3	3
Hydrophytic Vegetation Communities along Transect	1	2	2
Total Vegetative Species	14	15	32
Total Hydrophytic Species	5	6	14
Total Upland Species	9	9	18
Estimated % Total Vegetative Cover	50	65	65
% Transect Length Comprising Hydrophytic Vegetation Communities	34	69.3	59.3
% Transect Length Comprising Upland Vegetation Communities	37	37	40.7
% Transect Length Comprising Unvegetated Open Water	0	0	0.0
% Transect Length Comprising Bare Substrate	29	0	0.0

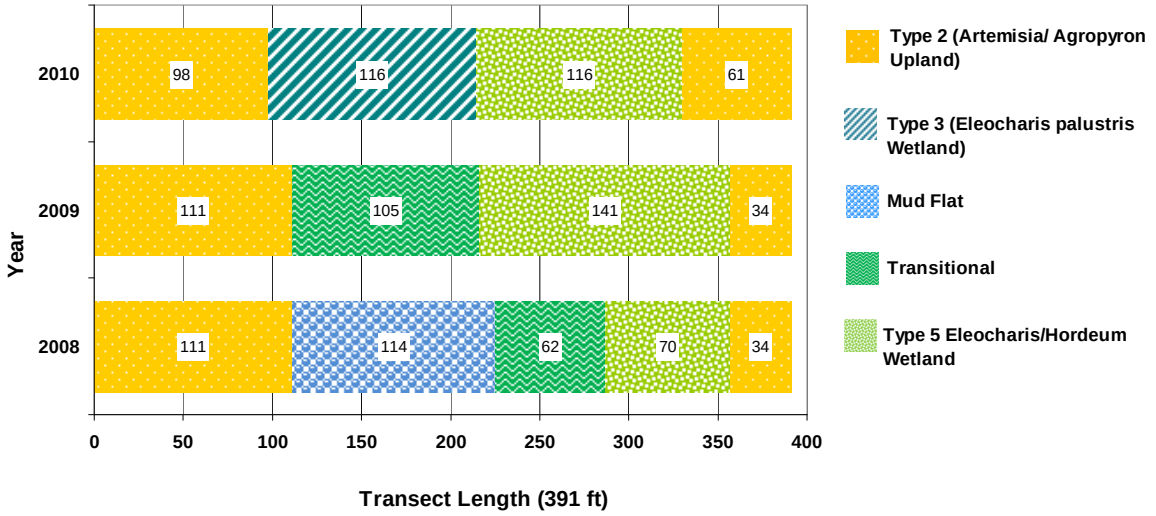


Chart 1. Transect maps showing vegetation types on Transect 1 from start (0 feet) to end (391 feet) from 2008 to 2010.

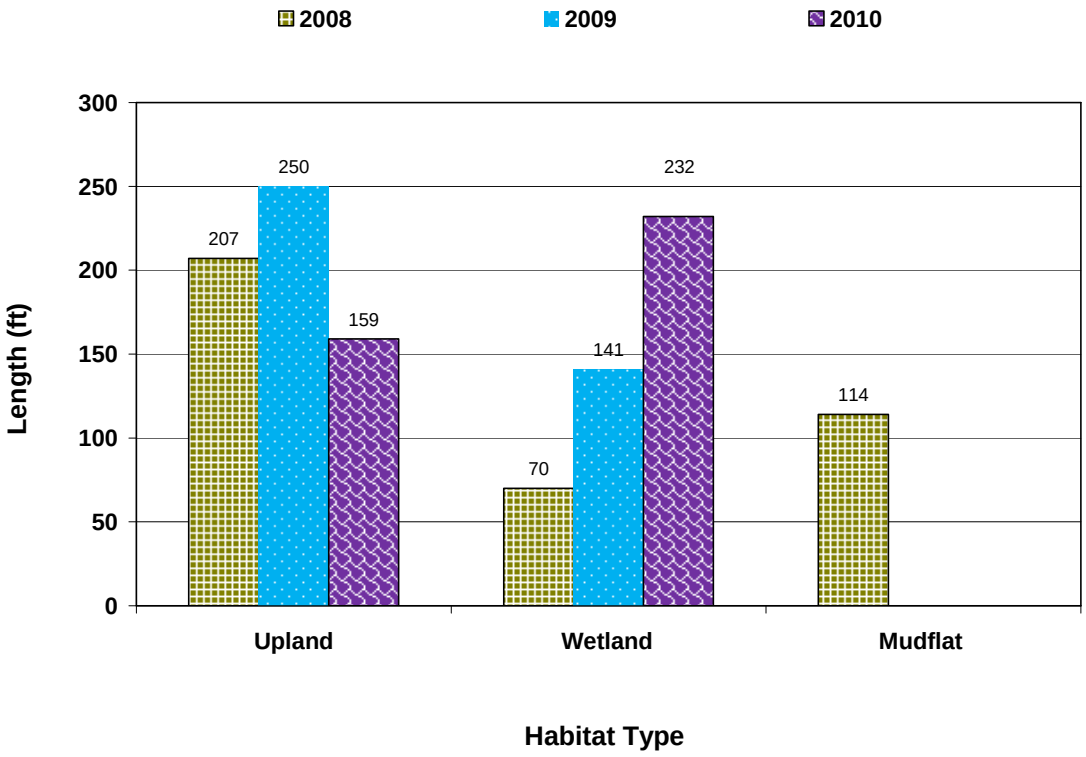


Chart 2. Length of habitat types within Transect 1 from 2008 to 2010.

Transect 2 was established south to north in the east half of the mitigation area (Figure 2, Appendix A). The transect encompassed Type 2 upland, Type 1 wetland, Type 5 wetland and open water. Approximately 65.8 percent of the intervals encompassed hydrophytic vegetation communities, an increase of 9.8 percent from 2009. Transect details are summarized and graphed on Table 3 and Charts 3 and 4. Photographs of the Transect 2 end points are shown on page C-5 of Appendix C.

Transect 3 was located south to north at the center of the mitigation area. This transect encompassed Type 7, a pre-existing wetland. Transect 3 intercepted communities Type 2 – Upland, Type 5 – Wetland, and Type 7 – Wetland. Approximately 79 percent of the transect intercepted hydrophytic plant communities, a slight increase from 2009. Transect details are shown on Table 4 and Charts 5 and 6 (Monitoring Forms, Appendix B). Photographs of the Transect 3 end points are shown on page C-6 of Appendix C.

Table 3. Data summary for Transect 2 from 2008 to 2010 at the Sportsman's Campground Mitigation Site.

Monitoring Year	2008	2009	2010
Transect Length (feet)	**400**	**400**	**400**
Vegetation Community Transitions along Transect	3	3	5
Vegetation Communities along Transect	3	3	3
Hydrophytic Vegetation Communities along Transect	2	2	2
Total Vegetative Species	14	15	25
Total Hydrophytic Species	9	10	19
Total Upland Species	5	5	6
Estimated % Total Vegetative Cover	30	45	50
% Transect Length Comprising Hydrophytic Vegetation Communities	56	56	65.8
% Transect Length Comprising Upland Vegetation Communities	2	2	2.3
% Transect Length Comprising Unvegetated Open Water	42	42	32.0
% Transect Length Comprising Bare Substrate	0	0	0.0

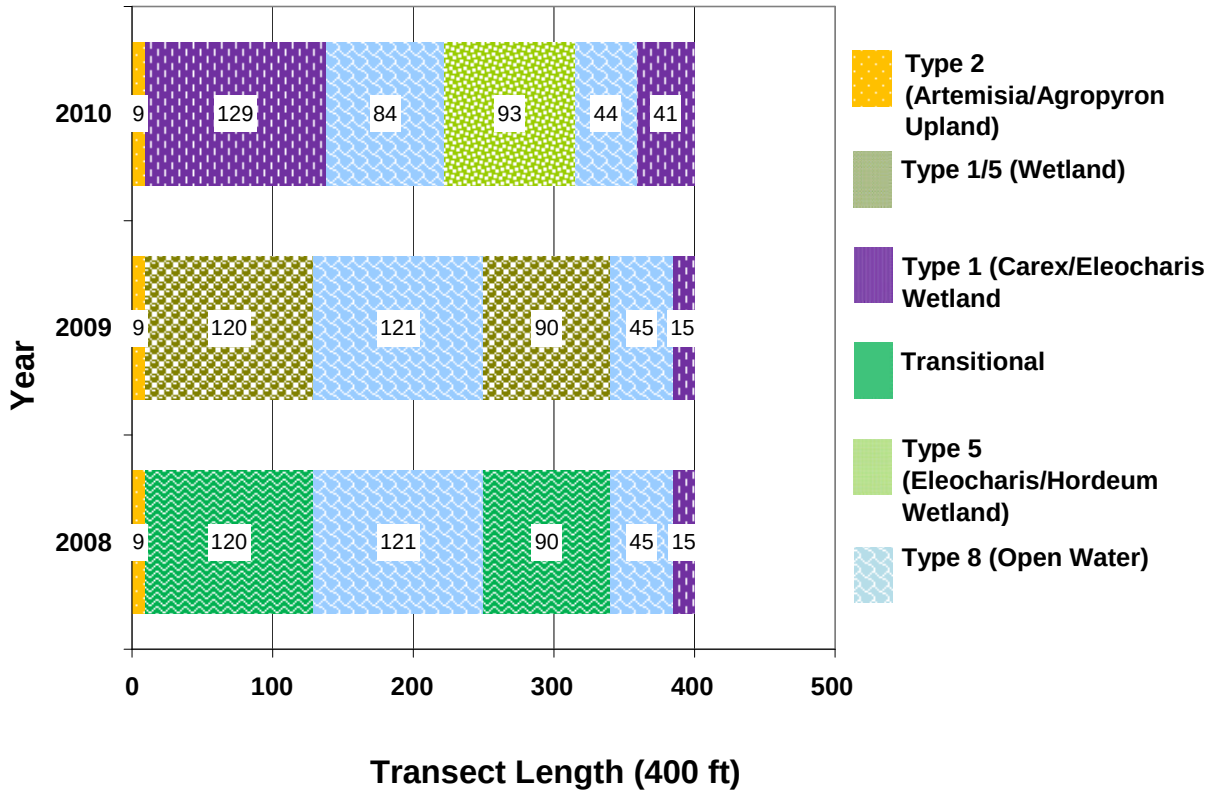


Chart 3: Transect maps showing vegetation types on Transect 2 from start (0 feet) to end (400 feet).

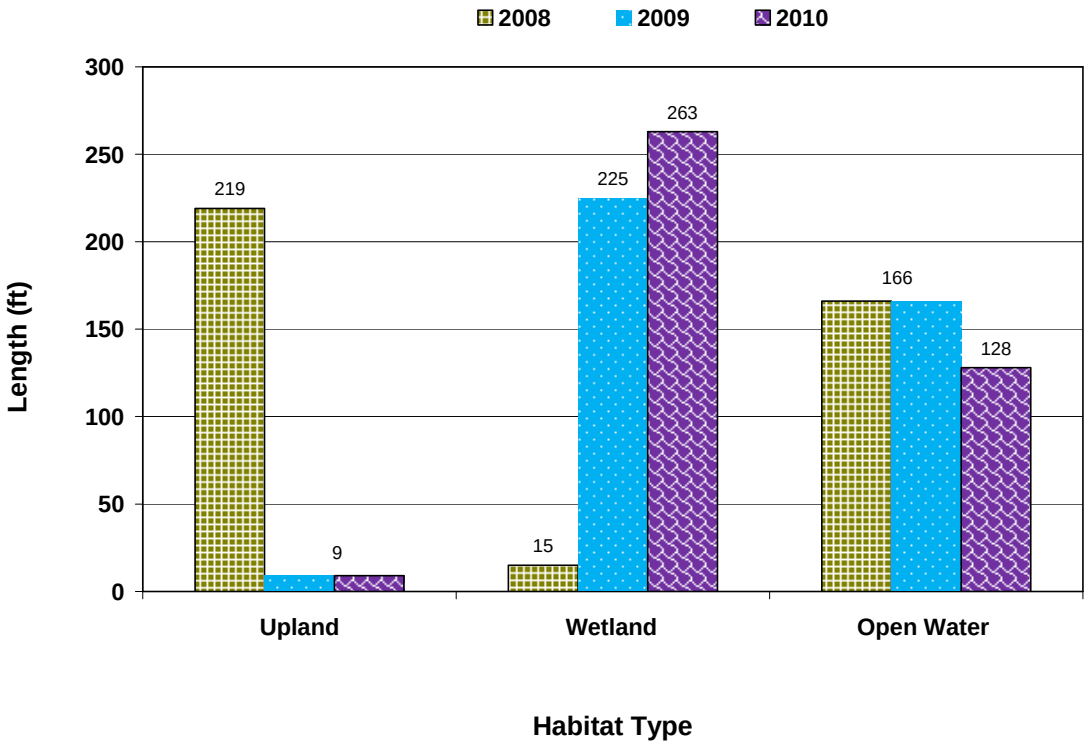


Chart 4. Length of habitat types within Transect 2 from 2008 to 2010.

Table 4. Data summary for Transect 3 from 2008 to 2010 at the Sportsman's Campground Mitigation Site.

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

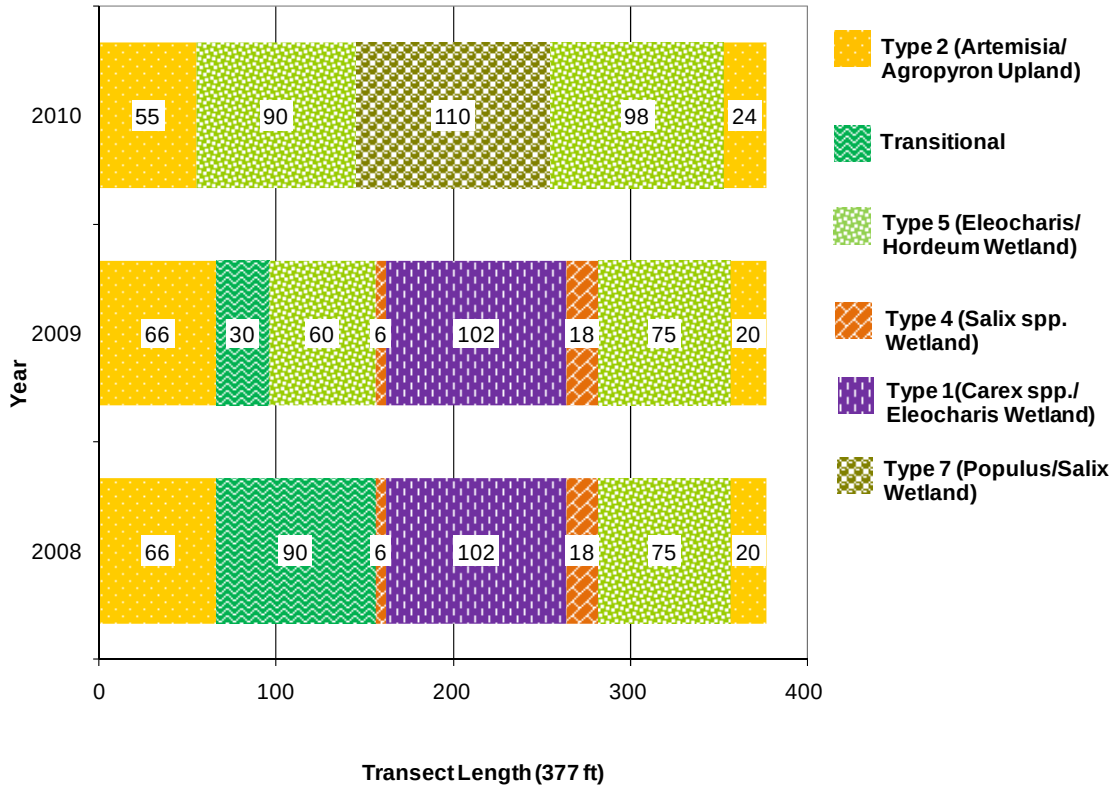


Chart 5. Transect maps showing vegetation types on Transect 3 from start (0 feet) to end (377 feet) from 2008 to 2009.

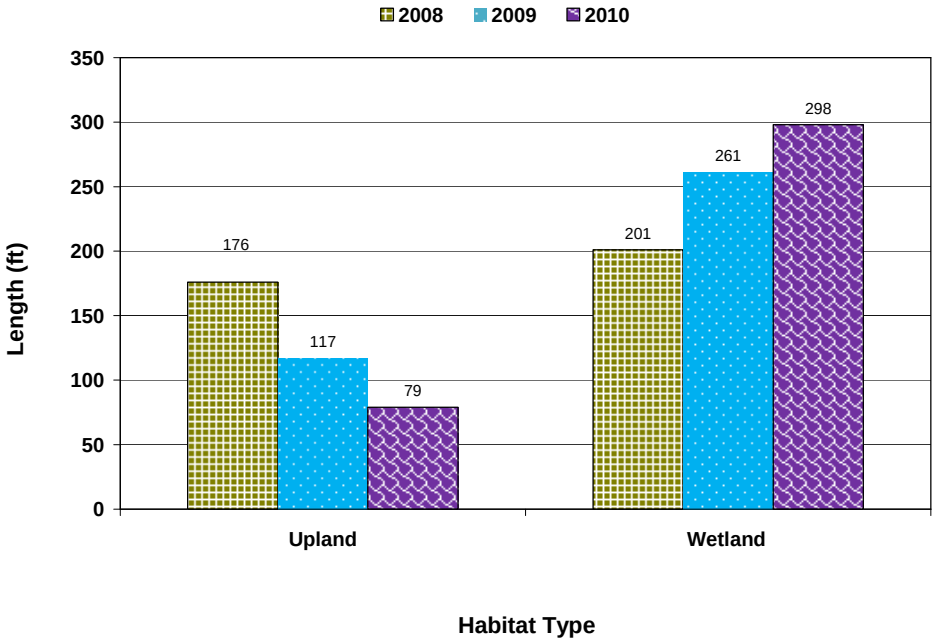


Chart 6. Length of habitat types within Transect 3 from 2008 to 2010.

Four infestations of common toadflax (*Linaria vulgaris*), each encompassing less than 0.1 acre and comprising 1 to 5 percent of the total cover in the area, were identified during the 2010 investigation (Figure 3, Appendix A). The common toadflax infestations were located in the outside perimeter of the site. One infestation of spotted knapweed (*Centaurea maculosa*) located in the southwest corner of the site was recorded in 2010. The areal extent was less than 0.1 acre and the cover was low (1 to 5 percent). Both invasive species are classified as Category 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 slope (USDA 2010). The Maurice series are deep, well-drained soils formed in alluvium or outwash. This non-hydric soil is classified as a loamy-skeletal, mixed, superactive Ustic Haplocryolls. A thin layer of salvaged topsoil was placed across some of the project area following construction. Other areas received no topsoil treatment. Polygons designated as "C G" on Figure 3 (Appendix A) represent areas of unvegetated cobble and gravel with no topsoil treatment.

The soil in test pit Sprt-1 was a loamy, sandy gravel (10 YR 4/2) with redoximorphic concentrations (10 YR 5/6) in the matrix. The clay loam soil (10 YR 2/1) at Sprt-2 contained redox concentrations (10 YR 4/4) in the matrix. The soil profile at Sprt-3 revealed a clay loam (10 YR 5/2) with redox concentrations (10 YR 4/3) in the matrix. Data point Srpt-4 exposed a silt loam (10 YR 4/1) with redox concentrations (10 YR 3/6) in the pore lining. The low chroma and/or concretions provided positive indicators of hydric soil. The site has been historically disturbed. The test pit soils did not confirm the mapped soil units.

3.4. Wetland Delineation

The 2008 monitoring event delineated 0.66 acre of wetland and 1.31 acres of open water that developed within the monitoring boundaries prior to the mitigation construction (PBS&J 2009).

The 2010 wetland delineation identified 11.74 acres of created wetlands (Table 5). Open water defined by water depths ranging from 1 to 3 feet and minor amounts of green algae covered 4.2 acres. Approximately 17.91 acres of wetlands and open water have developed within the mitigation boundaries to date. The upland buffer and islands encompassed 6.93 acres. The unvegetated cobble and gravel areas totaled 1.17 acres. The acreage of created wetland increased 4.35 acres from 2009 to 2010. The open water area expanded by 0.5 acre.

Table 5. Acreages for wetlands, open water, and landforms within the Sportsman's Campground Wetland Mitigation Site from 2008 to 2010.

Wetland and Open Water	2008	2009	2010
Pre-existing wetland	0.66	0.66	0.66
Created wetland	4.81	7.39	11.74
Pre-existing open water	1.31	1.31	1.31
Created open water	3.84	3.70	4.20
TOTAL	10.62	13.06	17.91
Landform	2008	2009	2010
Transitional areas	3.48	2.46	NI
Mudflat	0.85	0.00	NI
Unvegetated cobble/gravel	1.23	1.06	1.17
Upland	7.82	7.51	6.93

NI – Not identified in 2010.

3.5. Wildlife

Twelve bird species were observed during monitoring including the belted kingfisher (*Megacerle alcyon*), blue-winged teal (*Anas discors*), Canada goose (*Branta canadensis*), common nighthawk (*Chordeiles minor*), Wilson's snipe (*Gallinago delicate*), gray catbird (*Dumetella carolinensis*), great blue heron (*Ardea herodias*), killdeer (*Charadrius vociferous*), mallard (*Anas platyrhynchos*), song sparrow (*Melospiza melodia*), western sandpiper (*Calidris mauri*), and Wilson's phalarope (*Phalaropus tricolor*). Columbia spotted frogs and white-tailed deer were observed. Tracks of pronghorn antelope and raccoon and Richardson's ground squirrel burrows were noted.

3.6. Functional Assessment

The MDT project files indicated 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 1999 assessment forms for the initial evaluation were not made available (PBS&J 2009). The 2008 through 2010 wetland functions and values were assessed using the 2008 Montana Wetland Assessment Method (Berglund and McEldowney 2008) (Functional Assessment Form, Appendix B).

Table 6. Wildlife species observed at the Sportsman's Campground Wetland Mitigation Site from 2008 to 2010.

COMMON NAMES	SCIENTIFIC NAMES
AMPHIBIAN	
Columbia spotted frog	***Rana luteiventris***
BIRD	
American Wigeon	*Anas americana*
Belted Kingfisher	***Megaceryle alcyon***
Blue-winged Teal	*Anas discors*
Canada Goose	***Branta canadensis***
Cliff Swallow	*Petrochelidon pyrrhonota*
Common Nighthawk	***Chordeiles minor***
Dark-eyed Junco	*Junco hyemalis*
Gray Catbird	***Dumetella carolinensis***
Great Blue Heron	*Ardea herodias*
Killdeer	*Charadrius vociferus*
Mallard	*Anas platyrhynchos*
Mourning Dove	*Zenaida macroura*
Song Sparrow	***Melospiza melodia***
Sparrow Spp.	
Spotted Sandpiper	*Actitis macularius*
Western Sandpiper	***Calidris mauri***
Wilson's Phalarope	*Phalaropus tricolor*
Wilson's Snipe	*Gallinago delicata*
MAMMAL	
Badger	*Taxidea taxus*
Deer Spp.	
Moose	*Alces americanus*
Muskrat	*Ondatra zibethicus*
Pronghorn	***Antilocapra americana***
Raccoon	***Procyon lotor***
Richardson's Ground Squirrel	***Spermophilus richardsonii***
White-tailed Deer	***Odocoileus virginianus***

Species first identified in 2010 are listed in **bold** type.

The 15.93-acre AA encompassed only the constructed wetland and constructed open water areas. The AA was rated as a Category II wetland with 65.56 percent of the possible total score, an increase of 6.56 percent over 2009. The 2010 functional points were higher for the Montana Natural Heritage Program

(MTNHP) Species Habitat and Sediment Shoreline Stabilization categories. The site provided incidental habitat in 2010 for bald eagle, an S3 species, which increased the functional points. The percent vegetation cover increased on the shoreline of the open water areas from 2009 to 2010, raising the rating from low to moderate. Ratings were high for General Wildlife Habitat, Short and Long Term Surface Water Storage, Production Export/Food Chain Support, Groundwater Discharge/Recharge, and Recreation/Education Potential.

Table 7. Summary of 2008 to 2010 wetland function/value ratings and functional points at the Sportsman's Campground Wetland Mitigation Site.

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

3.7. Photo Documentation

Photographs taken of photo points one through four (PP1 through PP4, Figure 2, Appendix A) in 2009 and 2010 are shown on pages C-1 through C-4 of Appendix C. Transect end points taken in 2009 and 2010 are shown on pages C-4 to C-6 of Appendix C and photos of data points Sprt-1 through Sprt-4 are included on pages C-5 and C-6 of Appendix C.

3.8. Maintenance Needs

There are no man-made water level control features on this site. The project perimeter is fenced with standard barbed wire that was in good condition. Areas identified as unvegetated cobbles and gravel (C/G) were intentionally left open for the purpose of providing shore bird nesting habitat (Figure 3, Appendix A).

Four infestations of common toadflax were identified during the 2010 investigation (Figure 3, Appendix A). One infestation of spotted knapweed (*Centaurea maculosa*) located in the southwest corner of the site was recorded in 2010. This site was sprayed for weeds this summer by a contractor for MDT. A

continuation of the use of mechanical and chemical controls will be necessary to prevent noxious weeds from spreading to other areas.

3.9. Current Credit Summary

The USACE and MDT approved a credit ratio of 1:1 for created wetlands, open water, and pre-existing wetlands according to MDT correspondence (PBS&J 2009). Wetland impacts 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 mitigation site to compensate for the highway construction impacts.

Table 8. Estimated credit acres in 2010 for Sportsman's Campground Mitigation Site.

Wetland and Open Water	2010 Delineated Acres	Credit Ratio	2010 Estimated Credit Acres
Pre-existing wetland	0.66	1:1	0.66
Created wetland	11.74	1:1	11.74
Pre-existing open water	1.31	1:1	1.31
Created open water	4.20	1:1	4.20
TOTAL	17.91		17.91

The Sportsman's Campground mitigation site currently encompasses 11.74 acres of created Class II wetland, 4.2 acres of created open water, and 1.97 acres of pre-existing wetland and open water created before mitigation site construction. The total of 17.91 acres of aquatic habitat exceeds the projected goal of 15.6 acres.

4. REFERENCES

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Reed, P.B. 1988. *National list of plant species that occur in wetlands: North West (Region 9)*. Biological Report 88(26.9), May 1988. U.S. Fish and Wildlife Service, Washington, DC.

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Appendix A

Figures 2 and 3

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

Figure 2: 2010 Monitoring Activity Locations

N

0 125 250 500

Feet

T-1 End
Sprt-2
PP2
Sprt-1
T-3 End
Sprt-3
PP3
T-2 End
T-1 Start
PP1
T-3 Start
PP4
State Route 43
Sprt-4
T-2 Start
Big Hole River

Legend

- Vegetation Transect
- Monitoring Limits
- DataPoints
- PhotoPoints

Base Photography Date: July 15, 2010

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 THAT 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/Monitor2010.mxd

Project Name: Sportsmans Campground Wetland Mitigation

Drawing Title: 2010 Monitoring Activity Locations

DRAWN	CHECKED	APPROVED
BCS	BV	XXX

SCALE: Noted

Drawn: September 23, 2010

PROJ MGR: B Sandefur

CONFLUENCE consulting incorporated

Figure 2

REV -

Figure 3: 2010 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 THAT THE ORIGINAL. ANY OTHER USE IS AT THE USER'S SOLE RISK.

State Route 43

Big Hole River

Legend

- Monitoring Limits
- Wetland Limits
- Open Water
- Vegetation Communities

Base Photography Date: July 15, 2010

Noxious Weeds

Centaurea maculosa

Linaria vulgaris

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/Agropyron spp.
3 Eleocharis palustris
4 Salix spp.
5 Eleocharis palustris/Hordeum jubatum
6 Beckmannia syzigachne/Carex spp.
7 Populus trichocarpa/Salix spp.

Acreages

Wetlands	11.74 acres
Open Water (8)	4.20 acres
Upland Buffer	6.20 acres
Upland Islands	0.73 acres
Unvegetated Cobble/ Gravel (C/G)	1.17 acres

LOCATION: Deer Lodge Co., MT

PROJECT NO: STPP 46-5(12)51

FILE: Sportsmans/Veg2010.mxd

Project Name: Sportsmans Campground Wetland Mitigation

Drawing Title: 2010 Mapped Site Features

DRAWN	CHECKED	APPROVED
BCS	BV	XXX

SCALE: Noted

Drawn: September 23, 2010

PROJ MGR: B Sandefur

CONFLUENCE consulting incorporated

Figure 3

REV -

Appendix B

2010 Wetland Mitigation Site Monitoring Form
2010 USACE Wetland Delineation Form
2010 MDT Functional Assessment Form

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

MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site: Sportsman's Campground Assessment Date/Time 8/20/2010 8:29:18 AM

Person(s) conducting the assessment: B. Sandefur

Weather: Clear & sunny, cool Location: 13 miles west of Wise River along HWY 4

MDT District: Butte Milepost: 0

Legal Description: T 2N R 13W Section(s) 35

Initial Evaluation Date: 8/7/2008 Monitoring Year: 3 #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, direct precipitation

Inundation: ☑ Average Depth: 1 **(ft)** Range of Depths: 0-3+ **(ft)**

Percent of assessment area under inundation: 40 %

Depth at emergent vegetation-open water boundary: 2 **(ft)**

If assessment area is not inundated then are the soils saturated within 12 inches of surface: No

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

Groundwater Monitoring Wells

Record depth of water surface below ground

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:

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

Species	Cover class	Species	Cover class
Alopecurus pratensis	1	Beckmannia syzigachne	1
Carex athrostachya	2	Carex utriculata*	3
Eleocharis palustris	3	Glyceria elata	1
Glyceria grandis	2	Hordeum jubatum	1
Juncus effusus	1	Polygonum amphibium	1
Potamogeton filiformis	1	Potentilla anserina	1
Rumex crispus	1	Rumex crispus	1
Salix lemmonii	2	Scirpus microcarpus	0
Typha latifolia	1		

Comments:

Community # 2 **Community Type:** Artemisia tridentata / Agropyron spp.

Species	Cover class	Species	Cover class
Achillea millefolium	1	Agropyron dasystachyum	2
Agropyron repens	1	Agropyron spicatum	2
Agropyron trachycaulum	2	Agrostis alba	2
Agrostis stolonifera	1	Artemisia tridentata	3
Aster spp.	0	Bromus inermis	1
Bromus japonicus	1	Centaurea maculosa	0
Glycyrrhiza lepidota	1	Hordeum jubatum	1
Linaria vulgaris	0	Lupinus wyethii	1
Lychnis alba	0	Phleum pratense	1
Pinus contorta	1	Polemonium acutiflorum	1
Potentilla fruticosa	0	Ratibida columnifera	0
Sisymbrium altissimum	1	Spiranthes romanzoffiana	0
Taraxacum officinale	1	Tragopogon dubius	1
Trifolium repens			

Comments:

Community # 3 Community Type: Eleocharis palustris /

Species	Cover class	Species	Cover class
Alopecurus aequalis	1	Bare Ground	4
Beckmannia syzigachne	1	Carex athrostachya	1
Eleocharis palustris	4	Hordeum jubatum	1
Salix lemmonii	2	Triglochin maritimum	1

Comments:

Community # 4 Community Type: Salix spp. /

Species	Cover class	Species	Cover class
Agrostis alba	1	Carex athrostachya	1
Carex prionophylla	1	Carex utriculata*	2
Carex vesicaria	1	Eleocharis palustris	3
Epilobium angustifolium	0	Juncus balticus	1
Salix exigua	4	Salix lemmonii	4

Comments:

Community # 5 Community Type: Eleocharis palustris / Hordeum jubatum

Species	Cover class	Species	Cover class
Agrostis alba	1	Alopecurus aequalis	0
Alopecurus pratensis	1	Beckmannia syzigachne	1
Carex athrostachya	1	Carex nebrascensis	0
Carex vesicaria	1	Eleocharis palustris	5
Epilobium ciliatum	0	Glyceria grandis	1
Hordeum jubatum	3	Juncus effusus	1
Rumex crispus	1	Salix lemmonii	2
Scirpus microcarpus	0	Typha latifolia	1

Comments:

Community # 6 Community Type: Beckmannia syzigachne / Carex spp.

Species	Cover class	Species	Cover class
Alopecurus pratensis	1	Beckmannia syzigachne	4
Carex athrostachya	2	Carex utriculata*	3
Carex vesicaria	1	Glyceria elata	1
Hordeum jubatum	2	Mentha arvensis	1
Potentilla anserina	1	Rumex crispus	1
Salix lemmonii	1	Typha latifolia	1

Comments:

Community # 7 Community Type: Populus trichocarpa* / Salix spp.

Species	Cover class	Species	Cover class
Agrostis alba	1	Aster spp.	1
Beckmannia syzigachne	1	Calamagrostis canadensis	1
Carex athrostachya	2	Carex utriculata*	2
Carex vesicaria	2	Eleocharis palustris	3
Juncus balticus	2	Pinus contorta	1
Populus trichocarpa*	4	Salix exigua	3
Salix lemmonii	3		

Comments:

Community # 8 Community Type: Open water /

Species	Cover class	Species	Cover class
Algae, green	2		

Comments:

VEGETATION TRANSECTS

Site: Sportsman's Campground Date: 20/2010 8:29:18 AM

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

Interval Data:

Ending Station 98 **Community Type:** Artemisia tridentata / Agropyron spp.

Species	Cover class	Species	Cover class
Achillea millefolium	1	Agropyron dasystachyum	2
Agropyron spicatum	3	Agropyron trachycaulum	2
Agrostis alba	1	Artemisia tridentata	1
Festuca pratensis	1	Kochia scoparia	1
Lepidium perfoliatum	0	Lupinus wyethii	1
Lychnis alba	0	Melilotus officinalis	1
Phleum pratense	1	Rumex crispus	0
Sisymbrium altissimum	0	Taraxacum officinale	0
Thlaspi arvense	0	Tragopogon dubius	0
Trifolium repens	1		

Ending Station 214 **Community Type:** Eleocharis palustris /

Species	Cover class	Species	Cover class
Alopecurus aequalis	1	Bare Ground	4
Beckmannia syzigachne	2	Carex athrostachya	1
Eleocharis palustris	2	Hordeum jubatum	2
Plantago major	0	Rumex crispus	0
Salix lemmonii	2	Triglochin maritimum	1

Ending Station 330 **Community Type:** Eleocharis palustris / Hordeum jubatum

Species	Cover class	Species	Cover class
Agrostis alba	1	Beckmannia syzigachne	1
Eleocharis palustris	5	Epilobium ciliatum	0
Glyceria grandis	1	Hordeum jubatum	1
Salix lemmonii	2	Typha latifolia	1

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

Species	Cover class	Species	Cover class
Agropyron spicatum	1	Agropyron trachycaulum	2
Artemisia tridentata	2	Bare Ground	3
Cirsium arvense	0	Festuca pratensis	2
Hordeum jubatum	2	Melilotus officinalis	2
Phleum pratense	1	Tragopogon dubius	1
Trifolium pratense	2		

Transect Notes:

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

Interval Data:

Ending Station 9 **Community Type:** Artemisia tridentata / Agropyron spp.

Species	Cover class	Species	Cover class
Achillea millefolium	1	Agropyron trachycaulum	2
Artemisia tridentata	1	Equisetum hyemale	1
Festuca pratensis	2	Glycyrrhiza lepidota	1
Hordeum jubatum	2	Linaria vulgaris	0
Phleum pratense	1		

Ending Station 138 **Community Type:** Carex spp / Eleocharis palustris

Species	Cover class	Species	Cover class
Agrostis alba	1	Agrostis stolonifera	1
Alopecurus pratensis	2	Bare Ground	3
Beckmannia syzigachne	2	Carex athrostachya	2
Carex utriculata*	2	Eleocharis palustris	4
Glyceria grandis	1	Hordeum jubatum	1
Juncus balticus	2	Juncus effusus	1
Mentha arvensis	1	Rumex crispus	1
Salix lemmonii	1		

Ending Station 222 **Community Type:** Open Water /

Species	Cover class	Species	Cover class
Open Water	5		

Ending Station 315 **Community Type:** Eleocharis palustris / Hordeum jubatum

Species	Cover class	Species	Cover class
Alopecurus pratensis	1	Beckmannia syzigachne	1
Carex prionophylla	1	Eleocharis palustris	5
Hordeum jubatum	1	Salix lemmonii	2

Ending Station 359 **Community Type:** Open Water /

Species	Cover class	Species	Cover class
Open Water	5		

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

Species	Cover class	Species	Cover class
Carex athrostachya	2	Carex utriculata*	3
Eleocharis palustris	2	Glyceria elata	1
Juncus effusus	2	Polygonum amphibium	1
Rumex crispus	1		

Transect Notes:

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

Interval Data:

Ending Station 55 **Community Type:** Artemisia tridentata / Agropyron spp.

Species	Cover class	Species	Cover class
Achillea millefolium	1	Agropyron dasystachyum	2
Agropyron spicatum	2	Artemisia tridentata	1
Bare Ground	2	Festuca pratensis	2
Hordeum jubatum	2	Lupinus wyethii	1
Phleum pratense	2	Taraxacum officinale	1
Tragopogon dubius	1	Trifolium repens	1

Ending Station 145 **Community Type:** Eleocharis palustris / Hordeum jubatum

Species	Cover class	Species	Cover class
Agrostis stolonifera	2	Alopecurus aequalis	1
Bassia hirsuta	3	Beckmannia syzigachne	3
Carex utriculata*	2	Eleocharis palustris	2
Hordeum jubatum	2	Iva axillaris	1
Rumex crispus	1	Salix lemmonii	2
Typha latifolia	1		

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

Species	Cover class	Species	Cover class
Agrostis alba	1	Aster spp.	0
Beckmannia syzigachne	2	Calamagrostis canadensis	1
Carex athrostachya	1	Carex utriculata*	2
Carex vesicaria	2	Eleocharis palustris	2
Pinus contorta	1	Populus trichocarpa*	3
Salix exigua	3	Salix lemmonii	2

Ending Station 353 **Community Type:** Eleocharis palustris / Hordeum jubatum

Species	Cover class	Species	Cover class
Agrostis stolonifera	1	Carex athrostachya	2
Carex prionophylla	1	Carex utriculata*	4
Carex vesicaria	2	Eleocharis palustris	2
Hordeum jubatum	2	Juncus balticus	3
Salix lemmonii	2		

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

Species	Cover class	Species	Cover class
Agropyron dasystachyum	1	Artemisia tridentata	2
Bromus inermis	2	Festuca pratensis	2
Lupinus wyethii	2	Phleum pratense	2
Potentilla fruticosa	2	Trifolium repens	2

PLANTED WOODY VEGETATION SURVIVAL

Sportsman's Campground

Planting Type	#Planted	#Alive	Notes
NA			

Comments

Sportsman's Campground

WILDLIFE

Birds

Were man-made nesting structures installed? No

If yes, type of structure: _____

How many? 0

Are the nesting structures being used? No

Do the nesting structures need repairs? No

Nesting Structure Comments:

Species	#Observed	Behavior	Habitat
Belted Kingfisher	2	FO	MA
Blue-winged Teal	12	FO, L	AB, OW
Canada Goose	7	L	MF, OW, US
Common Nighthawk	1	FO	US
Gray Catbird	1	FO	UP,
Great Blue Heron	1	FO, L	MA, MF, OW
Killdeer	6		MF, US
Mallard	4	L	AB, MA, OW
Song Sparrow	15	L	UP,
Western Sandpiper	2		MF
Wilson's Phalarope	8		MA, MF, OW
Wilson's Snipe	10	L	MA, MF

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
Columbia Spotted Frog	2	No	No	No	
Pronghorn		Yes	No	No	
Raccoon		Yes	No	No	
Richardson's Ground Squirrel		No	No	Yes	
White-tailed Deer	3	No	No	No	

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
6180			90	PP1
6181			0	PP1
6182			270	PP1
6184			0	Veg Tran 1, start
6186			180	Veg Tran 1, end
6191			90	PP2
6192			315	PP2
6193			225	PP2
6208			180	PP3
6209			135	PP3
6210			270	PP3
6211			225	PP4
6212			270	PP4
6213			315	PP4
6214			0	Veg Tran 2, start
6224			35	Veg Tran 3, start
6225			325	Veg Tran 3, end
6226			180	Veg Tran 2, end

Comments:

ADDITIONAL ITEMS CHECKLIST

Hydrology

☑ Map emergent vegetation/open water boundary on aerial photos.
☑ Observe extent of surface water. Look for evidence of past surface water elevations (e.g. drift lines, vegetation staining, erosion, etc).

Photos

☑ One photo from the wetland toward each of the four cardinal directions
☑ One photo showing upland use surrounding the wetland.
☑ One photo showing the buffer around the wetland
☑ One photo from each end of each vegetation transect, toward the transect

Vegetation

☑ Map vegetation community boundaries

☑ Complete Vegetation Transects

Soils

☑ Assess soils

Wetland Delineations

☑ Delineate wetlands according to applicable USACE protocol (1987 form or Supplement)
☑ Delineate wetland – upland boundary onto aerial photograph.

Wetland Delineation Comments

Functional Assessments

☑ Complete and attach full MDT Montana Wetland Assessment Method field forms.

Functional Assessment Comments:

Maintenance

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

If yes, do they need to be repaired? No

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 working properly and in good working order? No

If no, describe the problems below.

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

Project/Site: Sportsmans Campground | City/County: Deer Lodge | Sampling Date: 8/18/2010

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.): Lowland | Local relief (concave, convex, none): concave | Slope (%):

Subregion (LRR): LRR E | Lat: 45.886329 | Long: -113.158265 | Datum: WGS 84

Soil Map Unit Name: 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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1. 0	0	☐	0
2. 0	0	☐	0
3. 0	0	☐	0
4. 0	0	☐	0
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 0)			
1. 0	0	☐	0
2. 0	0	☐	0
3. 0	0	☐	0
4. 0	0	☐	0
5. 0	0	☐	0
	0 = Total Cover		
Herb Stratum (Plot size: 5ft)			
1. Eleocharis palustris	35	☑	OBL
2. Hordeum jubatum	10	☐	FAC+
3. Beckmannia syzigachne	15	☑	OBL
4. Triglochin maritimum	5	☐	OBL
5. Alopecurus aequalis	5	☐	OBL
6. 0	0	☐	0
7. 0	0	☐	0
8. 0	0	☐	0
9. 0	0	☐	0
10. 0	0	☐	0
11. 0	0	☐	0
	70 = Total Cover		
Woody Vine Stratum (Plot size: 0)			
1. 0	0	☐	0
2. 0	0	☐	0
	0 = Total Cover		

% Bare Ground in Herb Stratum 25

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Dominance Test is >50% ☑

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:
0

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
0-3	10YR 3/2	100					Silt Loam	
3-12	10YR 4/2	95	10YR 5/6	5	C	M	Loamy Sand	Gravels

[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
- ☐ Aquatic 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): 12

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): 3

Wetland Hydrology Present? Yes ☑ No ☐

Remarks:

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

Project/Site: Sportsmans Campground City/County: Deer Lodge Sampling Date: 8/18/2010

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.): Lowland Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): LRR E Lat: 45.886746 Long: -113.1578 Datum: WGS 84

Soil Map Unit Name: Maurice loam

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1. 0	0	☐	0
2. 0	0	☐	0
3. 0	0	☐	0
4. 0	0	☐	0
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 0)			
1. 0	0	☐	0
2. 0	0	☐	0
3. 0	0	☐	0
4. 0	0	☐	0
5. 0	0	☐	0
	0 = Total Cover		
Herb Stratum (Plot size: 5ft)			
1. Eleocharis palustris	35	☑	OBL
2. Scirpus microcarpus	10	☐	OBL
3. Carex athrostachya	10	☐	FACW
4. Carex nebrascensis	10	☐	OBL
5. Hordeum jubatum	15	☑	FAC+
6. Alopecurus pratensis	15	☑	FACW
7. 0	0	☐	0
8. 0	0	☐	0
9. 0	0	☐	0
10. 0	0	☐	0
11. 0	0	☐	0
	95 = Total Cover		
Woody Vine Stratum (Plot size: 0)			
1. 0	0	☐	0
2. 0	0	☐	0
	0 = Total Cover		

% Bare Ground in Herb Stratum 5

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: 100 (A/B)

Dominance Test is >50% ☑

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:
0

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
0-12	10YR 2/1	95	10YR 4/4	3	C	M	Clay 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
- ☐ Aquatic 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:

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

Project/Site: Sportsmans Campground | City/County: Deer Lodge | Sampling Date: 8/18/2010

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.): Lowland | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): LRR E | Lat: 45.886682 | Long: -113.1547 | Datum: WGS 84

Soil Map Unit Name: Maurice loam

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1. 0	0	☐	0
2. 0	0	☐	0
3. 0	0	☐	0
4. 0	0	☐	0
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 0)			
1. 0	0	☐	0
2. 0	0	☐	0
3. 0	0	☐	0
4. 0	0	☐	0
5. 0	0	☐	0
	0 = Total Cover		
Herb Stratum (Plot size: 5ft)			
1. Carex prionophylla	10	☐	FACW
2. Carex vesicaria	10	☐	OBL
3. Agrostis alba	15	☐	FACW
4. Eleocharis palustris	30	☑	OBL
5. Salix exigua	25	☑	OBL
6. Salix lemmonii	25	☑	FACW+
7. 0	0	☐	0
8. 0	0	☐	0
9. 0	0	☐	0
10. 0	0	☐	0
11. 0	0	☐	0
	115 = Total Cover		
Woody Vine Stratum (Plot size: 0)			
1. 0	0	☐	0
2. 0	0	☐	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: 100 (A/B)

Dominance Test is >50% ☑

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:
Salix small and still in herb layer

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
0-5	10YR 4/2	100					Loam	very stony
5-13	10YR 5/2	95	10YR 4/3	5	C	M	Clay 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
- ☐ Aquatic 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): _____

Wetland Hydrology Present? Yes ☑ No ☐

Remarks:

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

Project/Site: Sportsmans Campground | City/County: Deer Lodge | Sampling Date: 8/18/2010

Applicant/Owner: MDT | State: MT | Sampling Point: Sprt-4

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

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

Subregion (LRR): LRR E | Lat: 45.885439 | Long: -113.1529 | Datum: WGS 84

Soil Map Unit Name: Maurice loam

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1. 0	0	☐	0
2. 0	0	☐	0
3. 0	0	☐	0
4. 0	0	☐	0
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 0)			
1. 0	0	☐	0
2. 0	0	☐	0
3. 0	0	☐	0
4. 0	0	☐	0
5. 0	0	☐	0
	0 = Total Cover		
Herb Stratum (Plot size: 5ft)			
1. Polygonum amphibium	5	☐	OBL
2. Carex athrostachya	20	☑	FACW
3. Carex rostrata var utriculata	25	☑	OBL
4. Eleocharis palustris	20	☑	OBL
5. Hordeum jubatum	15	☐	FAC+
6. 0	0	☐	0
7. 0	0	☐	0
8. 0	0	☐	0
9. 0	0	☐	0
10. 0	0	☐	0
11. 0	0	☐	0
	85 = Total Cover		
Woody Vine Stratum (Plot size: 0)			
1. 0	0	☐	0
2. 0	0	☐	0
	0 = Total Cover		

% Bare Ground in Herb Stratum 15

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: 100 (A/B)

Dominance Test is >50% ☑

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:
0

SOIL

Sampling Point: Sprt-4

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 4/1	95	10YR 3/6	5	C	PL	Silt Loam	very cobbly

[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
- ☐ Aquatic 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): 12

Wetland Hydrology Present? Yes ☑ No ☐

Remarks:

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 8/20/2010 **4. Evaluators** B. Sandefur **5. Wetland/Site# (s)** Sprotsman's Campground

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

Approx Stationing or Mileposts

Watershed 6-Upper Missouri **County** Deer Lodge

7. Evaluating Agency Confluence for MDT

8. Wetland size acres 15.93

Purpose of Evaluation

How assessed: Measured e.g. by GPS

☐ **Wetlands potentially affected by MDT project**

9. Assesssment area (AA) size (acres) 15.93

☐ **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	Seasonal/Intermittant	40
Depressional	Scrub-Shrub Wetland	Excavated	Seasonal/Intermittant	20
Depressional	Rock Bottom	Excavated	Permanent/Perennial	40

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 directly adjacent to site, none observed within mitigation area

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

Centaurea maculosa, linaria vulgaris

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

AA is reclaimed gravel pit for purpose of providing wetland mitigation credit to MDT. Pasture on three sides, Hwy 47/Big Hole River to south

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:

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 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 Bald Eagle

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, MDT has observed eagles around site

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

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**

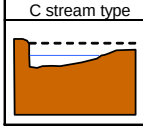
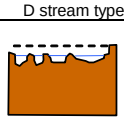
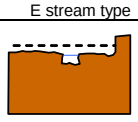
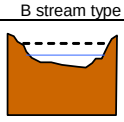
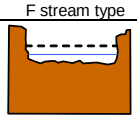
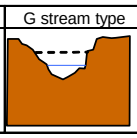
b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? ◯ **Y** ◉ **N** *If yes, add 0.1 to the adjusted score in **i** or **iia** above:*
Modifed Rating

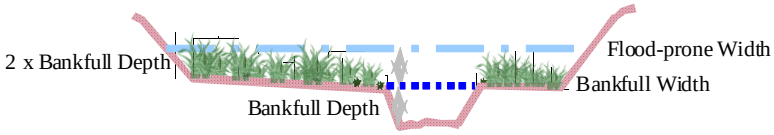
iii. Final Score and Rating: _____ **Comments:**

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: AA recieves runoff from a limited watershed, primarily groundwater fed system

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: unvegetated areas include perennially inundated and gravel/cobble substrate

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: Increased % veg cover along shoreline, no anticipated increase due to lack of suitable substrate for veg development

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	.9H	.6M	.7H	.4	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7H	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.5M	.6M	.3L	.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:

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:

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 is owned by State of Montana - MDT. Area open to hunting, bird watching, hiking.

General Site Notes

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Sprotsman's Campground

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	.2	1	3.186	☐
C. General Wildlife Habitat	H	.9	1	14.337	☑
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	15.93	☑
G. Sediment/Nutrient/Toxicant Removal	M	.7	1	11.151	☐
H. Sediment/Shoreline Stabilization	M	.7	1	11.151	☐
I. Production Export/Food Chain Support	H	.8	1	12.744	☑
J. Groundwater Discharge/Recharge	H	1	1	15.93	☑
K. Uniqueness	M	.4	1	6.372	☐
L. Recreation/Education Potential (bonus points)	H	.2	NA	3.186	☐
Totals:		5.9	9	93.987	
Percent of Possible Score			**65.56** %		

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 above)

I	II	III	IV

Appendix C

Project Area Photographs

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



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



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



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



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



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



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



Photo Point 2 – *Photo 1* **Location:**
Bearing: East **Taken in 2009**



Photo Point 2 – *Photo 1* **Location:**
Bearing: East **Taken in 2010**



Photo Point 2 – *Photo 2* **Location:**
Bearing: Southwest **Taken in 2009**



Photo Point 2 – *Photo 2* **Location:**
Bearing: Southwest **Taken in 2010**



Photo Point 2 – *Photo 3* **Location:**
Bearing: Northwest **Taken in 2009**



Photo Point 2 – *Photo 3* **Location:**
Bearing: Northwest **Taken in 2010**



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



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



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



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



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



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



Photo Point 4 – *Photo 1* **Location:**
Bearing: West **Taken in 2009**

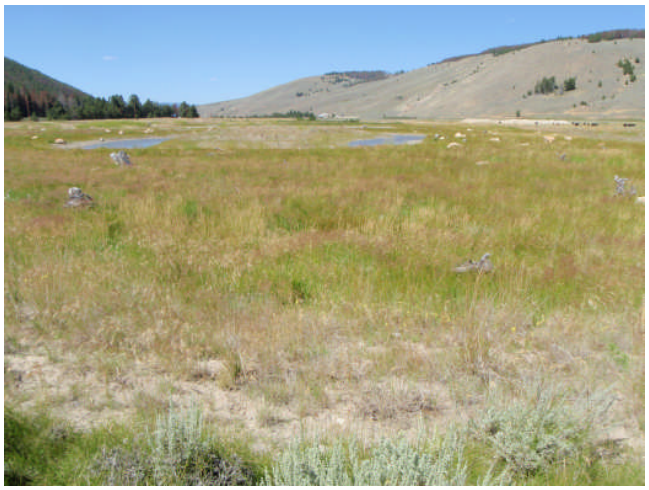


Photo Point 4 – *Photo 1* **Location:**
Bearing: West **Taken in 2010**



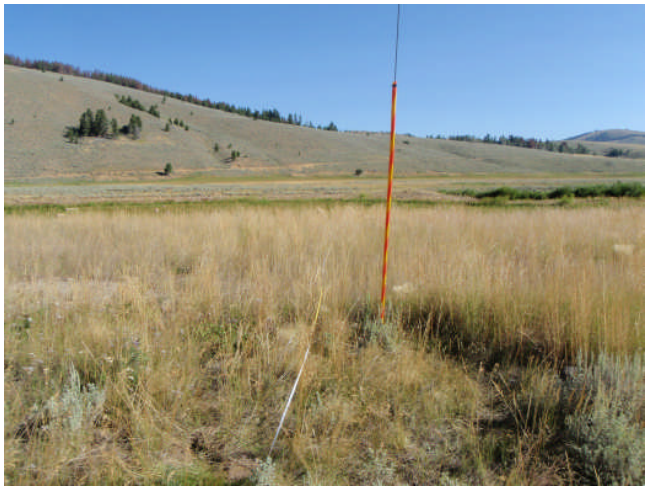
Photo Point 4 – *Photo 2* **Location:**
Bearing: Southwest **Taken in 2009**



Photo Point 4 – *Photo 2* **Location:**
Bearing: Southwest **Taken in 2010**



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



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



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



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



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



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



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



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



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



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



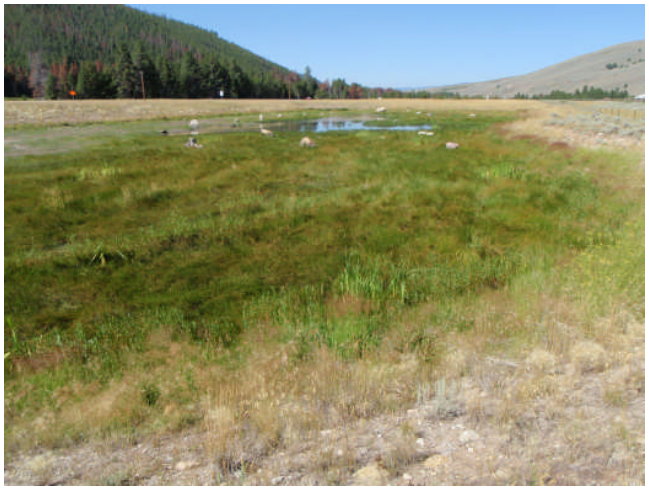
Transect 3 – *Photo 2* **Location:** North End
Bearing: South **Taken in 2009**



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



Data Point 1 – *Photo 1* **Location:**
Bearing: **Taken in 2010**



Data Point 2 – *Photo 1* **Location:**
Bearing: **Taken in 2010**



Data Point 3 – *Photo 1* **Location:**
Bearing: **Taken in 2010**



Data Point 4 – *Photo 1* **Location:**
Bearing: **Taken in 2010**

Appendix D

Project Plan Sheet

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

STATE	PROJECT NUMBER	SHEET NO.
MONTANA	STPP 46-5(2)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

CONST. LIMITS

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)

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

PT 15+34.14

ISLAND
719 M² = 0.178 AC.

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

PWR

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

D-1

MONTANA DEPARTMENT OF TRANSPORTATION

sega

...\a137enplnz01_dgn
06 AUG 2003
11:00:05

1	2	3	MBahnsen

DESIGNED BY
DRAWN BY
APPROVED BY
REVISED BY

m1en\a137enplnz01.dgn