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### **EXECUTIVE SUMMARY**

This Biological Resources Report identifies and addresses potential effects on biological resources from the Stone Creek – North project (STPP49-1(25)9). It has been prepared in compliance with the environmental review process associated with the National Environmental Policy Act (NEPA), the Montana Environmental Policy Act (MEPA), and the US Endangered Species Act of 1973 (ESA). This report presents an evaluation of the existing conditions within the project area and the project's potential impacts on terrestrial and aquatic plant and animal species, wetlands, species of special concern (SOC), and threatened or endangered (T&E) species.

The Montana Department of Transportation (MDT) proposes to reconstruct a portion of MT Highway Route 41 (P-49) northeast of Dillon in Beaverhead and Madison Counties. Specifically, the project will include improvements to both horizontal and vertical highway alignments, two bridge replacements (Stone Creek, Beaverhead River), and shoulder widening.

For the purpose of this report, the study area is located along the existing roadway of a 7.2±-mile stretch of MT Highway Route 41, beginning at Reference Marker (RM) 9.0± just south of the Stone Creek Bridge and extends north to RM 16.2± approximately 1.6 miles north of the Beaverhead River Bridge. Wetland delineation and vegetation mapping extended roughly 100 feet away from the existing road centerline and encompassed approximately 176 acres. The study area extends further from the centerline in the areas of Stone Creek and the Beaverhead River to provide supporting documentation of existing aquatic conditions within 0.5 mile up and down stream of the existing road centerline. Additionally, a broader area was assessed to identify the suitability of adjacent habitat to support SOC and T&E plants and animals.

Biological resource field surveys were conducted between June 10 and 13, June 26 and 27, and July 15, 2013. Field surveys included the identification and mapping of general vegetation communities, observation of wildlife use, a delineation of aquatic resources, surveys of streams and wetlands, identification and mapping noxious of weed species, surveys for SOC and T&E plant and animal species, and reconnaissance for suitable locations for potential wildlife underpasses along Highway 41. The U.S. Fish and Wildlife Service (USFWS), Montana Fish Wildlife and Parks (MFWP), and the Montana Natural Heritage Program (MTNHP) were contacted for information and potential issues and specific concerns for the Stone Creek – North project to biological resources, including T&E and sensitive plant/animal species and critical habitat.

Background research and agency coordination indicated the possible occurrence of eight T&E species and fourteen SOC, with two species (Arctic grayling and Ute Ladies' Tresses), identified as both T&E and SOC. These species include:

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	Common Name	Scientific Name	MTNHP/ USFWS Status	County Listed
	Hoary Bat	Lasiurus cinereus	S3	Madison/Beaverhead
	Great Basin Pocket Mouse	Perognathus parvus	S3	Madison/Beaverhead
٤	Great Blue Heron	Ardea herodias	S3	Madison/Beaverhead
၂ ခွ	Bald Eagle	Haliaeetus leucocephalus	S4	Madison/Beaverhead
Concern	Golden Eagle	Aquila chrysaetos	S3	Madison/Beaverhead
<del>ن</del> (	Long-billed Curlew	Numenius americanus	S3B	Madison/Beaverhead
	Sage Thrasher	Oreoscoptes montanus	S3B	Madison/Beaverhead
Species	Brewer's Sparrow	Spizella breweri	S3B	Madison/Beaverhead
Sp	Westslope Cutthroat Trout	Oncorhynchus clarkii lewisi	S2	Madison/Beaverhead
4	Arctic Grayling	Thymallus arcticus	S1	Madison/Beaverhead
MTNHP	Annual Indian Paintbrush	Castilleja exilis	S2	Madison
≥	Mealy Primrose	Primula incana	S3	Madison/Beaverhead
	Beaked Spikerush	Eleocharis rostellata	S3	Madison
	Ute Ladies' Tresses	Spiranthes diluvialis	S1S2	Madison/Beaverhead
Si	Canada Lynx	Lync canadensis	LT	Madison/Beaverhead
Š.	Grizzly Bear	Ursus arctos horribilis	LT	Madison/Beaverhead
Species	Greater Sage-Grouse	Centrocercus urophasianus	С	Madison/Beaverhead
	Sprague's Pipit	Anthus spragueii	С	Madison
T&E	Arctic Grayling	Thymallus arcticus	С	Madison/Beaverhead
NS	Wolverine	Gulo gulo luscus	Р	Madison/Beaverhead
USFWS	Ute Ladies' Tresses	Spiranthes diluvialis	LT	Madison/Beaverhead
Ď	Whitebark Pine	Pinus albicaulis	С	Madison/Beaverhead

None of the T&E species were identified with known occurrence within the project area. As such, this project will likely have a "no effect" determination on federally listed species. One SOC, beaked spikerush, was identified along the boundary of the study area. Potential impacts to this species as a result of this project, and recommended conservation measures are presented in Section 5.0 of this report.

Three Waters of the U.S. two irrigation ditches, and fourteen wetland areas were delineated along the approximate 7.2-mile highway reach and totaled 11.30 acres of aquatic habitat within the 100-ft buffer on either side of centerline. The three Waters of the U.S. consist of the Beaverhead River, Stone Creek, and an unnamed tributary (UT-3) supported by a perennial spring. Two irrigation ditches, located north of the Beaverhead River, include the Co-op Ditch and Wetland areas included palustrine emergent and Warm Springs Ditch. scrub/shrub community types, and were primarily concentrated from RM 14.5 to the northern extent of the study area around RM 16.2. Stone Creek is located near the southwestern extent of the project reach. Three separate drainages with apparent connection to a Water of the US (WUS) are located between Stone Creek and the Beaverhead River. Four of the fourteen wetlands identified within the project site do not have an apparent connection to a WUS. One small roadside wetland (WL-5) was rated as a Category IV wetland (2008 Montana Wetland

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Stone Creek – North STPP49-1(25)9 CN 7931000

Assessment Method). Wetland area WW-3 (west) was identified along a lower terrace of the Beaverhead River and achieved a Category II rating. All remaining wetlands were rated Category III.

Noxious weed surveys within the Stone Creek project area documented presence of Canadian thistle, houndstongue, yellow toadflax, and hoary cress. Canadian thistle was generally distributed along the boundary of wetlands within the project area. This species was also identified in some of the moister, non-wetland areas in the ephemeral drainages that cross the site. Isolated Canadian thistle plants were encountered during the field survey. A small infestation of yellow toadflax was identified along the boundary of a wetland near the Beaverhead River. One infestation of hoary cress was identified in uplands near a turn-out close to the Beaverhead River. Six infestations of houndstongue were identified along the project area, including two areas around RP 9.4, one near RP 12.8, and three around RP 15.4. The location, infestation size, and approximate cover of infestation areas are provided in Section 3.0 of this report.

A very suitable location for the placement of a wildlife underpass within the Stone Creek - North project area was identified at RM 11.2. This location displayed evidence of high wildlife use, including documented road kill, good connectivity between habitat types, minimal adjacent residential and ranching infrastructure, and suitable topography for construction. A second location for a potential wildlife underpass was identified at RM 10.2. This site displayed an increased level of adjacent residential and ranching infrastructure but maintained suitable topography and wildlife usage to consider this location a feasible option. Consideration of an adjacent wildlife trail along Stone Creek as part of the bridge design may provide a third suitable location to promote wildlife passage. This would likely include raising the deck elevation and managing wildlife-friendly fences along adjacent ranch lands. Two other locations within the Stone Creek -North corridor were investigated based on the high number of wildlife-vehicle collisions through these areas. Both of these additional locations, at ~RP 15.5 and ~RP 13.7, were deemed less feasible based on existing topographic and/or hydrologic constraints.

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### 1.0 INTRODUCTION

The purpose of this general biological resources study report is to provide a detailed examination of the biological resources related to the Stone Creek – North highway reconstruction project along approximately 7.2 miles of MT Highway Route 41 (Route P-49) between the towns of Twin Bridges and Dillon, Montana (Figure 1). This report includes an evaluation and assessment of the proposed project's effects on the fish, wildlife, rare and/or sensitive plants, species of concern, wetlands, rivers, streams, and general biological resources located along the project corridor. A Biological Assessment was completed to analyze and discuss this project's potential effect on Threatened and Endangered (T&E), Proposed, and Candidate species and designated critical habitat. In addition, conservation measures and other relevant mitigation to avoid/minimize or compensate for adverse impacts to potentially affected natural resources are included. This report follows the general MDT guidelines for preparation of biological reports.

This study presents an evaluation of existing conditions based on field surveys and a review of the U.S. Fish and Wildlife Service Endangered, Threatened, Proposed and Candidate Species listed by Counties, Montana Natural Heritage Program (MTNHP) Natural Heritage Tracker and Species of Concern reports, NRCS Soil Survey Geographic Data (SURRGO), U.S. Geologic Survey (USGS) 1:24,000 scale topographic maps, U.S. Farm Services Agency National Agricultural Imagery Program (NAIP) 2011 aerial photographs, National Hydrography Dataset (NHD), geologic maps, Ecoregions of Montana (2002), the Montana Fisheries Information System (MFISH), and other relevant databases. MDT technical reports for this project, a wetland delineation report dated October 31, 2012 completed by Confluence for a ranch adjacent to this highway project, and a 2006 MDT Wetland Mitigation Monitoring Report for the Beaverhead Gateway mitigation site were also reviewed for supplemental technical and biological information pertaining to the study area.

For the purpose of this report, the study area is located along the existing roadway of a 7.2±-mile stretch of MT Highway Route 41 (Route P-49). The project begins at Reference Marker (RM) 9.0± just south of Stone Creek Bridge and extends north to RM 16.2± approximately 1.6 miles north of the Beaverhead River Bridge (Figure 1). For the wetland delineation and vegetation mapping, the study area extends roughly 100 feet away from the existing road centerline and encompasses approximately 176 acres. The study area extends further from the centerline in the areas of Stone Creek and the Beaverhead River to provide supporting documentation of existing aquatic conditions within 0.5 mile up and down stream of the existing road centerline.

MDT proposes to reconstruct this portion of MT Hwy 41 to provide geometric improvements to the existing roadway, shoulder widening and structure replacements and bring the roadway up to modern road design standards. Improvements will be made to both horizontal and vertical alignments. In addition, the project will include two bridge replacements, one over Stone Creek and the other over the Beaverhead River. The project will be coordinated with safety project HSIP 49-2(11)14 near Beaverhead Rock. All construction staging will occur within the project site.

# 1.1. General Area Description

The Stone Creek – North project is located in Beaverhead County and Madison County, Montana, between the towns of Twin Bridges and Dillon (Figure 1). The study area is located on the Beaverhead Rock, Beaverhead Rock SW, and Glen SE USGS 1:24,000 topographic maps. The linear project bisects nine sections within three ranges and two townships, including T6S R8W S12, T6S R7W S5 and S6, and T5S R7W S15, S22, S27, S28, S32, and S33.

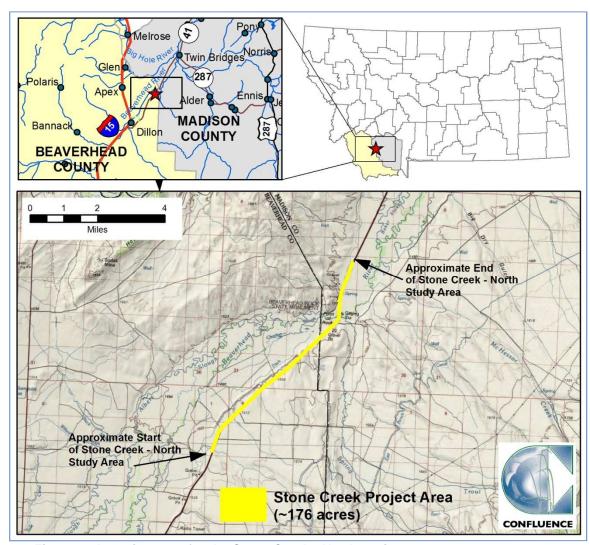


Figure 1. Location map for the Stone Creek - North project.

One USGS blue line stream was identified within the study area and includes the Beaverhead River. Six ephemeral/intermittent streams were identified within the study area on the USGS topographic maps and included Stone Creek and five unnamed stream channels. Two bridges are present within the project limits and include Stone Creek at RM 9.05 and Beaverhead River at RM 14.67. The upper reach of the site lies within the Stone Creek Hydrologic Unit Code (HUC 100200020605); the majority of the site is located in the Beaverhead River-Charlton Slough subwatershed

(HUC100200020703); the lower reach of the site is located in the Beaverhead River-Big Dry Gulch subwatershed (HUC 100200020705).

The terrain is rolling hills from Stone Creek (RM 9.0) to approximately RM 14.34 where the road drops into the Beaverhead River valley and routes across level terrain to the northern extent of the study area around RM 16.2. The assessed highway corridor is underlain by alluvium sedimentary and tertiary sedimentary geology. Unconsolidated alluvium has been mapped along the Stone Creek and Beaverhead River drainages. Undifferentiated tertiary sedimentary rocks, in part deposited in lakes 206-248 million years ago, encompass the underlying geology of the majority of the study area. The NRCS mapped sixteen separate soil map units within the study area (Figure 2). Four soil units mapped within the study area are found on the Montana Hydric Soils list and cover approximately 28% of the site.

### 2.0 GENERAL STUDY METHODS

# 2.1. Agency Coordination

Agency coordination was initiated with letters sent to state and federal regulatory agencies. Letters were sent to the following resource agencies:

- U.S. Fish and Wildlife Service (USFWS)
- Montana Fish, Wildlife, and Parks (MFWP)
- Montana Natural Heritage Program (MTNHP)

With these letters, each agency was requested to identify any concerns that would need to be addressed through the completion of this BRR. Agency consultations, letters, emails, and phone logs are included in the appendices of this report.

#### 2.1. Literature/Database Searches

Project documents, maps, aerial photographs, and other materials were obtained from MDT, MFWP, the US Fish and Wildlife Service (USFWS), US Forest Service (USFS), Natural Resource Information System (NRIS) Geographic Information Clearinghouse, and the Natural Resource Conservation Service (NRCS). Aerial photographs were obtained from NRIS. The Montana Natural Heritage Program (MTNHP) provided information pertaining to endangered, threatened, and sensitive plant and animal species in the project area. Threatened and endangered species information for Beaverhead and Madison Counties, Montana was obtained from the USFWS. Hydrologic information was derived from USGS quadrangle maps and the USGS Water Resources of Montana database. Soil information was obtained from the NRCS

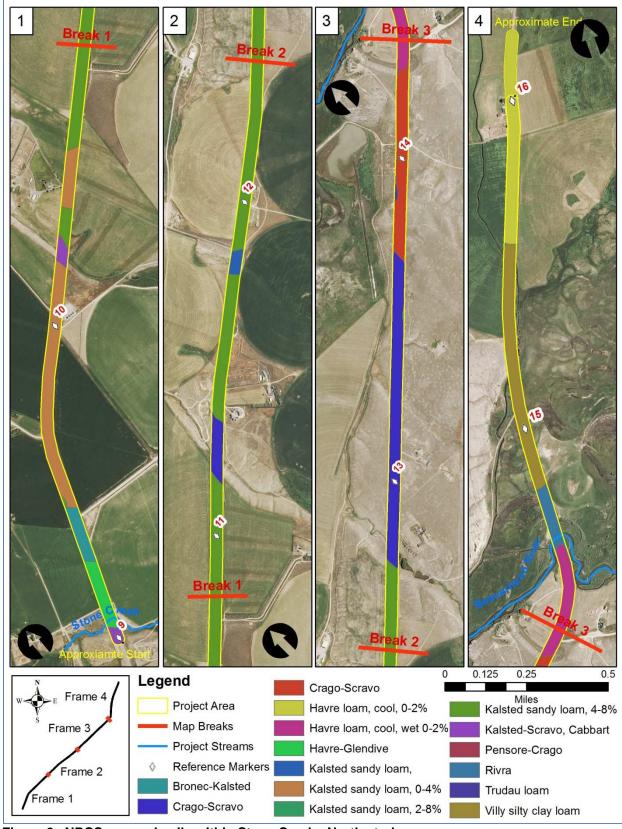


Figure 2. NRCS mapped soils within Stone Creek - North study area.

SSURGO database for Madison and Beaverhead Counties, Montana (2012). The MFISH database was queried regarding potential fisheries resources in the project area, specifically within Stone Creek and the Beaverhead River. The Western Regional Climate Center (WRCC) Dillon ARPT, Montana (242404) weather station was used to obtain climate data for the study area. The MDT Preliminary Field Review (MDT, September 26, 2012) for this project, a wetland delineation report dated October 31, 2012 completed by Confluence for a ranch adjacent to this highway project, and a 2006 MDT Wetland Mitigation Monitoring Report for the Beaverhead Gateway mitigation site were also reviewed for supplemental technical and biological information pertaining to the study area.

Prior to the site visit, Confluence biologists reviewed the current USFWS species list for Beaverhead and Madison Counties, Montana, and conferred with the Montana Natural Heritage Program to identify species of concern. This was done to determine which species, or suitable habitat, might be present in the project area. Table 1 shows the Endangered Species Act (ESA) federally listed and candidate species in Beaverhead and Madison Counties. Table 2 displays a list of animal and plant species of concern identified by MTNHP as elemental occurrence within/around the Stone Creek – North study area. A full review of the species of concern within the project area is addressed in Section 5 of this BRR and T&E species discussed in Section 6.

Table 1. Federally Listed Species in Beaverhead and Madison Co, MT.

Common Name Scientific Name	USFWS Status*	County Listed	Short Habitat	
Canada Lynx Lynx canadensis	LT	Madison/Beaverhead	Subalpine forest	
Grizzly Bear Ursus arctos horribilis	LT	Madison/Beaverhead	Meadows, seeps, riparian zones, mixed shrub fields, closed/open timber	
Greater Sage-Grouse Centrocercus urophasianus	С	Madison/Beaverhead	Sagebrush	
Sprague's Pipit Anthus spragueii	С	Madison	Short grass prairie	
Arctic Grayling Thymallus arcticus	С	Madison/Beaverhead	Mountain rivers, lakes	
Wolverine Gulo gulo luscus	Р	Madison/Beaverhead	Alpine tundra, boreal and mountain forest	
Ute Ladies' Tresses Spiranthes diluvialis	LT	Madison/Beaverhead	Wetland/Riparian	
Whitebark Pine Pinus albicaulis	С	Madison/Beaverhead	Subalpine and krummholtz habitat	

<sup>\*</sup>LT=Listed Threatened; C=Candidate; P=Proposed

Table 2. MTNHP SOC elemental occurrence within proximity of study area.

Common Name Scientific Name	MTNHP Status*	County Listed	Short Habitat
Hoary Bat Lasiurus cinereus	S3	Madison/Beaverhead	Riparian and forest
Great Basin Pocket Mouse Perognathus parvus	S3	Madison/Beaverhead	Sagebrush/grassland
Great Blue Heron Ardea herodias	S3	Madison/Beaverhead	Riparian forest
Bald Eagle <i>Haliaeetus leucocephalus</i>	S4	Madison/Beaverhead	Riparian forest
Golden Eagle <i>Aquila chrysaet</i> os	S3	Madison/Beaverhead	Grasslands
Long-billed Curlew Numenius americanus	S3B	Madison/Beaverhead	Grasslands
Sage Thrasher Oreoscoptes montanus	S3B	Madison/Beaverhead	Sagebrush
Brewer's Sparrow Spizella breweri	S3B	Madison/Beaverhead	Sagebrush
Westslope Cutthroat Trout Oncorhynchus clarkii lewisi	S2	Madison/Beaverhead	Mountain streams, rivers, lakes
Arctic Grayling Thymallus arcticus	S1	Madison/Beaverhead	Mountain rivers, lakes
Annual Indian Paintbrush Castilleja exilis	S2	Madison	Wetland/Riparian
Mealy Primrose Primula incana	S3	Madison/Beaverhead	Wetland/Riparian
Beaked Spikerush Eleocharis rostellata	S3	Madison	Wetlands (Alkaline)
Ute Ladies' Tresses Spiranthes diluvialis	S1S2	Madison/Beaverhead	Wetland/Riparian

<sup>\*</sup>S1 - At high risk because of extremely limited and potentially declining numbers, extent and/or habitat, making it highly vulnerable to global extinction or extirpation in the state;

## 2.2. Field Surveys

Confluence Consulting conducted an on-site survey of the project area between June 10<sup>th</sup> and 13<sup>th</sup> with additional site visits on June 26<sup>th</sup> and 27<sup>th</sup>, and July 15, 2013. The biologist surveyed the entirety of the approximate 176-acre Stone Creek – North project area and completed reconnaissance level investigation of a broader area to assess wildlife usage, migration corridors, and any nearby suitable habitat. The aquatic and terrestrial survey was conducted on foot by a biologist looking for animal sign and assessing habitat. All land cover types and vegetation communities were mapped and are shown in Figure 3. The study area was surveyed for the presence of wetlands, vegetation communities including invasive species, T&E plant and animals, SOC plants and animals, and wildlife usage including tracks, scat, nest structures, and other signs.

**S2** - At risk because of very limited and potentially declining numbers, extent and/or habitat, making it vulnerable to global extinction or extirpation in the state;

S3 - Potentially at risk because of limited and potentially declining numbers, extent and/or habitat, even though it may be abundant in some areas:

S4 - Uncommon but not rare (although it may be rare in parts of its range). Not vulnerable in most of its range;

 $<sup>{\</sup>bf B}$  - Breeding - Rank refers to the breeding population of the species in Montana.

#### 3.0TERRESTRIAL RESOURCES

### 3.1. Methods

Three USGS 1:24,000 topographic maps (Beaverhead Rock, Beaverhead Rock SW, and Glen SE) were reviewed to determine the terrestrial setting of the project site. The MTNHP web site was researched for further information on the natural setting of the area (MTNHP, 2013). Aerial maps and other published resource maps (geologic, soils) were reviewed. The local area was visited and photographed to confirm the setting and obtain an overview of the local biotic and abiotic resources.

#### 3.2. Results

# 3.2.1. Ecological Setting and General Description

The Stone Creek-North project area is located within the Dry Intermontane Sagebrush Valleys Level IV ecoregion within the Middle Rockies Level III ecoregion and composed of alluvium, fan, and valley-fill deposits. Stream terraces, floodplains, saline areas, and alluvial fans in this ecoregion are less rugged than the adjacent Townsend-Horseshoe-London Sedimentary Hills and Dry Gneissic-Schistose-Volcanic Hills (Woods et al, 2002). The potential natural vegetation is sagebrush steppe, defined as largely treeless, dry, level grassland dominated by sagebrush (*Artemisia tridentata*).

The growing season ranges from 70 to 110 days and exceeds that of the Big Hole and Centennial Basins. The Western Regional Climate Center (WRCC) at the Dillon Airport, Montana weather station (242404) is located approximately 8.5 miles south of the study area. Since 1940, this station has recorded an average yearly precipitation total of 9.76 inches, with the majority falling during the early growing season (Chart 1). The mean annual air temperature is 42 degrees Fahrenheit (°F). In summer, the average temperature is 62.8 degrees °F. In winter, the average temperature is 23.6 degrees °F.

Agriculture is common along the study area. Privately-owned rural agricultural, farmstead and residential property encompass the project area in all directions. Predominant land uses surrounding the study area include irrigated grain and hay fields and associated irrigation networks, dry-land farming, potato fields, livestock meadows and pastures, and rural residential.

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Average Monthly Precipitation recorded at Dillon ARPT, 242404 2 1.8 1.6 1.4 1.2 Inches 1 0.8 0.6 0.4 0.2 **FEB** APR JUN JUL AUG JAN MAR MAY SEP OCT NOV

Chart 1. Average monthly precipitation recorded at Dillon ARPT 242404.

# 3.2.2. **General Vegetation**

The Dry Intermontane Sagebrush region is generally a transition zone between prairie grasslands and montane forests. These generally large, open valleys support plant communities dominated by grasses and a variety of shrubs. The dominant upland vegetation is a mosaic of fescue-wheatgrass grasslands and sagebrush steppe. Rough fescue (Festuca scabrella), bluebunch wheatgrass (Pseudoroegneria spicata), prairie junegrass (Koeleria macrantha), basin wildrye (Elymus cinereus), Idaho fescue (Festuca idahoensis), and needle and thread (Hesperostipa comata) are common native grasses in the intermountain grassland (Lesica, 1997). Common forbs include silky lupine (Lupinus sericeus), arrowleaf balsamroot (Balsamorhiza sagitatta), and blanket flower (Gaillardia arisata). Fringed sagewort (Artemisia frigida), big sagebrush (Artemisia tridentata), and skunkbush sumac (Rhus trilobata) are common shrubs within the dry, open sites in this region. Although not common within the upland landscape, larger trees (Populus trichocarpa, P. angustifolia) and shrubs (Salix spp.) occupy the plant communities along the riparian area of the Beaverhead River.

### 3.2.2.1. Baseline Conditions

The native vegetation of the Beaverhead River Valley has been affected by anthropic activity since European settlement, with changes attributed to three major causes: agriculture, fire suppression, and changes in grazing pressure (Lesica, 1997). Additionally, extensive excavation and grading along the Highway 41 study area has resulted in a shift from native forbs and grasses to a vegetation community generally dominated by introduced grasses and legume species. Smooth brome (*Bromus inermis*), crested wheatgrass (*Agropyron cristatum*), Kentucky bluegrass (*Poa pratensis*), orchardgrass (*Dactylis glomerata*), alfalfa (*Medicago sativa*), clover (*Trifolium* spp.) and sweetclover (*Meliotis* spp.) have been sown extensively throughout both dryland and irrigated pastures and hayfields throughout the region.

The current vegetation conditions in both wetlands and uplands were assessed during the field surveys. General vegetation communities were mapped and are shown in Figure 3. Vegetation species identified during the field investigation are summarized in Table 3. The Dryland Introduced Grasses community dominated the area of investigation for this Stone Creek – North BRR. A Greasewood community was mapped between reference posts 13 and 14. Alfalfa and wheat fields, irrigated hayfields, and pastures were mapped in select locations and generally surround the highway corridor throughout the project area. Emergent and scrub-shrub wetland communities are prevalent in the northern quarter of the site once the road drops into the Beaverhead River valley.

The MTNHP database search identified four plant species of concern (within the area defined by the requested townships and ranges, and an additional one-mile buffer surrounding the requested area (MTNHP 2013). A Listed Threatened species, Ute Ladies' Tresses (*Spiranthes diluvialis*), and a T&E candidate, whitebark pine (*Pinus albicaulis*), were identified by USFWS within Beaverhead and Madison Counties. The Ute Ladies' Tresses is a perennial orchid that usually blooms in August to early September. Field surveys were conducted outside the normal flowering-time of this species, making it difficult to ascertain presence/absence of this species within the study area. No SOC or T&E plant species was identified within the project area during the 2013 field surveys.

The Dryland Introduced Grasses community mapped along the ±7.2-mile stretch of assessed highway reflects the arid, disturbed roadside vegetation community primarily dominated by introduced grasses. Common grasses identified throughout this community include smooth brome (Bromus inermis), crested wheatgrass, Kentucky bluegrass, blue-bunch wheatgrass, cheatgrass (Bromus tectorum), bluebunch fescue, curly bluegrass (Poa secunda), streamside wild-rye (Elymus laneolatus), basin wildrye, creeping wild rye (Elymus repens), orchardgrass (Dactylis glomerata), tall fescue (Festuca arundinacea), foxtail barley (Hordeum jubatum), and common timothy (Phleum pratense). Tall hedge-mustard (Sisymbrium altissimum), prairie sagewort, yellow sweetclover (Melilotus officinalis), white sweetclover (M. alba), common yarrow (Achillea millefolium), white clover (Trifolium repens), red clover (T. pratense), scarlet globemallow (Sphaeralcea coccinea), hairy false goldenaster (Heterotheca villosa), garden bird's-foot-trefoil (Lotus corniculatus), wild mustard (Brassica kaber), field mustard (B. rapa), pale madwort (Alyssum alyssoides), yellow salsify (Tragopogon dubius), great mullein (Verbascum thapsus), prickly lettuce (Lactuca serriola), herb Sophia (Descurainia sophia), field penny-cress (Thlapsi arvense), plains pricklypear (Opuntia polyacantha), alfalfa (Medicago sativa), black medic (M. lupulina), Canadian thistle (Cirsium arvense), and Mexican-fireweed (Bassia scoparia) were common herbaceous components of this community type. Shrubs were uncommon but included big sagebrush (Artemisia tridentata), common snowberry (Symphoricarpos albus), brome snakeweed (Gutierrezia sarothrae), woods' rose (Rosa woodsii), greasewood (Sarcobatus vermiculatus), choke cherry (Prunus virginiana) and common snowberry (Symphoricarpos albus).

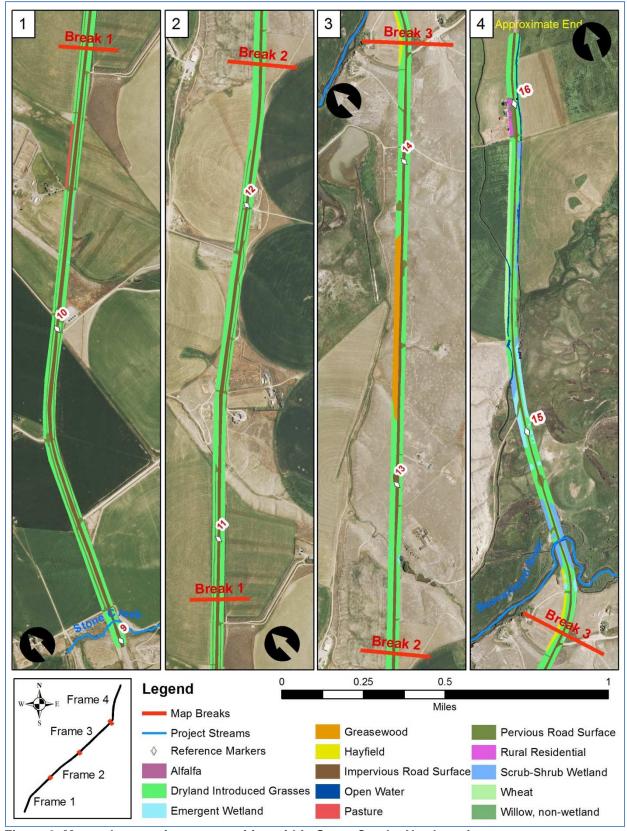


Figure 3. Mapped vegetation communities within Stone Creek - North project area.

Table 3. Vegetation observed within Stone Creek - North project area.

	vithin Stone Creek - North project a	2012 NWPL*
		Indicator
Scientific Name	Common Name	Status
Achillea millefolium	Common Yarrow	FACU
Agropyron cristatum	Crested Wheatgrass	UPL
Agrostis gigantea	Black Bentgrass	FAC
Alopecurus arundinaceus	Creeping Meadow-Foxtail	FAC
Alopecurus pratensis	Field Meadow-Foxtail	FAC
Alyssum alyssoides	Pale Madwort	UPL
Artemisia frigida	Prairie Sagewort	UPL
Artemisia tridentata	Big Sagebrush	UPL
Asclepias speciosa	Showy Milkweed	FAC
Bassia scoparia	Mexican-Fireweed	FAC
Brassica kaber	Brassica kaber	NL
Brassica rapa	Field Mustard	FACU
Bromus inermis	Smooth Brome	FAC
Bromus tectorum	Cheatgrass	UPL
Carex utriculata	Northwest Territory Sedge	OBL
Cirsium arvense	Canadian Thistle	FAC
Chenopodium album	Lamb's-Quarters	FACU
Cornus alba	Redosier Dogwood	UPL
Dactylis glomerata	Orchard Grass	FACU
Descurainia sophia	Herb Sophia	UPL
Elaeagnus angustifolia	Russian-Olive	FAC
Elaeagnus commutata	American Silver-Berry	FAC
Eleocharis palustris	Common Spike-Rush	OBL
Eleocharis rostellata	Beaked Spike-Rush	OBL
Elymus cinereus	Basin wild-rye	NL
Elymus lanceolatus	Streamside Wild Rye	FACU
Elymus repens	Creeping Wild Rye	FAC
Epilobium ciliatum	Fringed Willowherb	FACW
Equisetum hyemale	Tall Scouring-Rush	FACW
Festuca arundinacea	Tall fescue	FAC
Festuca campestris	Rough fescue	UPL
Festuca idahoensis	Bluebunch Fescue	FACU
Glycyrrhiza lepidota	American Licorice	FAC
Gutierrezia sarothrae	Broom Snakeweed	UPL
Heterotheca villosa	Hairy False Goldenaster	UPL
Hordeum jubatum	Fox-Tail Barley	FAC
Juncus arcticus	Arctic Rush	FACW
Lactuca serriola	Prickly Lettuce	FACU
Lotus corniculatus	Garden Bird's-Foot-Trefoil	FAC
Medicago lupulina	Black Medick	FACU
Medicago sativa	Alfalfa	UPL
Melilotus alba	White Sweet-Clover	UPL

Table 3 (cont.) Vegetation observed within Stone Creek - North project area.

		2012 NWPL*
		Indicator
Scientific Name	Common Name	Status
Melilotus officinalis	Yellow Sweet-Clover	FACU
Opuntia polyacantha	Plains Pricklypear	UPL
Phalaris arundinacea	Reed Canary Grass	FACW
Phleum pratense	Common Timothy	FAC
Phragmites australis	Common Reed	FACW
Poa pratensis	Kentucky Blue Grass	FAC
Poa secunda	Curly Blue Grass	FACU
Polypogon monspeliensis	Annual Rabbit's-Foot Grass	FACW
Prunus virginiana	Choke Cherry	FACU
Pseudoroegneria spicata	Blue-Bunch Wheatgrass	UPL
Ranunculus cymbalaria	Alkali Buttercup	OBL
Ribes inerme	White-Stem Gooseberry	FAC
Rosa woodsii	Woods' Rose	FACU
Rumex crispus	Curly Dock	FAC
Salix exigua	Narrow-Leaf Willow	FACW
Sarcobatus vermiculatus	Greasewood	FACU
Schoenoplectus acutus	Hard-Stem Club-Rush	OBL
Scirpus microcarpus	Red-Tinge Bulrush	OBL
Sisymbrium altissimum	Tall Hedge-Mustard	FACU
Sphaeralcea coccinea	Scarlet Globemallow	UPL
Symphoricarpos albus	Common Snowberry	FACU
Thlaspi arvense	Field Penny-Cress	UPL
Tragopogon dubius	Yellow Salsify	UPL
Trifolium pratense	Red Clover	FACU
Trifolium repens	White Clover	FAC
Typha latifolia	Broad-Leaf Cat-Tail	OBL
Urtica dioica	Stinging Nettle	FAC
Verbascum thapsus	Great Mullein	FACU
Veronica anagallis-aquatica	Blue Water Speedwell	OBL

<sup>\*</sup>Indicator status from 2012 National Wetland Plant List for Western Mountains, Valleys and Coast.

A Greasewood community was identified along the west side of the highway between mileposts 13 and 14 near the Beaverhead Gateway MDT wetland mitigation site. In addition to several of the grasses and herbs common within the Dryland Introduced Grasses community described above, this community was dominated by greasewood and extended west from the highway corridor into the Beaverhead Gateway wetland site.

Alfalfa, wheat fields, irrigated hayfields, and dryland pastures were mapped in select areas along the site within 100 feet of the highway centerline. These communities represent areas with active agricultural land management practices and are in general

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heavily manipulated by land-tilling and seeding to achieve desired vegetation communities. Aside from the dryland pastures, these fields are subjected to annual or semi-annual crop rotation and cover crops.

Emergent wetland communities were mapped along the Stone Creek riparian corridor (Figure 3). This community was mapped in some additional unnamed drainages with intermittent and perennial hydrology that cross the highway through the project reach, around the vicinity of the Beaverhead River, and along the irrigation canals located along the northern extent of the study area. The vegetation communities within the emergent wetlands generally included reed canarygrass (Phlaris arundinacea), field meadow foxtail (Alopecurus pratensis), common spikerush (Eleocharis palustris), alkali cymbalaria), buttercup (Ranunculus creeping meadow foxtail (Alopecurus milkweed (Asclepias arundinaceus). showy speciosa). hard-stem club-rush (Schoenoplectus acutus), Northwest territory sedge (Carex utriculata), broadleaf cattail (*Typha latifolia*), stinging nettle (*Urtica dioicia*), American licorice (*Glycyrrhiza lepidota*), common reed (Phragmites australis), curly dock (Rumex crispus), black bentgrass (Agrostis gigantea), fringed willowherb (Epilobium ciliatum), Arctic rush (Juncus arcticus), blue water speedwell (Veronica anagallis-aquatica), and tall scouring-rush (Equisetum hyemale). Canadian thistle was a common component along the transition from emergent wetland to dryland grasses.

Willow-dominated scrub-shrub wetlands were mapped along the Beaverhead River and portions of the irrigation canal network in the northern portion of the site (Figure 3). Narrow-leaf willow (*Salix exigua*) was the dominant shrub throughout this community with lesser amounts of Russian-olive (*Eleagnus angustifolia*), American silver-berry (*E. commutata*), woods' rose, white-stem gooseberry (*Ribes inerme*), and redosier dogwood (*Cornus alba*). The herbaceous understory within the scrub-shrub wetlands included common components of the emergent wetland communities. A small area near the Beaverhead River was generally dominated by willows but did not exhibit signs of contemporary wetland hydrology.

Other polygons identified in Figure 3 include Impervious Road Surface, Pervious Road Surface, and Rural Residential. Impervious Road Surface included asphalt and pavement along Highway 41 and select driveway entries along the corridor. Pervious Road Surfaces generally include gravel driveways, agricultural parking areas, and unvegetated accessory routes parallel to the highway typically used by farmers and ranchers to access fields and irrigation infrastructure. An area of Rural Residential was mapped along the northern extent of the project. This polygon included a house, yard, various sheds and other amenities typical of rural residential and agricultural infrastructure.

# 3.2.2.2. Potential Impacts

Vegetation along both sides of Highway 41 throughout the length of the study area has been previously impacted by the original road construction, periodic maintenance, and active agricultural activities. As noted in the above section, dominant vegetation includes introduced pasture grasses. The road improvements may disturb a limited

area of shrubs near the Beaverhead River. No T&E plant species and one SOC species were identified throughout the course of the field survey.

It is anticipated that there will be a temporary loss of existing vegetation and an increased risk of weed infestation as a result of construction activities. These activities may result in soil compaction and an increased risk of soil erosion prior to vegetation establishment.

### 3.2.2.3. Avoidance and Minimization

The disturbance to the existing vegetation cover resulting from construction should be limited to the smallest area practicable. Stock piles should be stored a minimum of 100 feet from the Beaverhead River, Stone Creek, and project wetlands. Exposed soils are vulnerable to weed establishment. Dispersal of weed seeds can be limited by removing existing weeds prior to construction and by seeding as soon as possible following construction. Seeding with native grasses and/or forbs may limit the establishment of noxious and other invasive species.

### 3.2.2.4. Recommended Conservation Measures

MDT Standard Specifications for Road and Bridge Construction (2006), Stormwater, erosion and sediment control, and general construction Best Management Practices (BMPs) should be used to limit ground disturbance, control erosion, and to revegetate disturbed areas within the construction limits. Any proposed mitigation or restoration should involve planting native vegetation. The following general BMP's should be implemented during construction:

- Minimize disturbance to shrubs to the extent practical.
- Stockpile spoil materials away from the river, stream, and wetlands and install appropriate erosion control measures.
- Prepare the seedbed adequately by removing large rocks and replacing salvaged topsoil.
- Revegetate the river banks and disturbed areas with native herbaceous and woody plants as soon as practical following construction.
- Implement a weed management plan to control invasive species short and longterm.

### 3.2.3. Noxious Weeds / Invasive Species

The State of Montana designates certain exotic plants as "noxious". Executive Order 13112 signed on February 3, 1999, addresses federal agency responsibility with respect to invasive species (noxious weeds). The project is subject to provision of EO 13113, as a partially federally funded action.

There are 31 Category 1, 2, and 3 noxious weeds generally distributed throughout the state. Table 4 lists the noxious weed species found in Beaverhead and Madison Counties.

# 3.2.3.1. Species Present and Distribution

The field surveys of the Stone Creek project area documented the presence of Canadian thistle, houndstongue, yellow toadflax, and hoary cress. The location, size of infestation, and approximate cover of noxious weeds within each infestation area are shown on Figure 4.

# 3.2.3.2. General Description and Degree of Infestation

Canadian thistle was generally distributed along the boundary of wetlands within the project area. This species was also identified in some of the moister, non-wetland, areas in the ephemeral drainages that cross the site. Isolated plants of Canadian thistle were encountered during the field survey. A small infestation of yellow toadflax was identified along the boundary of a wetland near the Beaverhead River (Figure 4). One infestation of hoary cress was identified in uplands near a turn-out close to the Beaverhead River. Six infestations of houndstongue were identified along the project area, including two areas around RP 9.4, one near RP 12.8, and three around RP 15.4.

Table 4. List of noxious weeds distributed in Beaverhead and/or Madison Co.

Genus	Species	Common Name	Category: 1, 2, or 3 <sup>1</sup>	County
Cardaria	draba	Hoary cress	2B	Beaverhead/Madison
Centaurea	diffusa	Diffuse knapweed	2B	Beaverhead/Madison
Centaurea	maculosa	Spotted knapweed	2B	Beaverhead/Madison
Centaurea	repens	Russian knapweed	2B	Beaverhead/Madison
Chrysanthemu	leucanthemu	Oxeye daisy	2B	Beaverhead/Madison
Cirsium	arvense	Canada thistle	2B	Beaverhead/Madison
Convolvulus	arvensis	Field bindweed	2B	Beaverhead/Madison
Cynoglossum	officinale	Houndstongue	2B	Beaverhead/Madison
Euphorbia	esula	Leafy spurge	2B	Beaverhead/Madison
Hieracium	aurantiacum	Orange hawkweed	2A	Madison
Iris	pseudacorus	Yellowflag iris	2A	Madison
Isatis	tinctoria	Dyer's woad	1B	Beaverhead
Linaria	dalmatica	Dalmatian toadflax	2B	Beaverhead/Madison
Linaria	vulgaris	Yellow toadflax	2B	Beaverhead/Madison
Potentilla	recta	Sulfur cinquefoil	2B	Beaverhead/Madison
Tanacetum	vulgare	Common tansy	2B	Beaverhead/Madison

<sup>1</sup>Category 1B - Noxious weeds have limited presence in Montana.

Category 2A - Weeds are common in isolated areas of Montana.

Category 2B - Weeds are abundant in Montana and widespread in many counties.

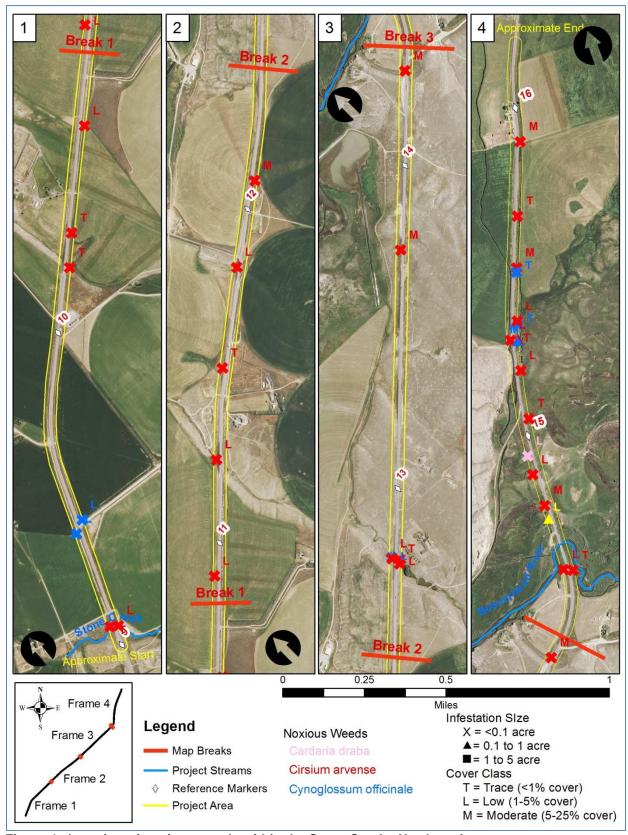


Figure 4. Location of noxious weeds within the Stone Creek - North project area.

#### 3.2.3.3. Recommended Conservation Measures

Best Management Practices (BMPs) should be used to limit ground disturbance, control erosion, and to revegetate disturbed areas within the construction limits. The project should include an approved weed management program to decrease the potential for spread of noxious weeds. A native seed mix should be used to stabilize the right-of-way after construction. The following general BMP's should be implemented during construction:

- Minimize disturbance to shrubs to the extent practical.
- Stockpile spoil materials away from the river, stream, and wetlands and install appropriate erosion control measures.
- Prepare the seedbed adequately by removing large rocks and replacing salvaged topsoil.
- Revegetate the river banks and disturbed areas with native herbaceous and woody plants as soon as practical following construction.
- Implement a weed management plan to control invasive species short and longterm.
- Time construction to avoid spring runoff in May and June. Note: This bullet does not apply to the Beaverhead River as it is dam released and does not exhibit increased river levels in spring related to snow melt.

### 3.2.4. **General Wildlife Species**

A comprehensive list of wildlife species known to occur in Beaverhead and Madison Counties is presented in Appendix G. In addition to the direct observation of several species listed below, tracks and other signs were noted during the field survey. Several carcasses, apparently killed by vehicles, were observed and their location was recorded with GPS (results discussed in Section 8.0 of this report).

Wildlife habitats in the project area consist of roadside ditches, pastures (active and inactive), wheat and hay fields, greasewood vegetation community, emergent and scrub-shrub wetlands, and open water habitat (Stone Creek, Beaverhead River). A discussion of fish species and aquatic habitat are provided in Section 4.0. A list of wildlife species noted during the field survey is provided in Table 5.

# 3.2.4.1. Species Description and Distribution

#### Avian

The Beaverhead Valley provides habitat for nesting, migrating, and wintering waterfowl and a range of habitats for upland game birds, raptors, shorebirds, and other resident and migratory species. Direct evidence of avian nesting observed within the project corridor or observed within 0.5-mile upstream and downstream of the Beaverhead River Bridge was limited to existing swallow nests on both the Stone Creek Bridge and Beaverhead River Bridge. Swallow nests on the bridges should be addressed in compliance with the Migratory Bird Treaty Act. No active nests supporting chicks or eggs should be destroyed, nesting deterrents should be installed and removal of structures and vegetation (trees and shrubs) should occur outside of nesting season.

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Bird activities noted during the field surveys primarily included foraging and fly-overs. A lack of large trees within the project area limits nesting by raptors and other species. A large eagle was noted circling Beaverhead Rock, which may provide suitable golden eagle nesting habitat. Incidental occurrence of bald and/or golden eagles along the project corridor is likely due to suitable foraging areas. No raptor nests were identified during the field surveys. If any nests or primary habitat for bald and/or golden eagle is identified during the course of this project, compliance with the Bald and Golden Eagle Protection Act will be required. Bald and Golden eagles are discussed in detail in Sections 6.1.2.4 and 6.1.2.5, respectively, in this report. A great blue heron was noted flying over the river outside the study area. Suitable rookery habitat within the study area is not present and generally limited upstream and downstream along the Beaverhead River. Incidental secondary habitat for a range of birds is present but use of the study area for primary habitat is likely limited due to persistent vehicular traffic, maintenance of the highway right-of-way, and active agricultural activity.

Table 5. Wildlife species and sign observed during survey of Stone Creek - North project area.

Common Name	Scientific Name	Туре
American Robin	Turdus migratorius	Birds
Bank Swallow	Riparia riparia	Birds
Barn Swallow	Hirundo rustica	Birds
Black-billed Magpie	Pica hudsonia	Birds
Brewer's Blackbird	Euphagus cyanocephalus	Birds
Brown-headed Cowbird	Molothrus ater	Birds
Cliff Swallow	Petrochelidon pyrrhonota	Birds
Common Gartersnake	Thamnophis sirtalis	Reptiles
Common Nighthawk	Chordeiles minor	Birds
Eastern Kingbird	Tyrannus tyrannus	Birds
European Starling	Sturnus vulgaris	Birds
Gray Catbird	Dumetella carolinensis	Birds
House Wren	Troglodytes aedon	Birds
Killdeer	Charadrius vociferus	Birds
Mallard	Anas platyrhynchos	Birds
Meadow Vole	Microtus pennsylvanicus	Mammals
Merriam's Shrew	Sorex merriami	Mammals
Mule Deer	Odocoileus hemionus	Mammals
Porcupine	Erethizon dorsatum	Mammals
Pronghorn	Antilocapra americana	Mammals
Raccoon	Procyon lotor	Mammals
Red Fox	Vulpes vulpes	Mammals
Richardson's Ground Squirrel	Urocitellus richardsonii	Mammals
Sandhill Crane	Grus canadensis	Birds
Striped Skunk	Mephitis mephitis	Mammals
Swainson's Hawk	Buteo swainsoni	Birds
Tree Swallow	Tachycineta bicolor	Birds
Turkey Vulture	Cathartes aura	Birds
White-tailed Deer	Odocoileus virginianus	Mammals
Western Meadowlark	Sturnella neglecta	Birds

### Mammals

Ninety-three mammalian species are known to occur in Beaverhead and/or Madison County. The majority of these species require habitat not present within the study area (i.e., alpine, forest and woodland systems). Ten mammalian species were noted during the field survey and include meadow vole (*Microtus pennsylvanicus*), Merriam's shrew (*Sorex merriami*), mule deer (*Odocoileus hemionus*), porcupine (*Erethizon dorsatum*), pronghorn (*Antilocapra americana*), raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), Richardson's ground squirrel (*Urocitellus richardsonii*), striped skunk (*Mephitis mephitis*), and white-tailed deer (*Odocoileus virginianus*). The majority of wildlife identified was observed in the dryland introduced grass community and appeared to be transient between sagebrush steppe and riparian habitats. No T&E or SOC wildlife species were observed during the field survey although transient and incidental occurrence by sensitive species is likely.

### **Herptiles**

Eight amphibians and eight reptiles are known to occur in Beaverhead and/or Madison County (MTNHP 2013). Only one of these species, Plains Spadefoot, is listed as an S3 SOC while the other 15 are not identified as T&E or SOC. A lack of suitable habitat within the study area and range of the Plains Spadefoot make occurrence of this species along Highway 41 between Stone Creek and the Beaverhead River unlikely. The Plains Spadefoot was not identified in the MTNHP SOC report. Although incidental occurrences of eleven species of reptiles and amphibians within the project area are likely, only the common garter snake was observed during field survey.

### Fish

Fishery resources within the Stone Creek – North project area are described in detail in the General Aquatic Species section of this report, Section 5.2.4.

## 3.2.4.2. Habitat Requirements

No unique, uncommon, or undisturbed habitats were observed within the study area. The dryland introduced grass community, pastures, hayfields, wheat fields, and emergent and scrub-shrub wetland habitats are common throughout the region. Disturbances along the highway corridor primarily include active right-of-ways, farming, and grazing. The introduction of many grass species has resulted in a shift away from community-dominance by native species. Habitats identified in the vicinity of the project area include Rocky Mountain lower montane, foothill, and valley grassland, montane sagebrush steppe, alpine-montane wet meadow, and cultivated crops. Wildlife common along the highway corridor generally include species with increased tolerance to traffic and anthropogenic activities, such as white-tailed deer, red fox, raccoons, and Richardson's ground squirrels.

### 3.2.4.3. Potential to Occur in Project Area

The animal species listed in Table 5 are known to occur within the project area. Additionally, the MTNHP indicate an extensive list of species that may commonly or incidentally occur within the adjacent habitats types listed above. The potential for occurrence of SOC and T&E species are discussed in detail in sections 6.0 and 7.0, respectively.

# 3.2.4.4. Potential Impacts

Permanent impacts to general wildlife species in the project areas are expected to be minor. There will be no significant amount of habitat lost and much of the disturbed areas will be revegetated with a combination of desirable and native species. Indirect disturbance to wildlife communities in the project area is considered minor as a result of the temporary nature of the construction and the availability of alternate habitat in the general vicinity. Species such as mice and voles that reside exclusively within the construction area exhibit limited home ranges. Their survival depends on the carrying capacity of the adjacent undisturbed habitat.

Temporary impacts to wildlife may include loss of some habitat within the construction zone. Construction activities may affect individuals through noise, vibration, human activity, and construction equipment. Loss of nesting, foraging, and cover habitat may occur from either direct removal of habitat for road alignment and side slopes and temporary vegetation clearing. The amount of habitat disturbed, both temporary and permanent, are small and the habitats affected are not rare and occur commonly adjacent to the project area. Most wildlife within the study area at the time of construction is expected to be able to move to surrounding similar habitat.

The impacts to Stone Creek and the Beaverhead River are expected to be inconsequential as a result of minimizing construction within the streambed. existing bridge spans are situated outside of the stream and river beds and will be replaced with piers and abutments outside delineated aquatic resources. swallow nests, primarily barn swallows, are currently present within the existing bridge infrastructures over both Stone Creek and the Beaverhead River. These nests must be removed as part of bridge replacement and should be conducted in compliance with the Migratory Bird Treaty Act (MBTA). Compliance with the MBTA will require prevention of nesting, removal of inactive nests, and avoid/minimizing take. To prevent nesting, installation of netting or approved nesting repellants around suitable nests locations on existing bridges may aid in controlling access to nests by adult swallows. Nests may be removed from structures if there are no eggs or chicks in them. Nest surveys should begin in early spring and occur frequently prior to nest removal. Avoid nest disturbance during peak breeding season, usually May through July. recommended to remove existing nests outside of the nesting season, typically August 15 through April 15, and actively prevent further nesting until structure has been replaced.

### 3.2.4.5. Avoidance and Minimization

Disruption of bird nesting will be avoided by scheduling the vegetation clearing outside the bird nesting window, typically mid-April through mid-August. Conducting construction during August and September would avoid critical egg-laying and incubation time periods for birds, reptiles and amphibians, and birthing time frames for mammals.

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### 3.2.4.6. Recommended Conservation Measures

MDT Standard Specifications for Road and Bridge Construction (2006) effectively address the protection of environmental resources. The following recommended measures are in addition to the Standard Specifications.

- Limit vegetation removal to the confines of the permanent construction limits.
   Do not remove, but trim trees and shrubs as necessary for equipment access and other temporary construction activities outside of the permanent construction limits.
- Do not remove active nests. Remove existing nests outside nesting season, typically April 15<sup>th</sup> through August 15<sup>th</sup>. Install and maintain netting or approved nesting repellants following nests removal to prevent additional nesting until bridge structure has been replaced. Appropriate nesting repellants should be installed on existing and temporary structures (i.e., bridges, scaffolding) before and during construction.
- Restore disturbed ground with a combination of desirable and native vegetation and landscape components where possible
- Store all hazardous materials including petroleum compounds away from the river, stream, and wetlands in a protected impoundment with overflow prevention and erosion controls.

### 4.0 POTENTIAL WILDLIFE CROSSINGS

#### 4.1. Introduction

Collisions between automobiles and wildlife along Highway 41 between Dillon and Twin Bridges are common. MDT is concerned about safety along Highway 41 and would like to reduce the number of wildlife/vehicle collisions along the road. As part of the biological resource evaluation for this BRR, Confluence investigated potential locations for wildlife underpasses along the assessed stretch of highway.

#### 4.2. Methods

A Confluence biologist walked the entire project area and noted evidence of existing wildlife such as trails, tracks, scat, and hair on fences. Carcasses were documented with GPS points. Additionally, MDT provided Confluence with wildlife road-kill data from January 2002 through December 2012 for the entire project area. The GPS carcass points collected by Confluence were categorized based on the nearest tenth of a mile and this data was combined to the data provided by MDT to construct a graph (Chart 2) and a map (Figure 5) denoting carcass numbers per tenth-mile. Chart 3 displays wildlife roadkill data separated by month over the recorded 11 year period. Potential wildlife underpasses locations were evaluated based on existing topography, adjacent habitat, and other landscape-level considerations such as fences, irrigation and agriculture infrastructure, residential concentration, and known or suspected wildlife corridors.

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Chart 2. Wildlife roadkill data for Highway 41 from RM 9.0 to 16.2.

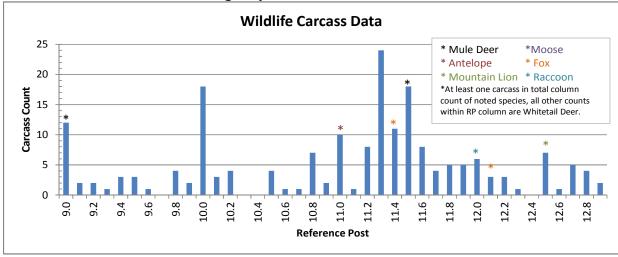


Chart 2 (cont.) Wildlife roadkill data for Highway 41 from RM 9.0 to 16.2.

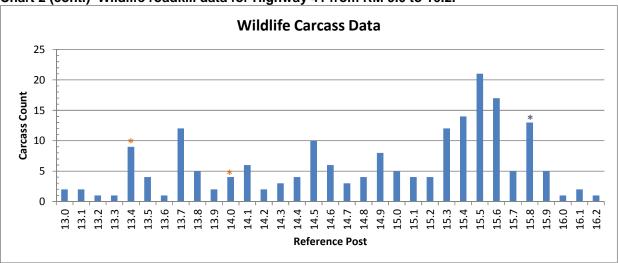
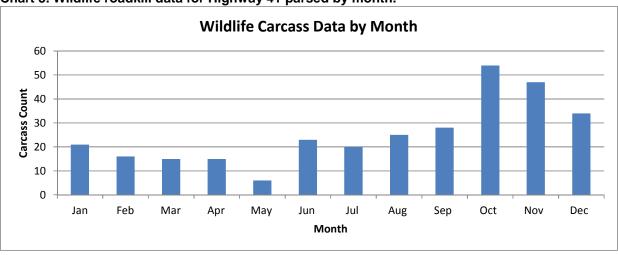


Chart 3. Wildlife roadkill data for Highway 41 parsed by month.



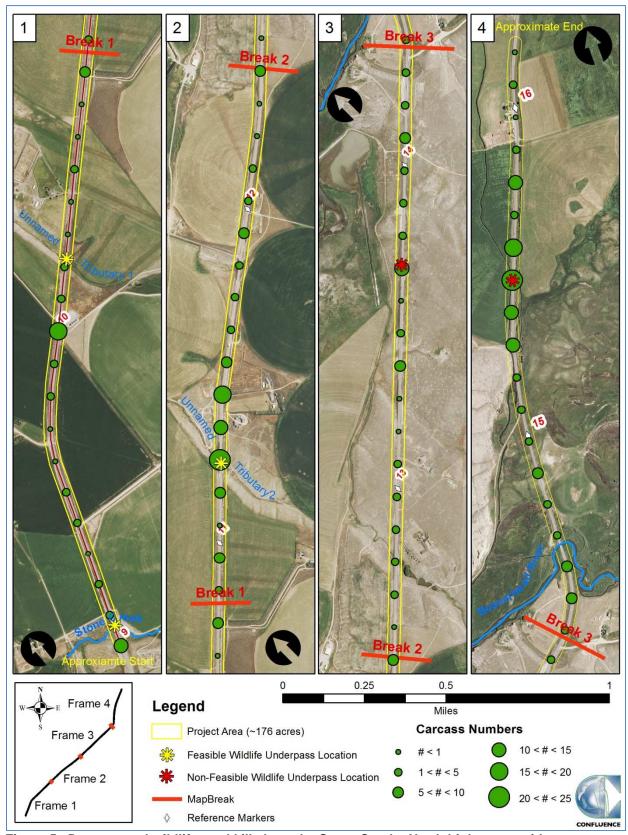


Figure 5. Documented wildlife road kill along the Stone Creek - North highway corridor.

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#### 4.3. Results

The dominant species killed within the project area is whitetail deer. Other species carcasses that have been documented within the project area include: fox, mule deer, moose, mountain lion, raccoon, and antelope. Based on the eleven years of wildlife carcass data and the 2013 field survey data (Figure 5), five locations were identified as potential locations for a wildlife underpass based solely on the high number of documented carcasses at these locations (RM 9.0, 10.2, 11.2, 13.7, and 15.5). An examination of the topography in the vicinity of these five high wildlife-collision locations further refined potential underpass locations.

The highest number of carcasses was documented between RM 15.3 and RM 15.8 along a section of road north of the Beaverhead River. The terrain through this stretch is flat, the adjacent land is somewhat swampy, and there are irrigation ditches parallel to the road. A wildlife underpass in this area was deemed unsuitable based on topography and hydrology limitations. Further considerations for implementing safety precautions to reduce wildlife-vehicle collisions through this area may include installation of higher fencing, lighting, signing, and/or detection systems to advise drivers of potential dangers.

A relatively high number of wildlife-vehicle collisions were noted around RM 13.7. This location is near an existing vehicle turnout (photo in Appendix C). A wildlife underpass at this location would provide a safe passageway for animal travel between the large dryland pasture to the southeast of the highway and the wetlands and riparian corridor of the Beaverhead River to the northwest of the highway. However, the topography of the highway right-of-way through this reach would require significant excavation and likely result in an awkward-looking underpass not readily used by wildlife.

Based on the evaluation of the available data and the topography of the highway corridor, three suitable locations for wildlife underpasses have been identified within the Stone Creek – North project area (Figure 5). Highway 41 crosses a number of deep gullies between Stone Creek and the Beaverhead River. Three of these drainages pass beneath Highway 41 near the identified potential wildlife underpass locations based on carcass numbers: Stone Creek is near RM 9.0; unnamed tributary 1 is near RM 10.2; and unnamed tributary 2 is near RM 11.2.

The most suited location for a wildlife underpass identified within the assessed reach of Highway 41 is near RM 11.2 (Photograph in Appendix C). This seasonal drainage (UT-2) flows under the highway through a culvert. Abundant wildlife signs and trails were identified during the field survey in this area and were corroborated by the plotted roadkill data (Chart 2), displaying a peak of 24 reported vehicle-animal collisions since January 2002. The topography of the existing drainage and road grade are compatible with the installation of a wildlife underpass. A high number of vehicle-animal collisions were generally noted between RM 11.0 and 11.6. A safe underpass at RM 11.2 may attract traveling wildlife along this expanded reach and condition the animals into routine safe underpass usage. An underpass at this location would provide a safe

wildlife corridor connecting the foothills and farmlands to the east with the Beaverhead River riparian corridor to the west.

A second location for a wildlife underpass was identified at UT-1 (Figure 5, photograph in Appendix C). Although this stretch of highway did not display the level of documented roadkill as UT-2 at RM 11.2, abundant wildlife usage was noted through this drainage. Additionally, the topography is well suited for the installation of an underpass at this location (RM 10.2).

Consideration for a wildlife underpass during the design of the bridge at Stone Creek may result in a usable wildlife corridor without incurring the expense of a separate underpass specifically designated for wildlife. Stone Creek is a narrow channel as it flows under Highway 41. Providing an upland strip along the creek under the bridge and managing fencing and wildlife access through the area would likely result in wildlife use and reduce the number of animals crossing the road at this location.

#### 4.3.1. Recommended Conservation Measures

Because the existing culverts at the two unnamed tributaries are likely to be replaced, replacement with an oversized corrugated metal arch or concrete box culvert to allow for passage of both the stream and wildlife is recommended. At Stone Creek the bridge is currently wide enough to allow for passage of wildlife next to the creek, but fencing on the downstream face of the bridge for cattle is not wildlife friendly. It is recommended that the new bridge span at Stone Creek be no shorter than the existing span, elevation be increased to allow adequate wildlife passage, and that a wildlife path be included along the channel under the bridge. We also recommend new fencing in the vicinity of the bridge to facilitate both the cattle operation and wildlife passage. Wildlife underpasses at the three recommended sites in conjunction with wildlife exclusion fencing to guide animals to these passages should assist MDT in managing the animal-vehicle collisions south of the Beaverhead River.

### **5.0 AQUATIC RESOURCES**

#### 5.1. Methods

For the purpose of this BRR, Aquatic Resources discussed in this chapter refer to rivers, streams, ephemeral/intermittent drainage ditches, and irrigation ditches with downstream connections to Waters of the U.S. Wetland resources identified within the study area are described in detail in Section 6.0 of this report. Waters of the U.S. have different technical criteria for delineation than jurisdictional wetlands. Waters of the U.S. are identified as those areas with a definable bed and bank and an ordinary high water mark (OHWM) that are contiguous to other jurisdictional waters of the U.S., as outlined in 33 CFR Part 328. In general terms, rivers, streams or drainage ways with a definable bed and bank and OHWM are typically designated as Waters of the U.S.

Prior to the field visit, the study area was researched for potential presence of aquatic resources. Various mapping resources were used, including the National Wetland

Inventory maps, USGS topographic quad maps, aerial photographs, NRCS soils maps, MTNHP, and MFISH.

Three Waters of the US cross the project area, including Stone Creek, the Beaverhead River, and an unnamed spring creek. Stone Creek crosses the project area near mile marker 9 at the southeast end of the project area; the unnamed spring creek crosses the project area near RM 12.73; and the Beaverhead River crosses the project area near RM 14.6.

Each aquatic site was assessed during a site visit on June 26 and 27, 2013. The site assessments included:

- GPS surveys of the ordinary high water mark/bankfull channel elevation, and water surface profile for a minimum of 100 meters upstream and downstream of Highway 41 along Stone Creek and the Beaverhead River;
- Documentation of riffle, pool, and pond habitat features;
- Documentation of channel impairments and restrictions for a minimum of 0.5 miles upstream and downstream of Highway 41;
- Documentation of observed fish and wildlife species;
- Photo-documentation of observations and stream channel/riparian conditions;
- Landowner interview (unnamed spring creek only)

Additional, site-specific information for each of these aquatic sites is provided in the following sections.

#### 5.2. Results

#### 5.2.1. **Stone Creek**

### 5.2.1.1. Site Description

Stone Creek originates in the Ruby Mountains and flows approximately 13.4 miles in a northwesterly direction until its confluence with the Beaverhead River. Much of the Stone Creek watershed has been converted to agricultural production. Several pivot irrigation systems draw water from the stream and drain tiles discharge back to the stream. The creek flows beneath a bridge with wooden timbers and piers just northeast of mile marker 9 on Highway 41 (photograph in Appendix C).

#### Hydrology

Although the creek originates in the Ruby Mountains, the headwaters of the creek receive relatively little snowpack; therefore, Stone Creek's hydrology is not significantly influenced by spring snowmelt. The bankfull/ordinary high water mark along Stone Creek is representative of a spring-type system, and is approximately 0.4 feet above the base flow water surface elevation. The spring-type hydrology of the stream is primarily driven by groundwater recharge and drain tile inputs from adjacent, irrigated fields. Headwater reaches of Stone Creek are isolated from reaches further downstream due to irrigation demands and the channel flowing subsurface while the lower segments of Stone Creek remain flowing year-round (Jaeger pers comm.).

# **Channel Surveys**

Stream surveys of the thalweg 300 feet upstream and downstream of the highway bridge indicate a channel slope of 0.0045 feet/feet upstream of the highway and 0.0037 feet/feet downstream of the highway. Bankfull width, as measured at riffles averages 10.9 feet, while average channel depth at these features is 0.6 feet. Pool habitat features are slightly deeper, with an average depth of 0.7 feet.

## **Channel Alignment**

Aerial photography and site topography suggest the Stone Creek channel has been manipulated from its historic configuration upstream and downstream of Highway 41. The creek is channelized for approximately 575 feet upstream and 280 feet downstream of the highway to better align the channel with the bridge.

### **Habitat Components**

Stream habitat components consist primarily of long, straight riffles separated by short, shallow pools. One high-quality pool exists approximately 70 feet downstream of the bridge and is created by a rock grade control feature (photograph in Appendix C). This grade control feature effectively prevents the channel from head cutting upstream and destabilizing the bridge footings. The channel drops 1.5 feet over the course of about 20 feet in length at the grade control feature. This grade control feature is recommended for upgrading as part of the bridge replacement.

## Riparian Corridor

The riparian corridor along the creek has been reduced to a thin band of pasture grasses and sparse woody shrubs (photograph in Appendix C). Crops have been planted up to the edge of the channel and have replaced much of the native riparian vegetation upstream of the bridge. Downstream of the bridge, the channel is incised and includes a narrow band of grasses and forbs along the immediate channel fringe. Approximately ten mature narrow-leaf willows have established along roughly 100 feet of the left bank downstream of the bridge, and provide the only source of shade and cover within a half mile of the bridge (photograph in Appendix C).

### Channel Restrictions/Impairments

Culverts have been placed in the channel at road crossings 800 feet upstream and 850 feet downstream of the bridge (photograph in Appendix C). The culvert downstream of the bridge also serves as a check dam for an irrigation pump station. A check structure has been placed in the channel approximately 1,000 feet downstream of the bridge which diverts all of Stone Creek into an irrigation ditch servicing agricultural operations to the north. The historic alignment of Stone Creek downstream of this check structure has been largely eliminated due to extensive agricultural, residential, and livestock activities.

### Fish and Wildlife Observations

Several brown trout were observed in Stone Creek both upstream and downstream of the highway bridge. Three trout (species unidentified) were observed utilizing the shallow pools upstream of the highway, and approximately 30 brown trout were observed in the backwater habitat created by the check structure downstream of the highway. Avian observations included mallard ducks, a kingfisher, swallows, and redwing blackbirds. Approximately two dozen active swallow nests were identified on the bridge structure.

## 5.2.1.2. Potential Impacts

This Stone Creek Bridge is subject to removal and replacement with a new bridge as part of the proposed Stone Creek – North highway improvement project. The new bridge will be widened to 28' plus some additional width to accommodate future widening of the connecting roadway.

The current bridge does not create a floodplain constriction or impede Stone Creek's flood flows. The channel was previously manipulated to align perpendicular to the bridge, and has remained in this configuration. Widening the bridge at this location is not expected to permanently impact the stream channel or the riparian fringe along the channel, as long as the newly constructed bridge span does not confine the channel and floodplain more than the existing bridge, and the channel is not manipulated from its existing configuration.

A grade control feature exists approximately 70 feet downstream of the bridge, and prevents a head cut from migrating further upstream. This grade control feature is constructed of rounded cobbles and extends across the width of the channel. Downstream of the grade control feature, the channel has eroded the left bank, causing the channel configuration to shift west. Continued bank erosion at this location may cause the channel to flank the grade control feature.

If the grade control feature is replaced with larger material, the stream bed and banks in the vicinity of the new grade control feature will be temporarily impacted. However, improving the grade control feature would include the replacement of an existing feature; therefore no new permanent impacts to the stream channel and riparian corridor are anticipated as a result of improving this grade control feature. The channel immediately downstream of the grade control could also be impacted if the bank is stabilized or the channel re-aligned to a straighter configuration.

A temporary detour off-set to one side of the existing bridge may be required to maintain traffic flow during the construction process. If this is necessary, placing this detour to the east (upstream) of the existing bridge may provide a more suitable route due to topography and existing infrastructure (fencing) in this vicinity, although either side may be equally suited due to comparable conditions. Any permanent or temporary structures should completely span the active channel and avoid impacts to the existing narrow wetland fringe along Stone Creek.

### 5.2.1.3. Avoidance and Minimization

The current alignment of Stone Creek perpendicular to the bridge already minimizes the extent of the channel affected by widening the bridge. The new bridge should be designed with a span that accommodates flood flows and that will not infringe upon riparian and wetland habitats immediately adjacent to the stream channel. No fill

materials should be placed within the stream channel as part of the bridge replacement.

### 5.2.1.4. Recommended Conservation Measures

MDT Standard Specifications for Road and Bridge Construction (2006) effectively address the protection of environmental resources. The following recommended measures are in addition to the Standard Specifications.

- Temporary erosion control should be installed in accordance with current BMPs along the newly constructed bridge approaches to prevent sediment from reaching the stream channel and riparian fringe.
- If possible, the stream bed and banks should remain undisturbed to prevent sediment delivery downstream.
- Heavy equipment operation in the active channel should be minimized to reduce turbidity and the potential for fuel spills into the creek.
- Removal of riparian and streamside vegetation should be kept to a minimum to reduce bank erosion.
- Manage existing swallow nests in accordance with the MBTA.
- The eroding bank should be evaluated to determine if additional protection is necessary to protect the new bridge from vertical channel adjustments.
- The grade control feature on Stone Creek just downstream of existing bridge should be upgraded as part of the bridge replacement.

# 5.2.1.5. Permitting Required

Widening the bridge over Stone Creek should not affect the stream bed and banks or wetland fringe adjacent to the creek. As a result, this activity alone will not require an Army Corps 404 permit or SPA 124 permit, so long as any piers and abutments, or riprap are not constructed within or immediately adjacent to the active stream channel. CWA 404 and SPA 124 permitting will be required if structure or other materials are placed along the banks or within the OWHM of Stone Creek, or if the existing timber bridge is replaced with a culvert or box culvert.

If the grade control feature and/or eroding bank just downstream of the bridge are upgraded or repaired, an Army Corps of Engineers 404 and SPA 124 permit will be required. In addition, a DEQ 318 permit for temporary turbidity exceedence may be required. All activities associated with the project will be subject to a Storm Water Pollution Prevention Plan (SWPPP) to minimize the risk of sediment delivery to stream and wetland features within the project area.

# 5.2.1.6. Exemptions

Downstream of Highway 41, Stone Creek is diverted into an irrigation ditch, which connects to a canal. This canal flows directly into the Beaverhead, establishing connectivity between Stone Creek and a jurisdictional waterway. As a result, Stone Creek is considered a jurisdictional waterway itself, and is not subject to any permitting exemptions under the Clean Water Act, Montana Stream Protection Act, or Montana 310 law.

### 5.2.1.7. Baseline Stream Factors

Baseline stream factors were considered for two separate actions that could result in the need for stream mitigation, including 1) upgrading the rock grade control structure downstream of the existing bridge, and 2) replacing the existing bridge with a wider bridge. The tables below present the baseline stream factors and assumptions for each of these actions at the Stone Creek crossing.

Stone Creek Baseline Stream Factors - Grade Control Feature			
Stream Type	Perennial		
Stream Order	2 <sup>nd</sup> Order		
Stream Status	Not high resource value		
Existing Condition	Impaired		
Duration	Permanent*		
Dominant Impact	Bank Stabilization*		
Collective Impact	$0.0005 \times 50 \text{ feet} = 0.025$		

<sup>\*</sup>Assumes bank stabilization will be required to maintain grade control feature downstream of bridge. Type of bank stabilization TBD. Duration of impact will not be considered in determining mitigation requirements as per the 2013 Stream Mitigation Procedures.

Stone Creek Baseline Stream Factors - Bridge Replacement			
Stream Type	Perennial		
Stream Order	2 <sup>nd</sup> Order		
Stream Status	Not high resource value		
Existing Condition	Impaired		
Duration	Permanent*		
Dominant Impact	None*		
Collective Impact	None*		

<sup>\*</sup>Assumes bridge construction will not result in any fill or riprap materials placed within the OHWM and the new bridge will span the width of the channel and adjacent floodplain. Assumes no piers or abutments well encroach upon the OHWM. Assumes no bank stabilization necessary along channel under bridge. Duration of impact will not be considered in determining mitigation requirements as per the 2013 Stream Mitigation Procedures.

#### 5.2.1.8. Credit Factors

#### Riparian Enhancement

The existing riparian corridor is a thin band of shallow-rooted pasture grasses which offer little cover and shade for aquatic habitat. Opportunities for riparian enhancements include:

- establishing a buffer adjacent to the channel to restrict livestock grazing;
- installing woody riparian vegetation along the stream banks to improve shade and cover for aquatic species
- installing deep-rooted wetland species along the immediate stream banks
- reduce undesirable vegetation and weeds

#### Stream Channel Restoration

The existing channel in the vicinity of the project area is channelized, resulting in oversimplified habitat complexity. Opportunities for stream channel restoration include:

- Reconstructing portions of the stream channel to a natural pattern and profile
- Enhancing pool features to accommodate aquatic species

## 5.2.2. Unnamed Spring Creek

### 5.2.2.1. Site Description

An unnamed spring creek crosses beneath Highway 41 between reference markers 12 and 13 at approximately RM 12.7 (photograph in Appendix C). This spring creek originates approximately 2 miles south of the highway, and flows adjacent to several pivot irrigated fields before reaching the highway. Immediately upstream of the highway, two impoundments have been constructed across the channel to create a series of fish ponds (photograph in Appendix C). Downstream of the highway, the creek continues to flow through a draw before being diverted into an irrigation ditch (photograph in Appendix C). This ditch maintains connectivity with a constructed wetland, which discharges into the Beaverhead River.

### Hydrology

Stream flow in the channel is generated from groundwater recharge, and is likely influenced by pivot irrigation practices in adjacent fields. The East Bench Canal may also influence discharges by leaking water into the spring creek system. The unnamed creek originates approximately 2 miles south of Highway 41, and therefore has no snowmelt influence.

## **Channel Alignment**

Upstream of the highway, the channel exhibits a naturally meandering pattern prior to being impounded into a series of three ponds. Downstream of the highway, the channel was moved east of its historic alignment for approximately 575 feet, presumably to accommodate the location of the culvert installed beneath Highway 41 during road construction. At the base of the draw, the entire channel has been diverted into an irrigation ditch, which runs along the base of a bluff before being diverted into an MDT mitigation wetland. The channel's historic configuration below the base of the bluff has been obliterated by agricultural development and pivot irrigation operations. It is unclear if the historic alignment of the spring directly connected with the Beaverhead River, or if it naturally terminated in the meadows before reaching the river.

#### **Habitat Components**

With the exception of the artificially constructed online pond features, the relatively steep channel consists of riffle habitat features only. No pool features were observed within 500 feet upstream and downstream of the highway. The spring hydrology of the channel does not produce enough discharge to scour deeper pool habitat; therefore, deeper pool formations are not present in the vicinity of the highway.

Just upstream of the highway, the landowners have constructed two impoundments to create two fish ponds, with the highway grade creating a third pond. According to the landowners, all necessary regulatory approval was granted prior to constructing the ponds. The lower pond is approximately 0.12 acres, while the middle and upper ponds are approximately 0.6 acres in size.

## Riparian Corridor

Downstream of the highway, the unnamed spring creek's channel is approximately 2 feet wide with a thin, 5-10 foot wide band of riparian vegetation primarily composed of pasture grasses, thistle, sparse sedges, and sparse hawthorne shrubs (photograph in Appendix C). Due to the spring driven hydrology, the creek lacks an extensive floodplain and does not exhibit indicators of frequent flooding outside of its banks.

Upstream of the highway, the riparian vegetation has been manipulated due to the pond developments. Cattails surround the pond closest to the highway, while pasture grasses surround the upper ponds.

# **Channel Restrictions/Impairments**

Downstream of the highway, the unnamed spring creek has been channelized and diverted from its original configuration for approximately 550 feet, likely as part of earlier road construction efforts. Although the creek has been diverted from its historic location, it appears stable vertically and laterally. Approximately 1,100 feet downstream from the highway, the entire channel has been diverted into an irrigation ditch, and the remaining length of natural channel has been obliterated.

Upstream of the highway, two impoundments have been constructed to create on-line fish ponds. These impoundments check water to create the pond features. Each pond is connected to the next through a constructed bypass channel. The ponds range in size from 0.12 to 0.60 acres, and extend roughly 900 feet upstream of the highway.

#### Fish and Wildlife Observations

Although no fish were observed in the unnamed spring creek, the landowner stated rainbow trout are stocked in the ponds and brown trout existed in the channel prior to construction of the impoundments. No other aquatic species were observed utilizing the spring creek.

### 5.2.2.2. Potential Impacts

Widening the highway at this stream crossing will require lengthening the culvert to accommodate fill slopes and embankment widths. Lengthening the culvert and placing fill around the new culvert sections will result in permanent impacts to jurisdictional waters and wetlands of the U.S. both upstream and downstream of the highway.

Downstream of the highway, the channel may need to be reconstructed to accommodate a longer culvert. The current channel turns sharply to the northeast immediately after coming out of the culvert and runs parallel to the highway for approximately 100 feet before turning back to the north. This section of channel and riparian corridor may need to be reconstructed to accommodate the placement of additional fill as necessary to widen the highway.

#### 5.2.2.3. Avoidance and Minimization

The new culvert should be designed as short as possible while meeting design criteria for the upgraded highway to minimize stream channel and wetland impacts.

## 5.2.2.4. Recommended Conservation Measures

MDT Standard Specifications for Road and Bridge Construction (2006) effectively address the protection of environmental resources. The following recommended measures are in addition to the Standard Specifications.

- Temporary erosion control should be installed in accordance with current BMPs along the newly constructed bridge approaches to prevent sediment from reaching the stream channel and riparian fringe.
- If possible, the stream bed and banks should remain undisturbed to prevent sediment delivery downstream.
- Heavy equipment operation in the active channel should be minimized to reduce turbidity and the potential for fuel spills into the creek.
- Removal of riparian and streamside vegetation should be kept to a minimum to reduce bank erosion.
- Manage existing swallow nests in accordance with the MBTA.
- If stream channel reconstruction is required downstream of the highway, the new channel should be constructed in the dry prior to running water through it to reduce turbidity and discharge of sediment to the stream.
- Install any temporary road crossing to adequately span the active channel and associated wetland fringe.

## 5.2.2.5. Permitting Required

Lengthening the culvert and reconstructing the stream channel will require obtaining a 404 permit from the U.S. Army Corps of Engineers, an SPA 124 permit for altering the bed and banks of a stream channel, and potentially a DEQ 318 permit for temporary increases in turbidity. The entire highway improvement project will require a SWPPP permit to address storm water issues during construction.

### 5.2.2.6. Exemptions

The unnamed spring creek is diverted into an irrigation ditch downstream of Highway 41. This irrigation ditch connects to an MDT mitigation wetland, which discharges to the Beaverhead River. This connectivity establishes the unnamed spring creek as a jurisdictional waterway, and is therefore not exempt from permitting under the Clean Water Act, Montana Stream Protection Act, or Montana 310 law.

### 5.2.2.7. Baseline Stream Factors

The following baseline stream factors were derived for the Unnamed Spring Creek as per the 2013 Montana Stream Mitigation Procedures.

Unnamed Spring Creek Baseline Stream Factors			
Stream Type	Perennial		
Stream Order	1 <sup>st</sup> Order		
Stream Status	Not high resource value		
Existing Condition	Impaired		
Duration	Permanent		
Dominant Impact	Pipe		
Collective Impact	0.00050 x 150' = 0.075*		

<sup>\*</sup>Assumes 50 feet of channel will be affected by lengthening the culvert and an additional 100 feet of channel will be reconstructed downstream of highway.

### 5.2.2.8. Credit Factors

### Riparian Enhancement

The existing riparian corridor is a thin band of shallow-rooted pasture grasses which offer little cover and shade for aquatic habitat. Opportunities for riparian enhancements include:

- establishing a riparian buffer adjacent to the channel;
- installing woody riparian vegetation along the stream banks to improve shade and cover for aquatic species;
- installing deep-rooted wetland species along the immediate stream banks;
- reduce undesirable vegetation and weeds.

### Stream Channel Restoration

The existing channel downstream of the highway is channelized, resulting in oversimplified habitat. Opportunities for stream channel restoration include:

- Reconstructing the stream channel to a natural pattern and profile;
- Restoring the channel to its historic configuration to the west of the existing channel.

#### 5.2.3. **Beaverhead River**

#### 5.2.3.1. Site Description

The Beaverhead River crosses the project reach at approximately RM 14.6 on Highway 41 (photograph in Appendix C). The Beaverhead River Bridge at this location is immediately adjacent to Beaverhead Rock, a prominent limestone cliff and landmark made famous by the Lewis and Clark expedition. The bridge crosses the Beaverhead River at the apex of a large meander bend in the river.

#### Hydrology

Discharge in the Beaverhead River is regulated by the Clark Canyon Dam, completed in 1964 and approximately 35 miles upriver from the project site. The regulated nature of the Beaverhead below Clark Canyon Dam is reflected in dam-releases, which provide irrigation water throughout the summer months to several large diversions. The Clark Canyon dam also provides flood control downstream, therefore the Beaverhead River does not exhibit a natural flood regime. The regulated nature of the

Stone Creek – North STPP49-1(25)9 CN 7931000

river has caused vegetation to encroach upon the channel in several locations, including just upstream of the Highway 41 bridge.

## **Channel Alignment**

Upstream of the Highway 41 Bridge, the Beaverhead River has been modified from its historic channel alignment. A historic road grade was constructed, spanning the width of the valley, and creating a floodplain constriction approximately 0.5 miles upstream of the existing bridge. Pieces of a former bridge crossing remain, including piers and concrete footers (photograph in Appendix C). Downstream from this historic road grade, the river has been channelized against the bluff on the south side of the floodplain for approximately 1,800 feet before meandering back to the north and flowing beneath the highway bridge. Downstream of the bridge, the river exhibits a natural, sinuous meander pattern across an extensive floodplain.

## **Habitat Components**

The existing bridge crosses the river near the apex of a meander bend that sweeps more than 180 degrees from a northern to a southern flow direction. A lengthy, deep pool extends from approximately 230 feet upstream of the bridge to approximately 350 feet downstream of the bridge. Riffle and run habitats also exist within 300 feet (upstream) of the bridge, offering habitat for aquatic insect production. A drain ditch enters the Beaverhead River 200 feet upstream of the bridge, and offers backwater habitat for juvenile fish (photograph in Appendix C).

## Riparian Corridor

The riparian corridor within 300 feet upstream and downstream of the bridge is largely intact and functioning properly. The corridor mainly consists of wetland sedges and rushes immediately adjacent to the channel, with dense stands of willows and grasses spread across the floodplain. Willow growth along the channel banks provides some degree of cover and shade along the immediate bank line, and contributes to instream woody habitat (photograph in Appendix C).

Observations of the riparian corridor greater than 500 feet upstream of the bridge indicated reduced function, as much of the corridor has been removed or converted to pasture grasses. Riparian shrubs along the left (north) bank of the channelized section of the river range from sparse to non-existent for over 1,000 feet (photograph in Appendix C). Vegetation along the south bank includes a thin band of riparian shrubs and grasses, which separate the river from a pasture used for grass and hay production.

Observations of the riparian corridor greater than 1,000 feet downstream of the bridge indicate some woody shrub removal and conversion to irrigated hay fields. An irrigated hay field runs adjacent to the river for approximately 1,500 feet. This reach contains no riparian buffer between the irrigated hay field and the river channel (photograph in Appendix C).

### Channel Restrictions/Impairments

The river has been channelized from its former alignment for approximately 1,800 feet upstream of the Beaverhead River Bridge. Riprap has been placed along 370 feet of

the left (north) bank to protect the adjacent hay field from erosion. Riprap has been placed along 225 feet of the north bank upstream and downstream of the Highway 41 Bridge to maintain lateral river stability.

Downstream of the bridge, removal of woody riparian vegetation along the south bank and irrigation practices are contributing to lateral instability and sediment inputs to the channel. Flood irrigation is saturating a high, steep bank along the right (south) bank causing the bank to slough into the river channel (photograph in Appendix C). The bank has no riparian buffer or deep binding roots to maintain stability and will continue to erode sediments into the river indefinitely. Short (10-25') segments of the channel have been riprapped along the right bank to protect a pump intake and to prevent further lateral erosion.

## Fish and Wildlife Observations

Rainbow trout, brown trout, common carp, and muskrat were observed within the river immediately upstream and downstream of the Highway 41 Bridge. Avian species observed included swallows, western kingbird, common snipe, golden eagle, redwing blackbird, mallard duck, sandhill crane, pheasant, and magpie. Several dozen (~50) swallow (barn/cliff) nests were observed attached to this bridge during the field survey.

## 5.2.3.2. Potential Impacts

The location of the existing bridge in the apex of the meander bend and tight curvature of radius through this reach limits the opportunity for realignment of this river crossing. If minor realignment of the bridge crossing is necessary, a slight shift west (upstream) may result in less impact to the stream and associated wetlands. Widening the highway at this river crossing will require placing abutments and piers and placing fill along the wider road grade. It may be necessary to place fill materials within the ordinary high water mark of the river, particularly for bridge supports. Fill materials along the road grade may be placed within the riparian and wetland corridor of the river; therefore, mitigation for these activities may be required.

#### 5.2.3.3. Avoidance and Minimization

In order to minimize impacts to stream, riparian, and wetland features, the new bridge should be designed with the maximum practical span in order to reduce riparian area impacts.

### 5.2.3.4. Recommended Conservation Measures

MDT Standard Specifications for Road and Bridge Construction (2006) effectively address the protection of environmental resources. The following recommended measures are in addition to the Standard Specifications.

- Temporary erosion control should be installed in accordance with current BMPs along the newly constructed bridge approaches to prevent sediment from reaching the stream channel and riparian fringe.
- If possible, the stream bed and banks should remain undisturbed to prevent sediment delivery downstream.

- If the bridge realignment requires unavoidable bank protection measures, a coffer dam should be constructed to dewater the bank and reduce the potential for excessive sediment production.
- Realigning the bridge to the west as opposed to east may have reduced impacts to the north bank, as the bank to the west of the bridge has previously been hardened with riprap for approximately 150'. Riprap protection extends approximately 60' downstream of the bridge, and would need to be extended further to accommodate a more eastern alignment.
- Install any temporary road crossings to adequately span active channel.
- All permanent structures should have a minimal span of existing structure.
- Heavy equipment operation in the active channel should be minimized to reduce turbidity and the potential for fuel spills into the creek.
- Removal of riparian and streamside vegetation should be kept to a minimum to reduce bank erosion.
- Manage existing swallow nests in accordance with the MBTA.
- The eroding bank should be evaluated to determine if additional protection is necessary to protect the new bridge from vertical channel adjustments.

# 5.2.3.5. Permitting Required

Placement of fill materials within the ordinary high water mark of the Beaverhead River to support a new bridge will require obtaining a 404 permit from the U.S. Army Corps of Engineers, a SPA 124 permit for altering the bed and banks of a stream channel, and potentially a DEQ 318 permit for temporary increases in turbidity. The entire highway improvement project will require a SWPPP permit to address storm water issues during construction.

#### 5.2.3.6. Exemptions

The Beaverhead River is a jurisdictional waterway, and is therefore not exempt from permitting requirements under the Clean Water Act, Montana Stream Protection Act, or Montana 310 law. This reach of the Beaverhead River has not undergone flood mapping by FEMA; therefore no county floodplain permit will be required to modify the highway bridge.

#### 5.2.3.7. Baseline Stream Factors

The following baseline stream factors were derived for the Beaverhead River as per the 2013 Montana Stream Mitigation Procedures.

Beaverhead River Baseline Stream Factors			
Stream Type	Perennial		
Stream Order	7 <sup>th</sup> Order		
Stream Status	Not high resource value		
Existing Condition	Somewhat Impaired		
Duration	Permanent		
Dominant Impact	Fill		
Collective Impact	0.00050 x 100' = 0.05*		

\*Assumes 100' of river and riparian corridor will be affected by widening the bridge.

#### 5.2.3.8. Credit Factors

## Riparian Enhancement

The existing riparian corridor within 500 feet of the existing bridge is in good condition and functioning well. Beyond this distance, the riparian corridor could be improved by:

- establishing a riparian buffer between the river and agricultural operations
- re-establish woody vegetation along banks that currently exhibit sparse or nonexistent woody coverage

### Stream Channel Restoration

The size of the Beaverhead River creates challenges for large scale restoration of meander pattern and profile components. Stream restoration opportunities in the vicinity of the Beaverhead River Bridge include:

- removing 370 feet of riprap along the north bank and replacing with bioengineered bank stabilizing materials
- removing bridge piers and concrete abutment materials from the former river crossing 0.5 miles upstream of the existing bridge
- revise flood irrigation practices to prevent saturation of the river bank and reduce sediment delivery to the river

## 5.2.4. **General Aquatic Species**

## 5.2.4.1. Species Description and Distribution

The Montana Fisheries Information System (MFISH) database documents fisheries data collected on the Beaverhead River and Stone Creek by Montana Fish, Wildlife and Parks biologists and other fisheries investigators. The Beaverhead River is stationed, beginning at river mile 0.0 at its mouth near Twin Bridges and ending at river mile 73.4 at the Clark Canyon Dam. The Beaverhead River Bridge on Highway 41 crosses the river at river mile 24.7. Stone Creek is stationed with river mile 0.0 at its mouth and ending at river mile 13.4 at its headwaters in the Ruby Mountains. Stone Creek crosses beneath Highway 41 at river mile 0.4. Table 6 includes species potentially utilizing the Beaverhead River and Stone Creek in the vicinity of the Highway 41 crossings, based on current MFISH data.

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Table 6. Fish species documented in the project area.

Motorbody	Species Species		Divor Miles	Abundanco
Waterbody	Common Name	Scientific Name	Triver willes	Abundance
Beaverhead River	Arctic grayling*	Thyllamus Arcticus	0 - 39	Rare
Beaverhead River	Westslope cutthroat trout**	Oncorhynchus clarkii lewisi	35.6 – 38.7	N/A***
Beaverhead River	Brook trout	Salvelinus fontinalis	0 – 65.2	Rare
Beaverhead River	Brown trout	Salmo trutta	0 – 63.1	Abundant
Beaverhead River	Rainbow trout	Oncorhynchus mykiss	0 – 63.1	Rare
Beaverhead River	Burbot	Lota lota	0 - 63.1	Rare
Beaverhead River	Common carp	Cyprinus carpio	0 - 63.1	Rare
Beaverhead River	Longnose dace	Rhinichthys cataractae	0 - 63.1	Abundant
Beaverhead River	Longnose sucker	Catostomus catostomus	0 - 63.1	Common
Beaverhead River	Mottled sculpin	Cottus bairdii	0 - 63.1	Abundant
Beaverhead River	Mountain sucker	Catostomus platyrhynchus	0 - 63.1	Rare
Beaverhead River	White sucker	Catostomus commersonii	0 - 60.3	Abundant
Beaverhead River	Mountain whitefish	Prosopium williamsoni	0 - 63.1	Abundant
Otava o Ova ale	Westslope cutthroat trout	Ongorbunghun glankii lawiai	0 – 1	Abundant
Stone Creek		Oncorhynchus clarkii lewisi	8.4 – 13.4	

<sup>\*</sup> Federally listed Candidate for ESA listing.

Although not specified in the MFISH database, brown trout, brook trout, white suckers, and mottled sculpin have been sampled by Montana Fish, Wildlife, and Parks in lower Stone Creek near the confluence with the Beaverhead River (email from FWP biologist Matt Jaeger, 9/6/13). FWP suggests this fish assemblage is representative in lower Stone Creek from the confluence with the Beaverhead River through the wetted reach of Stone Creek upstream of Highway 41. Stone Creek goes subsurface somewhere upstream of Highway 41, and remains dry year round for several miles. FWP has documented an abundance of pure Westslope cutthroat trout above the confluence of Stone Creek and Winnipeg Creek, which is approximately 10 miles upstream of the Highway 41 Bridge. According to FWP, this dry channel barrier likely prevents Westslope cutthroat trout population from extending their range with any regularity downstream to the reach of Stone Creek in the vicinity of the Highway 41 Bridge.

No fisheries information exists for the unnamed spring creek crossing Highway 41 between mile markers 12 and 13. Landowners operating the Five Rivers Lodge just south of the highway currently stock these ponds with rainbow trout, and suggested brown trout were present in the creek prior to constructing the ponds. No other aquatic species are known to exist in this stream.

Three additional fish species observed utilizing a warm spring and drainage ditch near the base of Beaverhead Rock include black mollys (*Poecelia sp.*), mosquitofish (*Gambusina affinis*), and variable platyfish (*Xiphophorus variatus*) (*L. Urban, pers. comment*). A black molly was potentially observed in the drainage ditch entering the

<sup>\*\*</sup>Westslope cutthroad trout is a state species of concern (S2).

<sup>\*\*\*</sup> Two Westslope cutthroat trout were documented in 2012 in the Anderson Section of Beaverhead River between river mile 35.6 and 38.7 (approx. 11 miles upstream of Hwy 41 Bridge). No abundance records provided for Westslope cutthroat trout in MFISH database.

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Beaverhead River approximately 200 feet upstream of the Highway 41 Bridge during the wetland delineation performed for this project area. Fish in the molly family are live-bearers, can survive in areas of low oxygen content, and are found most often in the tropical fish aquarium trade (MNHP field guide website).

### 5.2.4.2. Habitat Requirements

Species considered abundant within the vicinity of the Highway 41 Bridge over the Beaverhead River include brown trout, longnose dace, mottled sculpin, white sucker, and mountain whitefish. Two species of concern may inhabit the project area, including Westslope cutthroat trout and Arctic grayling. The following habitat descriptions of these species are from the Montana Natural Heritage Program Field Guide:

## **Brown Trout**

Valley portions of larger rivers where gradients are low and summer temperatures range from 60-70 degrees F. Brown trout are also found in reservoirs and lakes at similar elevation with suitable spawning tributaries.

### Longnose Dace

Habitat preferences are variable. Found in lakes, streams, springs. Preferred habitat includes riffles with rocky substrates.

### Mountain Whitefish

Habitat preference includes medium to large cold mountain streams, and may also be found in lakes and reservoirs. Whitefish normally spawn in stream riffles over gravel or small rubble but have been seen spawning along lake shorelines.

#### White Sucker

Habitat preferences are extremely varied. Present in both lakes and streams under a wide variety of considerations, but avoids rapid current. White suckers reach maximum abundance in man-made impoundments and spawn over gravel or rocky shoals.

#### Westslope cutthroat trout

Westslope cutthroat trout also require cold water, although it has proven elusive to define exact temperature requirements or tolerances. Likewise, cutthroat trout tend to thrive in streams with more pool habitat and cover than uniform, simple habitat. Juvenile cutthroat trout overwinter in the interstitial spaces of large stream substrate. Adult cutthroat trout need deep, slow moving pools that do not fill with anchor ice in order to survive the winter.

### Arctic grayling

Arctic grayling are obligate cool- or cold-water species. Native to drainages of the Arctic Ocean, Hudson Bay and northern Pacific Ocean in North American and Asia, two distinct populations historically inhabited waters in Michigan and Montana. The Michigan population is now extinct. Arctic grayling are still present in southwestern Montana. Individual fish can range widely, moving tens of miles on a seasonal or annual basis between spawning, rearing, and sheltering habitats.

## 5.2.4.3. Potential to Occur in Project Area

Based on the abundance records indicated in the MFISH database, aquatic species likely to occur in the Beaverhead River portion project area include brown trout, longnose dace, mottled sculpin, white sucker, and mountain whitefish. In addition to this list, several dozen common carp were observed in the Beaverhead River at the Highway 41 Bridge and in a deep pool 0.5 miles upstream of the bridge.

Westslope cutthroat trout and Arctic grayling have been documented within approximately 11 miles of the Beaverhead River Bridge, but in very low numbers (MFISH database). Habitat requirements for cutthroat trout and grayling include relatively cold water; however the thermal regime of the Beaverhead River in this area supports a species assemblage more tolerant of warmer water, such as brown trout, carp, and suckers. Although not impossible, it is unlikely Westslope cutthroat trout and Arctic grayling occur in the Beaverhead River within the project area based on the MFISH records documenting the rarity of these two species and existing habitat identified within the study area.

Westslope cutthroat trout is the only fish species currently documented in Stone Creek. Although MFISH records identify Westslope cutthroat occurrences in the lower mile of Stone Creek, sampling efforts since 1998 in lower Stone Creek have failed to document the presence of Westslope cutthroat trout in the lower, wetted reaches of the creek. Isolated Westslope cutthroat populations have been identified several miles upstream of Highway 41, and are upstream of a permanently dewatered segment of Stone Creek. Several trout were visually observed in Stone Creek during the June, 2013 site assessment, although species identification was difficult.

#### 5.2.4.4. Potential Impacts

#### Stone Creek

Westslope cutthroat trout populations should not be impacted as a result of widening the Stone Creek Bridge, as long as the grade control feature immediately downstream of the existing bridge is maintained and adequate sediment and erosion control measures are effectively taken during project construction. The grade control feature downstream of the bridge should be maintained to prevent it from being flanked by Stone Creek and a head cut continuing upstream. Further head cutting would destabilize the vertical elevation of the channel causing significant sediment delivery downstream and potential destabilization of the bridge structure.

### **Unnamed Spring Creek**

Lengthening the culvert will slightly reduce aquatic habitat in the unnamed spring creek by permanently placing it in a culvert. The stream channel downstream of the highway runs parallel to the existing highway embankment, and will need to be reconstructed if a flatter highway embankment extends further north than the existing embankment; however, approximately 100 feet of the creek will need to be reconstructed if the new embankment slope results in obliteration of the existing alignment parallel to the highway. Placement of fill upstream of the highway may encroach upon the adjacent pond, which lies within 25 feet of the existing road embankment.

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### Beaverhead River

The final plan to upgrade the bridge will likely include a new alignment over the Beaverhead River. The following assumptions were made to anticipate potential temporary and permanent impacts of a new bridge alignment:

- The new bridge will span the active channel and will not require installation of piers or abutments within the OHWM.
- The new alignment will require placing riprap protection around the abutments, portions of which will need to be placed within the OHWM on the north bank of the Beaverhead River.
- Placement of fill material will be necessary to construct approaches to the new, wider bridge alignment.

Protection of the north bank abutment will likely require placing fill materials (riprap) within the active channel to prevent lateral migration of the river to the north. Riprap currently exists along the north bank upstream of the existing bridge for approximately 150 feet and downstream of the bridge approximately 60 feet. If bank armoring measures are necessary beyond that already installed along the north bank, installation of this material will necessitate constructing a temporary coffer dam in the active river channel to dewater the north bank and prevent excessive increases in turbidity. Placement of fill material to construct any realigned bridge approaches will have wetland impacts, which are discussed in Section 8.

Montana FWP will not impose timing restrictions for bridge construction activities on the Beaverhead River (email from M. Jaeger 10/9/13). However, FWP will likely stipulate the bridge be free-spanning, and designed with abutments that do not encroach upon the stream, reducing the potential for sediment production during construction.

#### 5.2.4.5. Avoidance and Minimization

If possible, any new bridge abutments and piers constructed for either the Beaverhead River or Stone Creek bridges should be designed to remain out of the active river channel to maintain as much natural stream and riverine habitat as possible. Although it may be necessary to install rock armor along the new abutments to protect bridge infrastructure, the length of armored banks should be minimized to maintain as much natural bank configuration as possible while maintaining lateral bank stability, and should not encroach into the active channel. Aligning the Beaverhead River further to the west may result in reduced permanent impacts to the north bank of the river as opposed to a more eastern alignment. Riprap has already been placed on the north bank for approximately 150' west of the bridge, and may remain as part of any necessary bridge abutment protection. Riprap has also been placed downstream (east) of the existing bridge, but extends approximately 60' before tying into the native floodplain elevation. Aligning the new bridge further east would likely result in the need to armor additional bank length than is currently protected by riprap.

Ponds created on the unnamed spring creek extend to within 25 feet of the road embankment to the north of Highway 41. Placement of road fill materials along this

segment should attempt to avoid filling in the pond to reduce encroachment upon fringe wetlands and to prevent destabilization of the embankment.

#### 5.2.4.6. Recommended Conservation Measures

- Any stream bank armoring designed to protect bridges from stream and river migration should be kept to the minimum length necessary.
- The new bridges should be designed to avoid placing artificial materials such as concrete abutments, riprap, and piers in the active channel if possible.
- If placement of artificial materials is necessary within the active channel, a temporary coffer dam should be installed to dewater the bank to prevent excessive turbidity.
- Placement of fill materials adjacent to the bridge and approaches should be minimized to protect riparian and wetland habitats adjacent to the river channel.
- Fill materials adjacent to the channel, including riprap should be vegetated to maintain shade and cover along the affected river banks.
- If a portion of the unnamed spring creek must be filled to accommodate a wider road, the equivalent length of channel should be reconstructed to replace any aquatic habitat lost.
- Realigning the Beaverhead River Bridge to the east will likely require additional bank protection measures and permanent impacts as opposed to realigning the bridge to the west. This is due to the presence of existing riprap along the north bank extending approximately 150' upstream of the existing bridge as opposed to only 60' downstream of the bridge.

#### 6.0 SENSITIVE SPECIES OF SPECIAL CONCERN

Montana employs a standardized ranking system to denote global (range-wide) and state status (MTNHP 2013). The MTNHP assigns numeric ranks ranging from 1 (highest risk, greatest concern) to 5 (demonstrably secure) reflecting the relative degree of risk to the species' viability, based upon available information. The factors considered in assigning ranks include the number, size and quality of known occurrences or populations, distribution, trends (if known), intrinsic vulnerability, habitat specificity, and definable threats (MTNHP 2013). The qualifier "B" appended to the state rank refers to the breeding population of the species in Montana and signifies that the species is at risk during breeding season, but common in the winter.

In 2005, Montana Fish, Wildlife, and Parks (FWP) completed Montana's Comprehensive Fish and Wildlife Conservation Strategy. Under this conservation strategy, individual animal species were assigned levels of conservation need ranging from Tier I (greatest conservation need) to Tier IV (species that are non-native, incidental, or very common in adjacent states).

The Montana Native Plant Society (MNPS) initiated a process in 2006 to evaluate threats impacting Montana's plant species of concern and develop a ranking system based on the impacts of the identified threats to the species' viability in the state (MTNHP 2013). The resulting threat ranking system ranges from Category 1 (highly threatened) to Category 4 (assessment not possible due to insufficient data).

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The ESA administered by the USFWS uses the following designations for plant and animal species of concern: listed threatened (LT), candidate (C), and recovered, delisted, and being monitored (DM) (MTNHP 2013). This list is not all-inclusive. It includes only the status rankings of the species of concern identified for this project. Three additional designations apply specifically to bald and golden eagles: Bald and Golden Eagle Protection Act of 1940 (BGEPA), Migratory Bird Treaty Act (MBTA), and Birds of Conservation Concern 2008 (BCC).

The U.S. Forest Service (USFS) sensitive species are defined as those on USFS lands for which population viability is a concern as evidenced by a significant downward trend in population or a significant downward trend in habitat capacity (MTNHP 2013). The USFS uses the designations of Endangered (ESA), Threatened (ESA), or Sensitive where listed as a sensitive species by the USFS Northern Region Regional Forester.

The Bureau of Land Management (BLM) sensitive species are defined as those that normally occur on Bureau administered lands for which BLM has the capability to significantly affect the conservation status through management (MTNHP 2013). The BLM designations are Sensitive for species listed as sensitive on BLM lands and Special Status for species listed as endangered or threatened under the ESA.

#### 6.1. Methods

A data request was submitted to the MTNHP to determine if any species of concern are known to occur in or near the project area. The materials provided by MTNHP were the result of a search of the Natural Heritage database for species of concern that occur in an area defined by the requested township, range and sections with an additional one-mile buffer surrounding the requested area. The full Species of Concern data report received from MTNHP is provided in Appendix F. The MTNHP online database was also searched based on Township and Range geographical locations prior to the field visit to determine species that may be present in Madison and/or Beaverhead County. Four special status plant species, eight special status terrestrial species, and two special status aquatic species were documented within the project area and buffer zone and are listed in Table 7.

A Confluence biologist conducted site surveys between June 10<sup>th</sup> and 13<sup>th</sup>, June 26<sup>th</sup> and 27<sup>th</sup>, and July 15<sup>th</sup>, 2013. The field survey included investigations for rare and sensitive plants, rare and sensitive aquatic and terrestrial animal species, and assessment and mapping of habitat within the study area. The aquatic and terrestrial surveys were conducted on foot by a biologist looking for animal sign and assessing habitats. Both sides of the highway along the ±7.2-mile study area and ±0.5-mile upstream and downstream of the Beaverhead River and Stone Creek were covered.

Table 7. Species of special concern in the vicinity of the Stone Creek - North project area.

Common Name Scientific Name	Status*	Habitat Requirements	Likelihood to Occur in Project Area**	Potential for Impacts
Hoary Bat Lasiurus cinereus	Global: G5; MTNHP: S3; FWP Tier 2	During the summer, Hoary Bats occupy forested areas, forage over water sources and along riparian corridors	Low - Incidental occurrence, potential foraging in the summer.	Minimal to none
Great Basin Pocket Mouse Perognathus parvus	Global: G5; MTNHP: S3; FWP Tier 1; USFS: Sensitive BLM: Sensitive	Arid and sparsely vegetated grassland shrubland with sandy soils	Low - Unsuitable habitat due to lack of sagebrush.	Minimal to none.
Great Blue Heron Ardea herodias	Global: G5; MTNHP: S3; FWP Tier 3	Wetlands in both urban and wilderness settings, nesting colonies in cottonwoods along rivers and lakes	Low - Incidental occurrence, potential foraging area.	Minimal to none
Bald Eagle Haliaeetus leucocephalus	Global: G5; MTNHP: S4; FWP Tier 1; USFS: Sensitive; BLM: Sensitive; USFWS: DM, BGEPA, MBTA, BCC	Riparian and lacustrine habitats (forested areas along rivers and lakes), major waterbodies, wetlands, spring spawing streams, ungulate winter ranges and open water	Low - Incidental occurrence, potential foraging areas for small mammals and birds.	Minimal to none
Golden Eagle Aquila chrysaetos	Global: G5; MTNHP: S3; FWP Tier 2; BLM: Sensitive; USFWS: BGEPA, MBTA, BCC	Nest on cliffs and in large trees, including power poles; hunt over prairie and open woodlands	High - Cliff line along west side of Beaverhead River is potential nesting site and valley bottom is potential foraging area.	Low
Long-billed Curlew Numenius americanus	Global: G5; MTNHP: S3B; FWP Tier 1; BLM: Sensitive	Prairies and grassy meadows, generally near water, nests in dry prairies and moist meadows	Low - Incidental occurrence, potential foraging in the wetlands.	Minimal to none
Sage Thrasher Oreoscoptes montanus	Global: G5; MTNHP: S3B; FWP Tier 3; BLM: Sensitive	Sagebrush obligate, abundance is generally positively correlated with the amount of sage cover	Low - Unsuitable habitat due to lack of sagebrush.	Minimal to none
Brewer's Sparrow Spizella breweri	Global: G5; MTNHP: S3B; FWP Tier 2; BLM: Sensitive	Sagebrush areas, nesting in sagebrush averaging 16-inches high	Low - Unsuitable habitat due to lack of sagebrush.	Minimal to none
Westslope Cutthroat Trout Oncorhynchus clarkii lewisi	Global: G4T3; MTNHP: S2; FWP Tier 1; USFS: Sensitive; BLM: Sensitive	Spawning and rearing in cold, nutrient poor streams, thrives in streams with adequate pool habitat and cover	High - This species has been documented in Stone Creek.	Low
Arctic Grayling Thymallus arcticus	Global: G5; MTNHP: S1; FWP Tier 1; USFS: Sensitive; BLM: Sensitive; USFWS: C	Found primarily in small, cold, clear lakes with tributaries suitable for spawning	Low - Beaverhead River is unsuitable due to seasonal temperatures, not documented in Stone Creek.	Minimal to none
Annual Indian Paintbrush Castilleja exilis	Global: G5; MTNHP: S2; MNPS Category 2; BLM: Sensitive	Moist alkaline meadows in the valley zone	Low - Not observed during field survey, marginal habitat	Minimal to none
Mealy Primrose Primula incana	Global: G4G5; MTNHP: S3; MNPS Category 2; USFS: Sensitive; BLM: Sensitive	Found in saturated, often calcareous wetlands	Low - Not observed during field survey, marginal habitat	Minimal to none
Beaked Spikerush Eleocharis rostellata	Global: G5; MTNHP: S3; MNPS Category 3; USFS: Sensitive; BLM: Sensitive	Wet, often alkaline soils, associated with warm springs or fens in the valley and foothills zones	Known - Population noted along irrigation canal near RP 15.3	Moderate
Ute Lady's-tresses Spiranthes diluvialis	Global: G2G3; MTNHP: S1S2; MNPS Category 2; USFWS: LT	Alkaline wetlands, swales and old, meander channels often on the edge of the wetland or in areas that are dry by mid-summer	Low - Not observed during field survey, marginal habitat	Minimal to none

<sup>\*</sup>Definitions of Status:

MTNHP S1: at high risk; S1S2: between at high risk and at risk; S2: at risk; S3: potentially at risk; S3B: potentially at risk during breeding season; S4: apparently secure, though rare.

USFWS DM: recovered, delisted, and being monitored; C: canidate; LT: listed threatened; BGEPA: The Bald and Golden Eagle Protection Act; MBTA:

The Migratory Bird Treaty Act; BCC: Birds of Conservation Concern. \*\*Definitions of Likelihood to Occur:

High: MTNHP database or other documents record the known occurrence of species in the vicinity of the project or the presence of suitable habitat conditions and suitable microhabitat conditions.

Moderate: MTNHP or other documents record the known occurrence of species in the vicinity of the project or the presence of suitable habitat conditions, but suitable microhabitat conditions are not known to exist.

Low: MTNHP or other documents record the known occurrence of species in the vicinity of the project; suitable habitat conditions are of poor quality. None: MTNHP or other documents do not record the known occurrence of species in the vicinity of the project; suitable habitat conditions do not occur in any condition.

#### 6.1. Results

# 6.1.1. Plant Species

The MTNHP database search documented four special-status plant species within a 1 mile buffer of the proposed project area: Annual Indian Paintbrush, Mealy Primrose, Beaked Spikerush, and Ute Ladies' Tresses. The following sections contain information which was obtained from the MTNHP Field Guide (2013). Ute Ladies' Tresses will be discussed under Section 6.0 Threatened and Endangered Species Biological Assessment.

## 6.1.1.1. Annual Indian Paintbrush

## Species Description and Distribution

Annual Indian Paintbrush is an annual with erect, unbranched stems that are 30-80 cm high. The alternate, narrowly lance-shaped leaves, 3-8 cm long, have entire margins. Foliage is glandular-hairy. The stalkless flowers arise from the axils of the reduced upper leaves (bracts) in a spike-like inflorescence at the top of the stem. The upper bracts have red tips. The yellowish, tubular corolla, 15-25 mm long, tapers to a galea above that surpasses the 3 small lobes below. The tubular calyx, 15-20 mm long, almost completely contains the corolla and is cleft into 4 pointed lobes. The fruit is a capsule with many tiny seeds. Flowering occurs in July through August.

Annual Indian Paintbrush is found from Washington and Montana south to California, Arizona, and New Mexico. In Montana, the MTNHP has primarily documented on private lands in southwest Montana (Figure 6). This figure also indicates recent (0-5yr) observations at relatively high densities within the region of the study area.

#### Habitat Requirements

Annual Indian Paintbrush grows in moist alkaline meadows in the valley zone.

### Potential to Occur in Project Area

This species was not observed during the field survey (June/July). However, it should be noted that this species typically blooms during the latter part of the growing season, with peak observations of this species occurring in August (Figure 6). With the presence of suitable habitat for this species occurring between RP 14.6 and 15.4, it is recommend that a MDT Biologist or other qualified professional conduct a plant survey for this species during the appropriate time of the year prior to construction.

#### Potential Impacts

No impacts are expected to this species because this species is not likely to be present.

### Avoidance and Minimization

No avoidance or minimization measures are necessary for this species.

#### Recommended Conservation Measures

No conservation measures are recommended since no impacts are expected.

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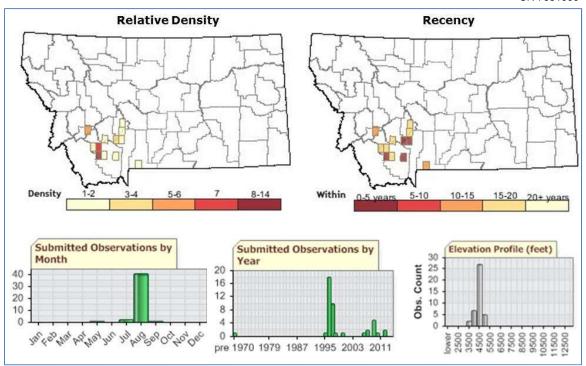


Figure 6. Summary of observations submitted for Annual Indian Paintbrush (MTNHP).

6.1.1.2. Mealy Primrose

## Species Description and Distribution

Mealy Primrose is slender, tall, and heavily farinose, or occasionally farinose. It rises up to 46 cm high and leaves are elliptic or oblanceolate, including the petioles, which are up to 6 cm long. Blades are 0.3 - 1.6 cm wide with denticulate margins and gradually narrow into a broadly winged petiole. The involucral bracts are 0.5-1 cm long, oblong, densely covered with white farina, flat above and saccate or gibbous at the base. The umbels are capitates, 7-19 flowered, and the pedicels are short and 0.3-Flowers are homostylous. 0.9 cm long. The calyx is green, heavily farinose, cylindrical, obscurely ribbed, and 0.4-0.7 cm long; it is divided up to one third its length by lanceolate teeth that are covered with capitates 3-4 celled glands. The corolla is lavender with a vellow throat. The limb is 0.4-0.8 cm wide, emarginated, and is a tube that is equal to or slightly longer than the calyx. Stamens are ca. 1 mm long and located in the upper portion of the corolla tube. The stigma is capitates and located adjacent to the anthers. The capsule is cylindrical to slightly elliptical, 0.2-0.3 cm wide, and 1.5-2 times the length of the calyx. Seeds are brown, reticulate, ca. 0.2 mm long. Flowering occurs in May to June.

Mealy Primrose is found from Utah and Colorado north to Alaska and east to Quebec. In Montana, the Mealy Primrose is rare and is known only in a few dozen extant occurrences, primarily in the southwest corner of the state (Figure 7).

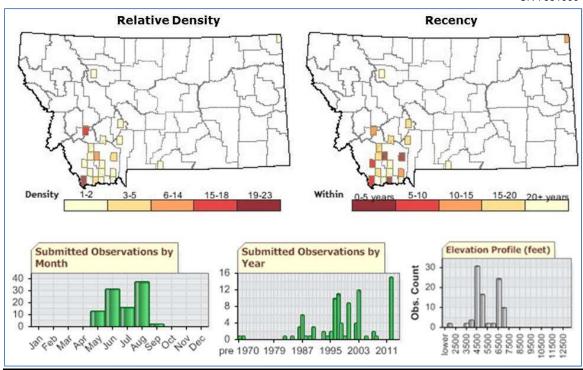


Figure 7. Summary of observations submitted for Mealy Primrose (MTNHP).

## **Habitat Requirements**

Mealy Primrose grows in saturated, often calcareous wetlands with relatively stable water tables. Mealy Primrose is often found growing on the sides of hummocks where the density of overtopping vegetation is reduced.

#### Potential to Occur in Project Area

A small area of potentially suitable habitat is present along the irrigation canal to the east of the highway just north of the Beaverhead River. MTNHP has documented observations of this species throughout the growing season (Figure 7), peaking in both June and August with the latter observations likely of the leaves following flowering. This species was not observed during the field survey (June/July).

### **Potential Impacts**

No impacts are expected to this species because this species is not likely to be present.

#### Avoidance and Minimization

No avoidance or minimization measures are necessary for this species.

#### **Recommended Conservation Measures**

No avoidance or minimization measures are necessary for this species.

## 6.1.1.3. Beaked Spikerush

## Species Description and Distribution

Beaked Spikerush is a caespitose perennial. Stems are 10-80 cm, tufted, erect or arching, rooting at the tip and forming new plants. Spikelets are 4-10 mm long with few

to many flowers. Scales are 2-6 mm long, brown to purple with broad hyaline margins, rounded and the lowest empty. Flowers are bristles ca. 6, mostly equaling the achene, stigmas 3. Achenes are green-grayish, smooth, obovoid, ca. 2 mm long with a conical tubercle confluent with the body. Flowering occurs in July with mature fruit in July-August.

Beaked Spikerush is found from British Columbia to Nova Scotia south through most of the U.S. to Mexico. In Montana, Beaked Spikerush is known in over a dozen extant sites and a few historical locations (Figure 8).

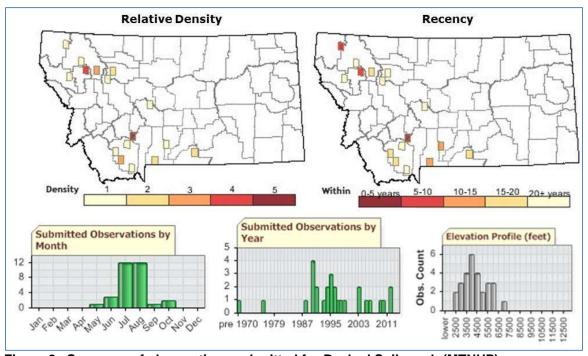


Figure 8. Summary of observations submitted for Beaked Spikerush (MTNHP).

#### Habitat Requirements

Beaked Spikerush grows in wet, often alkaline soils, associated with warm springs or fens in the valley and foothills zones.

### Potential to Occur in Project Area

Beaked Spikerush was identified along the eastern margins of the study area near RM 15.2 (see Photos 50 and 51 in Appendix C). This species was identified in an alkaline wetland area supported by irrigation diversion and shallow groundwater. The location of the identified beaked spikerush community is shown in Figure 9.



Figure 9. Approximate location of beaked spikerush identified during field survey.

#### Potential Impacts

Beaked Spikerush is vulnerable to hydrologic alteration and development. Modifications to the amount and/or location of water diverted through a culvert under Highway 41 (~RM 15.25) would alter localized hydrology within the area identified as known beaked spikerush habitat.

#### Avoidance and Minimization

To avoid impact to known beaked spikerush habitat, the wetland area to the east of Highway 41 between RM.15.22 and 15.35 should be protected during construction. Temporary erosion control measures should be installed to protect wetlands from runoff while disturbed, exposed soils are present during and following construction. The area to be protected should be marked with construction/snow fencing or other means to clearly demarcate the area during construction. The area should be shown as a "Do Not Disturb" area on the plan set. Replacement of the culvert at the same invert elevation and avoidance of the irrigation diversion to the west of the highway would minimize hydrologic alteration.

#### Recommended Conservation Measures

In addition to the MDT Standard Specifications for Road and Bridge Construction (MDT 2006), the following conservation measures are recommended:

- Periodic reconnaissance of the *Eleocharis* community located in the wetlands between RM 15.22 and 15.35 to monitor the distribution of beaked spikerush.
- Avoid disturbance to the existing wetlands in above-referenced location.
- Consider alignment shifts or slope modifications to the road in this area to avoid impacts to the wetland and/or the identified spikerush population.
- Maintain hydrology through irrigation canal.

## 6.1.2. Terrestrial Species

The MTNHP data request results identified eight special-status terrestrial species within a 1 mile buffer of the proposed project area: Hoary Bat, Great Basin Pocket Mouse, Great Blue Heron, Bald Eagle, Golden Eagle, Long-billed Curlew, Sage Thrasher, and Brewer's Sparrow. The following sections contain information which was obtained from the MTNHP Field Guide (2013).

# 6.1.2.1. Hoary Bat

## Species Description and Distribution

The Hoary Bat is a large lasurine (20 to 35 g) with long pointed wings and heavily-furred interfemoral membrane. Pelage overall is frosted or hoary (mixed brownish and grayish with white-tipped hairs, wrist and shoulder patches whitish), yellowish on the throat, forearm length about 46 to 55 mm. Ears are short and rounded, rimmed in dark brown or black, tragus short and broad. It has large teeth.

Hoary Bats are found throughout the U.S. In Montana, this species is distributed statewide (Figure 10). Recent (0-5yr) observations have been recorded across the state, with an area of relatively high densities noted in the vicinity of this project.

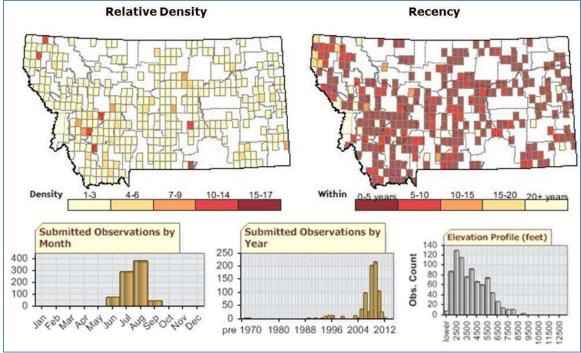


Figure 10. Summary of observations submitted for Hoary Bat (MTNHP).

## **Habitat Requirements**

Hoary Bat is migratory and only a summer resident in Montana, with records from early June through September (Figure 10). Normal arrival and departure dates are uncertain. During the summer, Hoary Bats occupy forested areas over a broad elevation range (1900 to 9100 ft). They are often captured foraging over water sources embedded within forested terrain, both conifer and hardwood, as well as along riparian corridors. The Hoary Bat is vulnerable to collisions with barbed wire and wind turbines.

Hoary Bats roost primarily in trees but are reported infrequently in caves, squirrel nests, and clinging to the sides of buildings. Most day roosts are 3 to 5 m above the ground.

# Potential to Occur in Project Area

The only trees identified within the study area included one medium-sized chokecherry (DBH ~5in.) along the Beaverhead River and a couple of mature cottonwoods planted at an entrance to a driveway near RM 9.6. This species occurrence in the project area is likely limited to incidental occurrence for foraging during the summer.

### Potential Impacts

No impacts are expected to this species due to the lack of suitable roosting habitat within the areas of potential impact.

#### Avoidance and Minimization

No avoidance or minimization measures are necessary for this species.

#### **Recommended Conservation Measures**

No conservation measures are recommended since no impacts are expected.

#### 6.1.2.2. Great Basin Pocket Mouse

### Species Description and Distribution

The Great Basin Pocket Mouse is the largest member of the genus Perognathus. Its tail length is 110 to 120% of head and body length, and distinctly bicolored. The hind legs are elongated, but not to the extent observed in bipedal heteromyids such as kangaroo rats. They have external, fur-lined cheek pouches, hence the name pocket mouse. The dorsal pelage is pinkish-buff or ocherous-buff overlain with black hairs; the belly is white to buffy. On the skull, the auditory bullae are not greatly inflated but meet or nearly meet anteriorly and the nasal septum is perforated (connecting right and left infraorbital canals). There are 20 teeth in the skull; the upper incisors are grooved and the molars are hypsodont (high-crowned and fully covered in enamel).

The Great Basin Pocket Mouse is known to occur within the southwest corner of Montana (Figure 11). No recent observations have been recorded for this species within the vicinity of the study area.

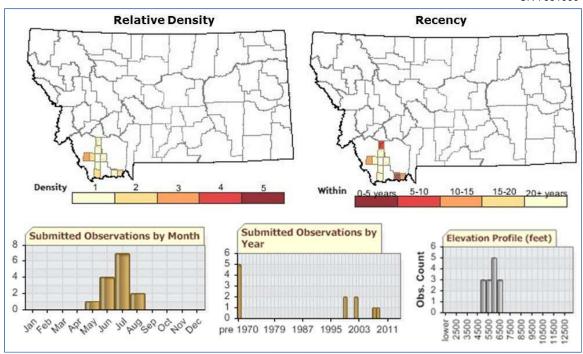


Figure 11. Summary of observations submitted for Great Basin Pocket Mouse (MTNHP).

## **Habitat Requirements**

The Great Basin Pocket Mouse is non-migratory. Occupied habitats in Montana are arid and sometimes sparsely vegetated. They include grassland-shrubland with less than 40% cover, stabilized sandhills, and landscapes with sandy soils, more than 28% sagebrush cover, and 0.3 to 2.0 meters shrub height. They usually are found in habitats with light-textured, deep soils, and sometimes in shrublands among rocks. Adults sleep and rear young in underground burrows.

#### Potential to Occur in Project Area

The project area is well vegetated with few shrubs and very limited sagebrush cover. It is unlikely that this species occurs within the project area. This species was not observed during the 2013 field survey efforts.

### Potential Impacts

No impacts are expected to this species due to the unlikelihood of occurrence within the project area. If the Great Basin Pocket Mouse does exist within potential areas of impact, suitable habitat directly adjacent to the project area would provide a refugium during construction activity.

## Avoidance and Minimization

No avoidance or minimization measures are necessary for this species.

### **Recommended Conservation Measures**

No conservation measures are recommended as no impacts to this species are expected.

#### 6.1.2.3. Great Blue Heron

## Species Description and Distribution

The Great Blue Heron is the largest heron in North America, 60 cm tall, 97 to 135 cm long, and 2.1 to 2.5 kg mass. Its wings are long and rounded, its bill is long and tapered, and it has a short tail. The Great Blue Heron is gray on its upper parts and its fore-neck is streaked with white, black, and rust-brown. Its bill is yellowish and legs are brownish or greenish. Adults have long occipital plumes. In flight, the Great Blue Heron folds its neck in an "S" shape and extends legs along the body axis; wing beats are deep and slow.

Great Blue Herons breed from southern Alaska southeast across central Canada to Nova Scotia and south to Guatemala, Belize, and the Galapagos Islands. They winter in most of the breeding range (being absent in the interior of Canada and in the northern Great Plains) and throughout Central America to Venezuela and Colombia. Great Blue Herons are fairly common to common permanent resident in Montana, with more than 100 nesting colonies scattered across the state. The highest nesting densities are in cottonwood floodplain forests in the Flathead, Bitterroot, Beaverhead, upper Missouri, middle Yellowstone, Tongue, and Bighorn valleys (Figure 12).

### **Habitat Requirements**

Great Blue Herons are equally at home in urban wetlands and wilderness settings. Most Montana nesting colonies are in cottonwoods along major rivers and lakes; a smaller number occur in riparian ponderosa pines and on islands in prairie wetlands. Nesting trees are the largest available. Great Blue Herons build bulky stick nests high in the trees when nesting near the shores of rivers and lakes and on the ground or in low shrubs when nesting on treeless islands.

### Potential to Occur in Project Area

There are no suitable trees within the project area for nesting. This species occurrence within the project area is likely limited to incidental occurrence for hunting.

### Potential Impacts

No impacts are expected to this species as a result of this project due to the presence of suitable, incidental hunting and resting areas throughout the Beaverhead River corridor.

#### Avoidance and Minimization

No avoidance or minimization measures are necessary for this species.

### Recommended Conservation Measures

No conservation measures are recommended since no impacts are expected.

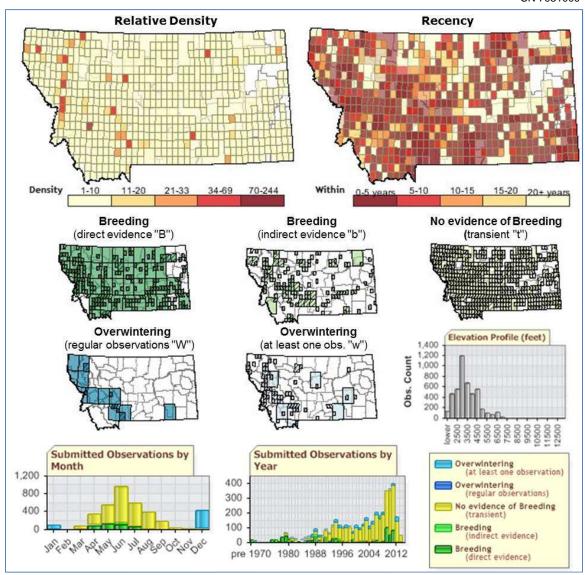


Figure 12. Summary of observations submitted for Great Blue Heron (MTNHP).

6.1.2.4. Bald Eagle

#### Species Description and Distribution

With a white head and tail contrasting with a dark brown body and wings, the adult plumage of the Bald Eagle, attained at approximately 5 years of age, is unmistakable. In addition to the obvious white head and tail, other distinguishing features include the yellow bill, cere, iris, legs and feet. The Bald Eagle ranges in total length from 2.3 to 3.1 ft with an average wingspan of 5.5 to 8.0 ft. It has a body mass ranging from 6.6 to 13.9 lb. The plumage of the juvenile birds is much less distinct, being dark brown overall. The head, body, wings, and tail are dark brown with limited mottling on the underside of the wings and on the belly. While the legs and feet of the young bird are yellow like those of adults, the bill and cere are dark gray and the iris is dark brown.

Western Montana, Idaho, and northern California are the only areas in the continental US to provide habitat for a permanent resident population. This species has been documented throughout Montana with recent observations throughout the state and study area (Figure 13).

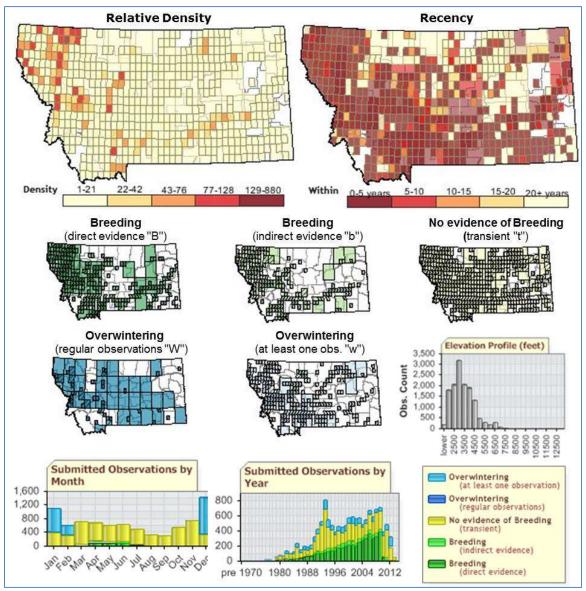


Figure 13. Summary of observations submitted for Bald Eagle (MTNHP).

# Habitat Requirements

The bald eagle resides in the forested, mountainous areas of western Montana. Individuals from more northerly latitudes either winter in Montana or migrate through the state to more southerly locations. Residents generally remain in the vicinity of their breeding areas throughout the year. Some move to more temperate weather at lower elevations or to areas with higher concentrations of food. This is especially true of individuals that nest at higher elevations. Migrating bald eagles may be evident in autumn along the north-south mountain chains that exhibit an abundance of food

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sources. Numerous eagles have been observed migrating over Rogers Pass and the Bridger Mountains. Large concentrations of eagles have formerly been reported feeding on spawning kokanee (*Oncorhynchus nerka*) in Glacier National Park and at Canyon Ferry Reservoir, north of Helena.

In Montana and elsewhere, the bald eagle inhabits riparian and lacustrine habitats in the forested areas along rivers and lakes, especially during the breeding season. Important year-round habitats include wetlands, major water bodies, spring spawning streams, ungulate winter ranges and open water areas. Wintering habitat may include upland sites. Nesting sites are typically located in the tallest, oldest, large diameter trees within the larger forested areas near large lakes and rivers. Nesting site selection is dependent upon maximum local food availability and minimum disturbance from human activity.

The bald eagle breeds at approximately 5 to 6 years of age. Breeding dates in Montana range from March to July. Nest building, courtship and egg-laying usually begin in early February and last until May (Montana Bald Eagle Working Group (MBEWG 2010). Incubation occurs from the beginning of February through the end of May when eagles are most vulnerable to disturbance (MBEWG 1994). The clutch usually consists of two eggs although it may range from one to three. First flight occurs at 10 to 12.5 weeks. The young are cared for by the adults who may remain around the nest for several weeks after fledging (MTNHP 2003).

The majority of the bald eagle diet is comprised of fish. Important prey include waterfowl, salmonids, suckers, whitefish, carrion and small mammals and birds. The most common nest trees are ponderosa pine, Douglas fir and cottonwood.

### Potential to Occur in Project Area

There is a lack of large trees within the project area suitable for bald eagle nesting. Two bald eagle nest have been documented by MTNHP along the Beaverhead River upstream of the Highway 41 bridge. The presence of these nest were not documented during the 2013 field survey. These nests are located just over 1-mile of the study area boundary. This species occurrence within the project area is likely limited to incidental occurrence for hunting.

#### Potential Impacts

No impacts are expected to this species because the project area does not contain suitable habitat for nesting, therefore this species is not likely to be present.

### Avoidance and Minimization

No impacts are expected to this species because the project area does not contain suitable bald eagle nesting habitat. Incidental use of the project area by this bird will likely be avoided during active construction.

#### **Recommended Conservation Measures**

No conservation measures are recommended since no impacts are expected.

## 6.1.2.5. Golden Eagle

## Species Description and Distribution

Adult Golden Eagles are brown overall, with gold on their head and neck feathers, and light brown bands in the tail. Immature birds have white patches on the wings and white at the base of the tail feathers. Golden Eagles often soar with their wings held nearly flat, but slightly upturned. The legs are heavily feathered down to the tops of the toes. Golden Eagles range in length from 33 to 38 inches, and have a wingspan of 6-1/2 to 7-1/2 feet.

Golden Eagles breed throughout western North America from the Arctic to central Mexico; some breeding also occurs in northern Ontario and Labrador, and on the Gaspe Peninsula of southeastern Quebec. Northern birds (north of southern British Columbia, Alberta, and Saskatchewan) move south in the non-breeding season. Golden Eagles have been documented across Montana (Figure 14). Breeding evidence and permanent residents in Montana of this species have been documented.

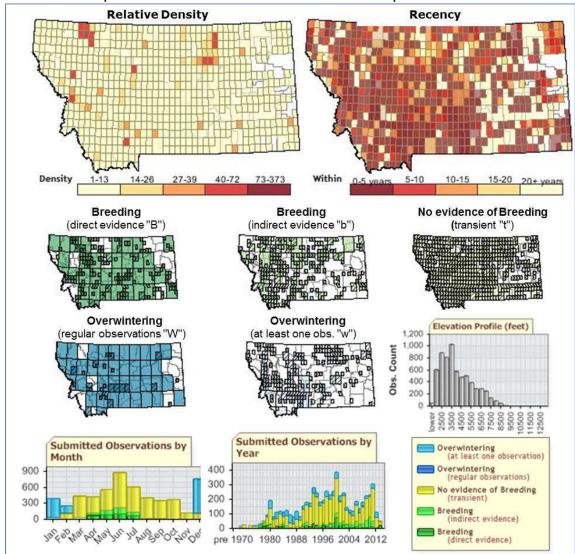


Figure 14. Summary of observations submitted for Golden Eagle (MTNHP).

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## **Habitat Requirements**

Golden Eagles nest on cliffs and in large trees (occasionally on power poles), and hunt over prairie and open woodlands. In the Livingston area 62% of 92 nests were on cliffs, 29% in Douglas-fir, and 2-3% each in ponderosa pine, cottonwood, snags, and on the ground. About 70% of cliff nests were oriented to the south or east, most nests were found between 4,000 and 6,000 ft elevation, and sites were associated with sagebrush/grassland hunting areas.

Golden Eagles first breed when four to five years old. The same pair often uses the same nest year after year with nests sometimes over six feet in diameter. One to three eggs are laid in March or April and incubation lasts about 45 days. The eaglets fly in June or July when about 10 weeks old. Nesting density varies year to year from 55 to 105 square miles/pair. Some cliff nest sites are used for many decades, maybe even centuries. Golden Eagles move to higher elevations after leaving the nest.

In Montana, Golden Eagles eat primarily jackrabbits, ground squirrels, and carrion. They occasionally prey on deer and Pronghorn (mostly fawns), waterfowl, grouse, weasels, skunks, and other animals. Golden Eagles sometimes prey on livestock, especially lambs. Golden Eagles can carry no more than about seven pounds while flying.

### Potential to Occur in Project Area

The cliff line along the west side of the Beaverhead River provides potential nesting habitat while the valley bottom provides potential hunting areas for small mammals and birds. The MTNHP indicate the presence of Golden Eagles at Beaverhead Rock, approximately 0.3-miles from the Highway 41 project corridor as recent as 2011. No Golden Eagles (individuals or nest) were identified within the study area during the 2013 field surveys. However, there is a high likelihood that if an active Golden Eagle nest is not currently present, a returning fledgling would find suitable habitat for establishing a nest in this area. It is recommended that a MDT Biologist or other qualified professional conduct periodic surveys prior to construction to determine if Golden Eagle nests are established on Beaverhead Rock. If any nests are documented within 2-3 miles of this highway project, compliance with State regulations and the Bald and Golden Eagle Protection Act may be required.

### **Potential Impacts**

Golden eagles are sensitive to disturbance. About 85% of golden eagle nest losses are attributed to human disturbance.

### Avoidance and Minimization

The Draft Montana Golden Eagle Management Guidelines (Montana Golden Eagle Working Group, 2011) recommend a one-half (½) mile buffer around a nesting site for any disturbance. No documented nesting sites are within ½-mile of the project area, but the Beaverhead Rock cliff line with potential habitat is within ½-mile of the highway. If a golden eagle nest is identified within ½-mile of the project area prior to the start of construction activity then seasonal work restrictions would be applicable and typically span from approximately February 1 through August 15<sup>th</sup>. It should be noted that the

Draft Montana Golden Eagle Management Guidelines are under revision and the distances and restrictions may change as a result any revisions to this document.

## Recommended Conservation Measures

The following measures are recommended to ensure that potential impacts to golden eagles from construction activities are minimized.

- The current and ongoing nesting status of golden eagles in the project area should be confirmed prior to construction/disturbance activity through coordination with MFWP, USFWS, and MDT biologists. Appropriate specific and temporal construction restrictions may be warranted if nesting is detected.
- The location of construction activities, such as off-site staging, borrow/gravel source, equipment and supply storage, are determined by the construction contractor. The contractor is responsible for compliance with all laws and activities encompassing these tasks. The MDT will recommend that the contractor contact and coordinate these efforts with the USFWS to avoid or minimize impacts to golden eagles.

## 6.1.2.6. Long-billed Curlew

### Species Description and Distribution

The long-billed curlew is the largest nesting sandpiper in North America. It is 50-65 cm long, 62-90 cm across the wing and weighs 490-950 g. Its disproportionally long bill measures 11.3-21.9 cm. Adults have a very long bill curved downwards, a long neck, and small head. The neck and underparts are a light cinnamon, while the crown is streaked with brown.

Long-billed curlews have been documented across Montana by the MTNHP (Figure 15). The MTNHP have no documented overwintering occurrences of this species in Montana. Long-billed curlews typically migrate northward from wintering grounds in March and April. Eggs are reported during the last two weeks of May and into mid-June. Then they depart from mid-July to September, with peaks in early August.

#### Habitat Requirements

Long-billed curlews live in herbaceous wetland and riparian areas. Breeding occurs in prairies and grassy meadows, generally near water. Nests are in dry prairies and moist meadows. Nests are on the ground usually in flat areas with short grass, often near rock or other conspicuous objects. During migration and winter, long-billed curlews can be found on beaches and mudflats.

Long-billed curlews are fairly opportunistic and feed on various insects and some berries. During migration they also feed on crayfishes, crabs, snails, and toads.

### Potential to Occur in Project Area

Long-billed curlews were not identified within the project area during the field survey. Suitable nesting habitat for long-billed curlews is very limited along the Stone Creek – North project area. This species occurrence within the project area is likely limited to incidental occurrence for foraging in the wetlands along the Beaverhead River.

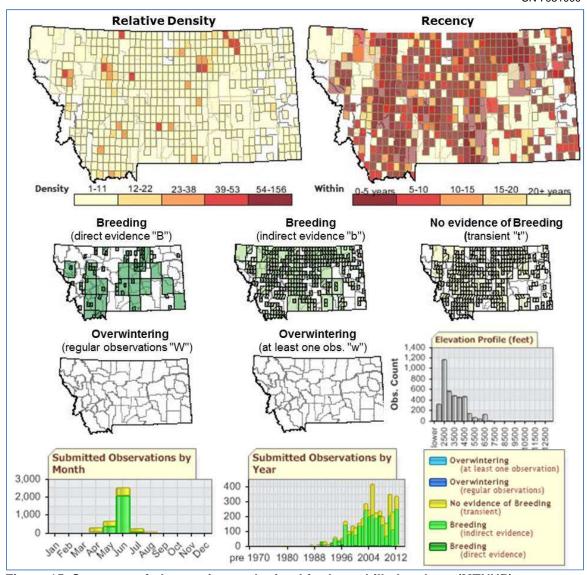


Figure 15. Summary of observations submitted for Long-billed curlews (MTNHP).

## **Potential Impacts**

No impacts are expected because the project area contains very limited suitable habitat for this species. No long-billed curlew nests are known to exist within areas potentially affected by construction activities associated with the Stone Creek - North project.

### Avoidance and Minimization

No avoidance or minimization measures are necessary for this species.

#### **Recommended Conservation Measures**

No conservation measures are recommended since no impacts are expected.

# 6.1.2.7. Sage Thrasher

## Species Description and Distribution

The Sage Thrasher is unique in being the only thrasher in the genus *Oreoscoptes*. Genetic work indicates this species may be more closely related to the mockingbirds (*Mimus*) than to other thrashers (*Toxostoma*). Its long, melodious, mockingbird-like song, earned it the original name of Mountain Mockingbird. It is the smallest thrasher and is a sagebrush obligate species.

The distribution of this species is dependent upon the presence of appropriate sagebrush habitat. The majority of the population in Montana is found in the southwest, south-central, and south-eastern portions of the state (Figure 16). This thrasher tends to stay in sagebrush plains and shrublands during migration. It will rarely visit areas of human habitation. Spring migration generally occurs from April 25 to May 15, with fall migration from July 30 to August 15.

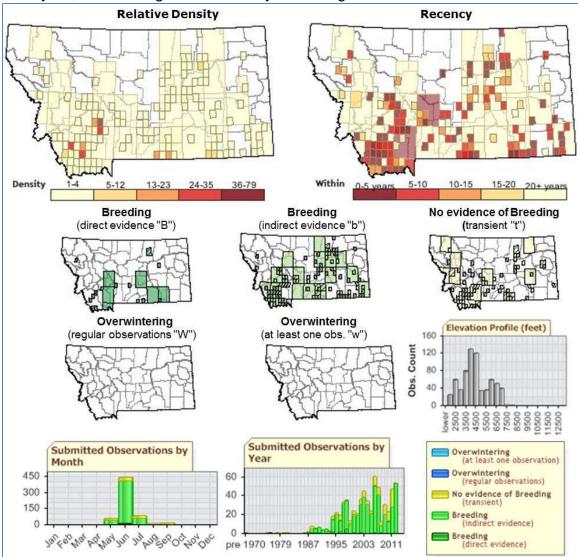


Figure 16. Summary of observations submitted for Sage Thrasher (MTNHP).

### **Habitat Requirements**

The species is considered a sagebrush obligate in Montana (it is known to use black greasewood in Utah and Nevada and bitterbrush in Washington). The abundance of Sage Thrasher is generally positively correlated with the amount of sage cover and negatively correlated with grass cover.

Nesting occurs soon after arrival to the breeding grounds. The nests may be placed on the ground, but are generally built in sagebrush. The bulky nests are cup-shaped and are constructed of twigs, forbs, and grass. Finer materials are used to line the nest. The 3 to 5 eggs are incubated by the females and males. Both sexes also tend the young. Montana's breeding dates are probably similar to those recorded for Wyoming: as early as May 17 and as late as mid-July.

Sage Thrashers eat insects, other arthropods, and some plant materials make up the bulk of their breeding season diet. Small fruit (berries) may also be consumed if available. This species generally forages on the ground.

### Potential to Occur in Project Area

Sagebrush cover within the project area is limited. Because there is minimal suitable nesting habitat and persistent vehicular traffic in the project area, this species may incidentally occur within the project area but is not expected to experience nesting and/or breeding disturbance as a result of construction activity.

# Potential Impacts

Aside from incidental use, this species is not likely to be present within the project area. No impacts are expected to this species as a result of the Stone Creek – North project.

#### Avoidance and Minimization

No avoidance or minimization measures are necessary for this species.

### **Recommended Conservation Measures**

No conservation measures are recommended since no impacts are expected.

6.1.2.8. Brewer's Sparrow

#### Species Description and Distribution

Brewer's Sparrow has a finely streaked brown crown. The median crown-stripe is frequently absent, but sometimes an indistinct one is present. Brewer's Sparrow has pale gray supercilia, unmarked lores, and bold, complete white eye-ring. The auricular is brown, softly outlined with black and bordered below by grayish white submustachial stripe. A black malar streak is thin and often indistinct. Its underparts are dull white, with grayish flanks. In adults, its breast is unstreaked, although sometimes flanks are streaked. Its back and rump are brown with the latter streaked with black.

Brewer's Sparrow live in sagebrush areas in central Montana where an average of 37 breeding pairs were found per 100 acres. In the Bozeman area, normal migration periods are from May 15 to 25 and in mid-August. Recent evidence of this species has been documented across Montana by the MTNHP (Figure 17).

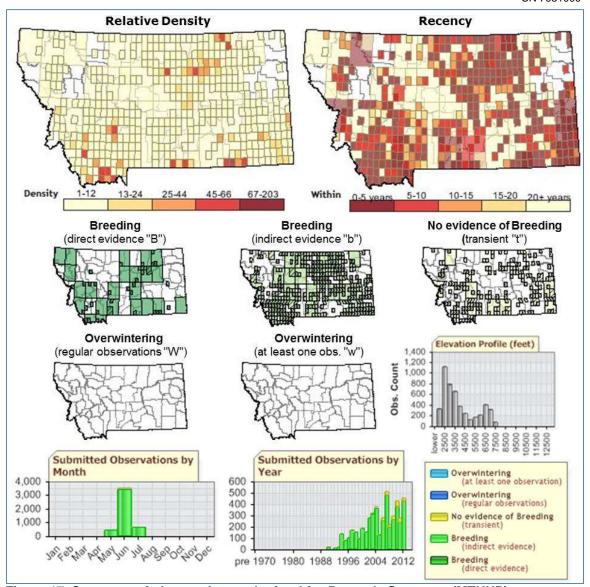


Figure 17. Summary of observations submitted for Brewer's Sparrows (MTNHP).

#### Habitat Requirements

Brewer's Sparrows nest in sagebrush averaging 16-inches high. The cover (concealment) for the nest provided by sagebrush is very important. In central Montana, 74% of nests were found between 6 to 8 inches above the ground in big sagebrush plants. The average clutch size was 3.26. Statewide, the species nests from mid-June to mid-July.

Brewer's Sparrows eat primarily grasshoppers, leaf beetles and snout beetles. They also eat grass seeds. Chemical pesticide spraying has led to a greater dependence on plants.

## Potential to Occur in Project Area

There is limited sagebrush cover within the project area. Because there is no suitable nesting habitat in the project area, this species is not likely to occur within the project area with the exception of incidental fly-overs or foraging.

#### Potential Impacts

No impacts are expected to this species due to the lack of suitable habitat within the study area.

#### Avoidance and Minimization

No avoidance or minimization measures are necessary for this species.

## **Recommended Conservation Measures**

No conservation measures are recommended since no impacts are expected.

## 6.1.3. Aquatic Species

The MTNHP data request results identified two special-status aquatic species within a 1 mile buffer of the proposed project area: Westslope cutthroat trout and Arctic grayling. Westslope cutthroat is a species of concern and is discussed here. Arctic grayling is listed under the ESA as a Threatened species, and is discussed in Section 6.0. The following sections contain information which was obtained from the MTNHP Field Guide (2013).

## 6.1.3.1. Westslope Cutthroat Trout

#### Species Description and Distribution

The Westslope cutthroat trout is one of two subspecies of native cutthroat found in Montana. Together they have been designated as Montana's state fish. The Westslope cutthroat's historical range included Montana west of the Continental Divide and the upper Missouri River drainage. The range has been seriously reduced by hybridization with rainbow and/or Yellowstone cutthroat, and habitat loss and degradation.

Westslope cutthroat is a trout with few, small, nonrounded spots, on the anterior body below the lateral line. Coloration varies, but generally is silver with yellowish hints, though bright yellow, orange, and especially red colors can be expressed to a much greater extent than on coastal or Yellowstone cutthroat.

#### **Habitat Requirements**

Westslope cutthroat are common in both headwaters lake and stream environments. They feed primarily on aquatic insect life and zooplankton. Westslope cutthroat spawn in the spring. Spawning and rearing streams tend to be cold and nutrient poor and the trout seek out gravel substrate in riffles and pool crests for spawning habitat. Additional habitat requirements are described in Section 4.2.4.1.

## Potential to Occur in Project Area

FWP suggests this fish assemblage in lower Stone Creek from the confluence with the Beaverhead River through the wetted reach of Stone Creek upstream of Highway 41

includes brown trout, brook trout, white suckers, and mottled sculpin (email from M. Jaeger, 2013). Stone Creek goes subsurface somewhere upstream of Highway 41, and remains dry year round for several miles. FWP has documented an abundance of pure Westslope cutthroat trout above the confluence of Stone Creek and Winnipeg Creek, which is approximately 10 miles upstream of the Highway 41 Bridge and upstream of the permanently dewatered section of Stone Creek. According to FWP, this dry channel barrier likely prevents Westslope cutthroat trout population from extending their range with any regularity downstream to the reach of Stone Creek in the vicinity of the Highway 41 Bridge.

## **Potential Impacts**

Potential impacts were listed in Section 5.2.4.3.

#### Avoidance and Minimization

Recommended avoidance or minimization measures were listed in Section 5.2.4.4.

#### **Recommended Conservation Measures**

Recommended conservation measures were listed in Section 5.2.4.5.

#### 7.0THREATENED AND ENDANGERED SPECIES BIOLOGICAL ASSESSMENT

#### 7.1. Introduction

The USFWS lists plant and animal species in Montana that are threatened and endangered including species that are proposed for listing (USFWS July, 2013). Activities conducted, sponsored, or funded by federal agencies must be reviewed for their effects on species federally listed or proposed for listing as threatened or endangered under Section 7 of the ESA. Based on the USFWS list for Beaverhead and Madison Counties, Montana, the MTNHP database search, and the range and habitat descriptions found in the literature, the following threatened species were considered with respect to the proposed project:

#### 7.2. Methods

In order to determine which federally listed species may occur in the project vicinity, Confluence requested from MTNHP a report of the presence of such species within one mile of the Public Land Survey sections that encompass the project area, and used the MTNHP Tracker web site to search for generalized observations of those species outside of that near project vicinity. Confluence also requested a determination of the presence of sensitive species from the USFWS, along with their recommendations regarding mitigation and conservation practices that may be applicable to sensitive species that may exist in the vicinity of the project site. The full Species of Concern data report received from MTNHP is provided in Appendix F and the letter of USFWS response is provided in Appendix E.

Supplemental information regarding the natural history, status and distribution of T&E species was obtained from the Montana Field Guide website (MTNHP 2013b) and the NatureServe Explorer online encyclopedia (NatureServe 2013).

Table 8. Federally Listed Species in Beaverhead and Madison Co, MT.

Common Name Scientific Name	USFWS Status*	Last Observed in Project Vicinity**	Habitat Requirements	Potential to Occur in Project Area		
Ute Ladies' Tresses Spiranthes diluvialis	LT	1996	Alkaline wetlands, swales and old, meander channels often on the edge of the wetland or in areas that are dry by mid-summer	Minimal.		
Canada Lynx Lync canadensis	LT	NA	Generally occur in subalpine forests in stands composed of pure lodgepole pine but also mixed stands of subalpine fire, lodgepole pine, Douglas-fir, grand fir, western larch and hardwoods	Minimal to none.		
Grizzly Bear Ursus arctos horribilis	LT	NA	Use primarily meadows, seeps, riparian zones, mixed shrub fields, closed timber, open timber, sidehill parks, snow chutes, and alpine slabrock habitats	Minimal to none.		
Greater Sage-Grouse Centrocercus urophasianus	С	NA	Foothills, plains, and mountain slopes where sagebrush is present, riparian and wet meadows	Minimal to none.		
Sprague's Pipit Anthus spragueii	С	NA	The Sprague's Pipit prefers native, medium to intermidiate height prairie; utilize and breed in alkaline meadows and around the edges of alkaline lakes.	Minimal to none.		
Arctic Grayling Thymallus arcticus	С	2002	Found primarily in small, cold, clear lakes with tributaries suitable for spawning	Minimal to none.		
Wolverine Gulo gulo luscus	Р	NA	Alpine tundra, boreal and mountain forest, large roadless wilderness areas, medium to scattered timber	Minimal to none.		
Whitebark Pine Pinus albicaulis	С	NA	Subalpine and krummholtz habitats in most mountain ranges of western and central Montana	None.		

\*LT=Listed Threatened; C=Candidate; P=Proposed \*\*NA = Not Applicable - species has no recorded occurrence w/in near vicinity of project area. 2002 observsations of Arctic Grayling were of an introduced population that failed.

#### 7.3. Results

## 7.3.1. Ute Ladies' Tresses (LT)

Ute Ladies' Tresses (*Spiranthes diluvialis*) is a perennial orchid with usually 1 stem that is 20-50 cm tall and arising from tuberously thickened roots. Its narrow leaves are 1 cm wide, can reach 28 cm long, are longest at their base, and persist during flowering. The inflorescence consists of few to many white or ivory flowers clustered in a spike of 3-rank spirals at the top of the stem. The sepals and petals are ascending or perpendicular to the stem. The lateral sepals often spread abruptly from the base of the

flower, and sepals are free or only slightly connate at the base. The lip petal is somewhat constricted at the median. Flowering occurs in August – early September.

#### 7.3.1.1. Status and Distribution

Ute Ladies' Tresses was listed as a Threatened Species in 1992 by the USFWS, and is ranked S1S2 (vulnerable to highly vulnerable to extirpation) in Montana and G2G3 (potentially at risk or at risk for extirpation) globally.

Ute Ladies' Tresses is found in four general areas of the interior western United States. In Montana it is found in the southwest near the base of the east slope of the Rocky Mountains and intermontane valleys (Figure 18). Ute Ladies' Tresses are known in the Missouri, Jefferson, Beaverhead, Ruby and Madison River drainages, and specifically in those portions of the Beaverhead drainage that encompass this project

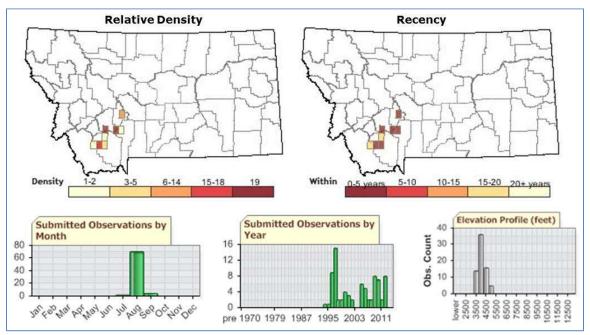


Figure 18. Summary of observations submitted for Ute Ladies' Tresses (MTNHP).

#### 7.3.1.2. Life History and Habitat Requirements

Ute Ladies' Tresses grow in alkaline wetlands, swales, and old meander channels often on the edge of the wetland or in areas that are dry by mid-summer. Habitat is limited to areas within major river drainages. In areas that are ungrazed, Spiranthes may occur among taller, relatively dense herbaceous vegetation making detection difficult.

## 7.3.1.3. Reasons for Decline

In Montana, Ute Ladies' Tresses is ranked S1S2 due to extremely limited population numbers. It is known from only a handful of occurrences in southwest and south-central Montana in the Missouri, Jefferson, Beaverhead, Ruby and Madison River drainages. *S. diluvialis* is restricted in area by specific hydrologic requirements. Many populations have less than 100 individuals, though a couple have over 500 plants.

Sites are susceptible to hydrologic changes and weed invasion. Large areas of habitat have been converted to agricultural uses. Livestock grazing is also a common use of these habitats. Two populations occur along highway right-of-ways. Most populations occur on private lands and only one occurrence is currently provided some potential protection or management for its conservation value (MTNHP 2013b).

## 7.3.1.4. Environmental Baseline / Occurrence in the Project Area

A limited extent of suitable habitat for this species occurs within the project area. The wetland areas along the Beaverhead River and north of the river with shallow, seasonal groundwater were specifically investigated for the presence of this species. It should be noted the field surveys were conducted outside the typical bloom period for the Ute Ladies' Tresses. This may have resulted in potentially overlooking the non-descript foliage of this species if it is present within the project area. In 1996 it was observed in a large wetland area near the Beaverhead River approximately one mile to the east of the project.

## 7.3.1.5. Effects of the Action / Impacts Analysis

The field surveys were conducted during the early and middle portion of the growing season. As this orchid generally flowers for only a few weeks in the latter part of the growing season, field surveys conducted as part of this analysis would likely not have identified the presence of Ute Ladies' Tresses. It is recommend that a MDT Biologist or other qualified professional conduct a plant survey for this species during the appropriate time of the year prior to construction. Additional survey efforts for Ute Ladies' Tresses within the project should occur during late August to early September and concentrate along the Beaverhead River valley from RP 14.6 to 15.5 and along the irrigation canal to the east of the highway from RP 14.6 to 16.2.

No impacts are expected to this species as this species has no documented occurrence within the project area, and was not identified within the potential footprint of the project during the vegetation inventory performed for this analysis. As noted above, the timing of the field survey may have thwarted detection of the Ute Ladies' Tresses.

#### 7.3.1.6. Recommended Conservation Measures

It is recommended that the MDT Biologist or other qualified biologist investigate the suitable habitat within the project area during the blooming period (mid-August) during project development to document the presence or absence of ULT within the project limits. If the species is located within the project area, additional coordination and consultation with USFWS may be required.

## 7.3.1.7. Proposed Determination of Effect

Due to the limited availability of suitable habitat and the lack of documented occurrences within the project area, the proposed project will have *no effect* on Ute Ladies' Tresses.

## 7.3.2. Fluvial Arctic Grayling (C)

## 7.3.2.1. Species Description

The Arctic grayling (*Thymallus arcticus*) is a species native to northern North America. The only populations native to the lower 48 states were in Michigan and Montana, and the Michigan population is now extinct. Consequently, the fluvial or river-dwelling population in the upper Big Hole River is the last remnants of this native Fish of Special Concern. Originally, the fluvial Arctic grayling was widespread throughout the upper Missouri river drainage as far downstream as Great Falls. Lewis and Clark made note of these "new kind of white or silvery trout" in 1805. The lake-dwelling form is fairly common in 30 or more lakes across the western half of the state. These lake fish are genetically, but not visibly, different from our native fluvial grayling.

#### 7.3.2.2. Status and Distribution

On September 8, 2010, the U.S. Fish and Wildlife Service determined that the upper Missouri River basin Distinct Population Segment of Arctic Grayling warrants protection under the Endangered Species Act, making it a Candidate for listing, but that listing the species under the Act is precluded by the need to address other listing actions of a higher priority.

Although fluvial Arctic grayling inhabit the entire Big Hole River, highest densities occur in the vicinity of Wisdom (Figure 19). The majority of spawning occurs near Wisdom in the main stem and several tributaries. Fluvial Arctic grayling are reared in the vicinity of where they hatch; thus, the Wisdom area provides the majority of rearing habitat.

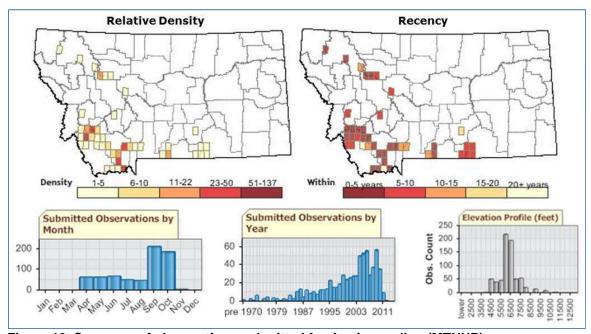


Figure 19. Summary of observations submitted for Arctic grayling (MTNHP).

## 7.3.2.3. Life History and Habitat Requirements

Arctic grayling are very mobile and they utilize various habitats in multiple places over their life history. They are spring spawners and broadcast their eggs over a gravel bottom in moving streams. They are generalists, eating a variety of aquatic invertebrates. Additional habitat requirements are described in Section 4.2.4.1.

#### 7.3.2.4. Reasons for Decline

Grayling are gullible to the angler's lures and also seem to be easily out-competed by other salmonid species. This probably explains much of their demise from their native range. Water quality and quantity impacts from agricultural practices may also be important factors.

## 7.3.2.5. Environmental Baseline / Occurrence in the Project Area

Arctic Grayling were stocked in the Beaverhead river approximately 13 river miles downstream of the project area in the late 1990s/early 2000s as part of a reintroduction effort. The MFISH observations of this species recorded by the MTNHP from 1999 to 2002 most likely represent the planted fish. This species has not been observed by regular fish survey efforts in the reintroduction reach since 2002, and the reintroduction effort is considered unsuccessful at establishing a resident population (Jim Magee, personal communication).

Given that the above referenced MFISH records are the only recorded observations of arctic grayling in the vicinity of the project reach, and given that the thermal regime of the Beaverhead River in this area supports a fish species assemblage tolerant of warmer water temperatures and higher nutrient loading that effectively out competes the cold water optimized arctic grayling, it is very unlikely that arctic grayling currently occur in this reach as anything other than a rare incidental transient.

## 7.3.2.6. Effects of the Action / Impacts Analysis

No effects are anticipated, as the species does not occur in the project area, except perhaps as a rare incidental transient.

#### 7.3.2.7. Recommended Conservation Measures

No conservation measures are necessary for this species.

## 7.3.2.8. Proposed Determination of Effect

As the species does not occur in the project area, except perhaps as a rare incidental transient, limited project related instream work subject to instream timing restrictions coordinated with MFWP and USFWS, the project is *not likely to jeopardize the continued existence* of the species.

## 7.3.3. Grizzly Bear (LT)

## 7.3.3.1. Species Description

Grizzly Bears (*Ursos arctos*) are large bears with a massive head with a dished facial profile, small, rounded ears, small eyes, short tail and a large, powerful body with a

noticeable hump above the shoulders. The claws on the front feet of adults are about 4 inches long and slightly curved. Grizzly Bears range widely in color and size. The most prevalent coloration of grizzly bears in Montana is medium to dark brown underfur, brown legs, hump and underparts, with light to medium grizzling on the head and back and a light patch behind the front legs. Other forms, lighter or darker with varying levels of grizzled hair patches, occur in lesser numbers. (MTNHP 2013b).

#### 7.3.3.2. Status and Distribution

The grizzly bear is currently listed as a Threatened species under the ESA by the USFWS, and is a candidate for delisting following successful recovery efforts. In Montana, the grizzly bear is ranked an S2S3 species (potentially at risk or at risk for extirpation). Globally the grizzly is more secure, ranking G4 (apparently secure, though it may be quite rare in parts of its range, and/or suspected to be declining) across the balance of its range in the far north of the North American continent.

Within Montana, the range of the grizzly bear is divided among two populations, one in the Northern Continental Divide ecosystem in the northwestern corner of the state, and the other in south central Montana in the forested lands peripheral to Yellowstone National Park (Figure 20).

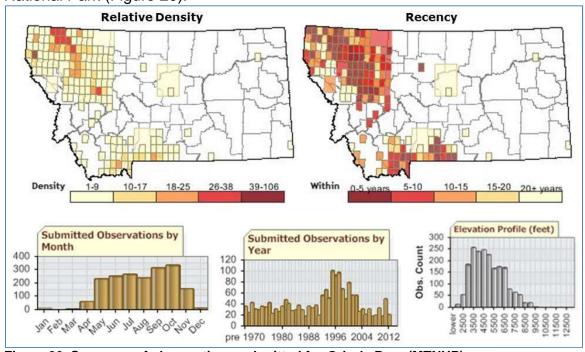


Figure 20. Summary of observations submitted for Grizzly Bear (MTNHP).

## 7.3.3.3. Life History and Habitat Requirements

In Montana, Grizzly Bears primarily use meadows, seeps, riparian zones, mixed shrub fields, closed timber, open timber, sidehill parks, snow chutes, and alpine slabrock habitats. Habitat use is highly variable between areas, seasons, local populations, and individuals (Servheen 1983, Craighead 1982, Aune 1984). Historically, the Grizzly Bear was primarily a plains species occurring in higher densities throughout most of eastern Montana (MTNHP 2013b).

#### 7.3.3.4. Reasons for Decline

The Grizzly bear's dramatic decline in the western United States over the course of the 20<sup>th</sup> century was a result of habitat alteration and loss, and direct conflict with humans.

#### 7.3.3.5. Environmental Baseline / Occurrence in the Project Area

The nearest recorded occurrence to the project area was in 1998 in Sweetwater Basin, approximately 15 miles to the southeast of the project location. The nearest recorded occurrence of a grizzly bear to the project area within the last fifteen years was approximately 45 miles to the south east. The current estimated extent of grizzly bear range extends no closer than 25 miles to the project site, therefore grizzly bears are not expected to occur in the project area.

## 7.3.3.6. Effects of the Action / Impacts Analysis

No effects are anticipated as the grizzly bear does not occur in the project area.

## 7.3.3.7. Recommended Conservation Measures

No conservation measures are necessary for this species.

## 7.3.3.8. Proposed Determination of Effect

As the grizzly bear is not expected to occur in the project area due to limited suitable habitat and moderate human development and activity, the project will have *no effect* on the Grizzly bear.

## 7.3.4. **Canada Lynx (LT)**

## 7.3.4.1. Species Description

The Canada Lynx (Lynx Canadensis) is a medium-sized cat (about 22 lbs for males and 17 lbs for females) with silver-gray to grayish-brown upperparts and a white belly and throat. Lynx have long legs and a relatively short, compact body. The total length averages approximately three feet long. A facial ruff surrounds the face except directly beneath the snout. The facial ruff is longest on either side of the snout and has black markings on these longest hairs. The ears are 2.75-3 inches long and have a long, (~1.25") black tuft at the end. The backs of the ears are darker than the rest of the body and have a central white spot. The feet are large and round (4x4 inches) and heavily furred (Foresman 2001). The tail is short and the tip is entirely black (MTNHP 2013b).

#### 7.3.4.2. Status and Distribution

The lynx is currently listed as a Threatened species under the ESA by the USFWS. In Montana, the lynx is ranked an S3 species (potentially at risk for extirpation). Globally the lynx is more secure, ranking G5 (common, widespread, and abundant) across the balance of its range in the far north of the North American continent.

Within Montana, the lynx is found in the mountainous western third of the state (Figure 21). The USFWS has two general areas of designated Canada Lynx Critical habitat within Montana (Unit 3 and Unit 5). Unit 3 includes the Northern Rocky Mountains of northwest Montana (Flathead, Glacier, Granite, Lake, Lewis and Clark, Lincoln,

Missoula, Pondera, Powell and Teton Conties); Unit 5 includes the Greater Yellowstone Area of southwest Montana (Carbon, Gallatin, Park, Stillwater, and Sweetgrass Counties). No Canada Lynx critical habitat has been designated in the vicinity of the project area or within Beaverhead or Madison Counties.

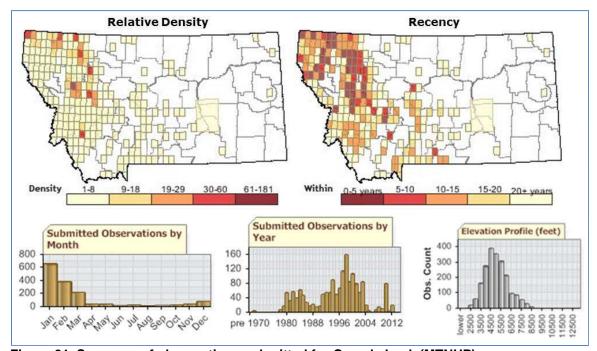


Figure 21. Summary of observations submitted for Canada Lynk (MTNHP).

7.3.4.3. Life History and Habitat Requirements

From the Montana Field Guide (MTNHP 2013b):

East of the Continental Divide, the subalpine forests inhabited by Canada Lynx occur at higher elevations (5,400 to 7,800 feet) and are composed mostly of subalpine fir. Secondary habitat is intermixed Englemann spruce and Douglas-fir habitat types where lodgepole pine is a major seral species (Ruediger et al. 2000). Throughout their range, shrub-steppe habitats may provide important linkage habitat between the primary habitat types described above (Reudiger et al. 2000). Typical snow conditions are important factors for Canada Lynx, with occurrence primarily in habitats that also receive relatively uniform and moderately deep snowfall amounts (total annual snowfall of 100 to 127 centimeters) (Kelsall et al. 1977). Within these habitat types, disturbances that create early successional stages such as fire, insect infestations, and timber harvest, provide foraging habitat for lynx by creating forage and cover for Snowshoe Hares, although older forests also provide habitats for Snowshoe Hares and Canada Lynx for longer periods of time than disturbance-created habitats (Ruediger et al. 2000).

Canada Lynx avoid large openings but often hunt along edges in areas of dense

cover (Ruediger et al. 2000). When inactive or birthing, they occupy dens typically in hollow trees, under stumps, or in thick brush. Den sites tend to be in mature or old-growth stands with a high density of logs (Koehler 1990, Koehler and Brittell 1990). These habitats must be near or adjacent to foraging habitat because the hunting range of the female is reduced during this time (Ruediger et al. 2000).

#### 7.3.4.4. Reasons for Decline

While the lynx has a large range in northern North America; declines have occurred in some populations. It is apparently still widespread and relatively abundant in most of historic range, though population data are lacking for many areas. Forest management practices that result in the loss of diverse age structure, fragmentation, roading, urbanization, agriculture, recreational developments, and unnatural fire frequencies have altered suitable habitat in many areas. As a result, many states may have insufficient habitat quality and/or quantity to sustain lynx or their prey. Human access into habitat has increased dramatically over the last few decades contributing to direct and indirect mortality and displacement from suitable habitat. Although legal take is highly restricted, existing regulatory mechanisms may be inadequate to protect small, remnant populations or to conserve habitat. Competition with bobcats and coyotes may be a concern in some areas (NatureServe. 2013).

7.3.4.5. Environmental Baseline / Occurrence in the Project Area The nearest recorded occurrence to the project area was in 1983, in the mountains approximately 20 miles to the west of the project at an elevation of 7,000 feet. The nearest recorded occurrence of a lynx to the project area within the last fifteen years was approximately 50 miles away to the north east. No suitable habitat occurs within the project area, therefore Canada lynx are not expected to occur in the project area.

7.3.4.6. Effects of the Action / Impacts Analysis

No effects are anticipated as the Canada lynx does not occur in the project area.

7.3.4.7. Recommended Conservation Measures

No conservation measures are necessary for this species.

7.3.4.8. Proposed Determination of Effect

As the Canada lynx does not occur in the project area due to the lack of suitable habitat and the moderate human development and activity, the project will have *no effect* on the Canada lynx.

Designated critical habitat for the Canada lynx does not occur in either Beaverhead or Madison Counties, therefore, the project *will not destroy or adversely modify* Canada lynx proposed or designated critical habitat

## 7.3.5. **Wolverine (P)**

## 7.3.5.1. Species Description

The Wolverine (*Gulo gulo*) is a bear-like weasel with massive limbs and long, dense, dark brown fur, paler on the head, with two broad yellowish stripes extending from the shoulders and joining on the rump. Variable white or yellowish markings are often present on the throat and chest. The tail is bushy. The feet are relatively large (2.5 to 4.5 inches total length) with robust claws. Wolverines weigh between 15 and 70 pounds and range from 3 to 3.5 feet in length.

#### 7.3.5.2. Status and Distribution

The wolverine is currently Proposed for listing as Threatened under the ESA, having been proposed for such listing by the USFWS in February 2013. In Montana, the wolverine is ranked an S3 species (potentially at risk for extirpation). Globally the wolverine is more secure, ranking G4 (apparently secure, though it may be quite rare in parts of its range, and/or suspected to be declining) across the balance of its range in the far north of the North American continent.

Within Montana, the wolverine is found in the mountainous western third of the state (Figure 22). No recent sightings have been documented within the vicinity of the Stone Creek – North project (MTNHP).

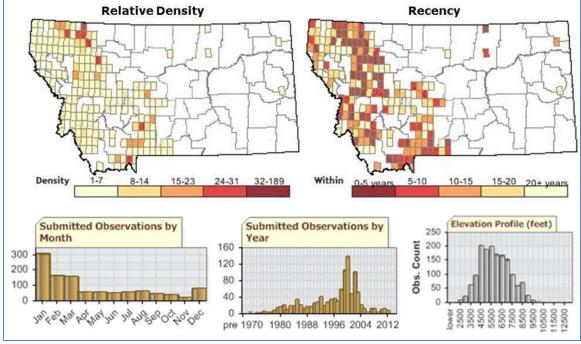


Figure 22. Summary of observations submitted for Wolverine (MTNHP).

## 7.3.5.3. Life History and Habitat Requirements

Wolverines are limited to alpine tundra, and boreal and mountain forests (primarily coniferous) in the western mountains, especially large wilderness areas. However, dispersing individuals have been found far outside of usual habitats. They are usually in areas with snow on the ground in winter. Riparian areas may be important winter

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habitat. When inactive, Wolverines occupy dens in caves, rock crevices, under fallen trees, in thickets, or similar sites. Wolverines are primarily terrestrial but may climb trees (MTNHP 2013b).

## 7.3.5.4. Reasons for Decline

Decline may have been due primarily to fur trapping. Habitat has been degraded through timber harvesting, ski area construction, road construction, and general human disturbance (Biosystems Analysis 1989). There are conflicts with backcountry trappers (NatureServe. 2013).

## 7.3.5.5. Environmental Baseline / Occurrence in the Project Area

The nearest recorded occurrence to the project area was in 1957, in Lauren Canyon in the mountains approximately 13 miles to the east of the project at an elevation of 7,100 feet. The nearest recorded occurrence of a wolverine to the project area within the last fifteen years was in 2010, approximately 23 miles away to the west near Barb Lake (MTNHP 2013b). Although the project site lies within the current range of the wolverine, the low elevation, lack of boreal forest, and presence of the existing highway within the project site renders the project area to be unsuitable habitat, therefore wolverine are not expected to occur in the project area except as very rare incidental transients.

## 7.3.5.6. Effects of the Action / Impacts Analysis

Effects on wolverine would only occur in the extremely unlikely circumstance that a wolverine would be transiting the unsuitable habitat of the project area enroute to more suitable habitat higher in elevation. It is highly unlikely that the project would affect a transient wolverine.

#### 7.3.5.7. Recommended Conservation Measures

No conservation measures are necessary for this species.

#### 7.3.5.8. Proposed Determination of Effect

As the wolverine does not normally occur in the project area due to the lack of suitable habitat and the moderate human development and activity, and may only rarely occur as a transient between more suitable habitat higher in elevation, the project *will not jeopardize the continued existence* of the species.

## 7.3.6. **Greater Sage Grouse (C)**

#### 7.3.6.1. Species Description

Greater sage-grouse (*Centrocercus urophasianus*) is the largest of Montana's grouse. Both sexes have relatively long, pointed tails, feathered legs, and mottled gray-brown, buff, and black plumage. Males have a blackish-brown throat patch and an inconspicuous yellow eye comb. Both sexes have blackish bellies which contrast sharply with white under-wing coverts when the birds are in flight. Females appear to dip from side to side while flying. Adult males range from 26 to 30 inches in length and

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average 4 to 7 pounds in weight; adult females range from 19 to 23 inches in length and 2.5 to 3.5 pounds in weight (MTNHP 2013b).

#### 7.3.6.2. Status and Distribution

In 2010, the US Fish and Wildlife Service concluded that the greater sage-grouse warrants protection under the Endangered Species Act. However, the Service has determined that proposing the species for protection is precluded by the need to take action on other species facing more immediate and severe extinction threats.

As a result, the greater sage-grouse has been placed on the list of species that are candidates for Endangered Species Act Protection. The Service will review the status of the species annually, as it does with all candidate species, and will propose the species for protection when funding and workload priorities for other listing actions allow.

Within Montana, the greater sage-grouse is ranked as an S2 species (at risk because of very limited and/or potentially declining population numbers, range and/or habitat, making it vulnerable to global extinction or extirpation in the state) though it fares somewhat better across the balance of its range in the western United States and the extreme southern portions of western Canada, achieving a global ranking of G3G4 (potentially at risk for extirpation to apparently secure).

In Montana, the greater sage grouse is found in low numbers across most regions of the state, being absent only in the northwest mountains and the extreme north eastern corner of the state (Figure 23). The highest populations of sage-grouse in Montana are found in the southwest mountains and the central northern plains. The primary local factor in the distribution of the greater sage-grouse is the presence of suitable sagebrush rangeland, as they cannot survive outside of that habitat.

#### 7.3.6.1. Life History and Habitat Requirements

Sagebrush is the obligate habitat of the greater sage-grouse. They use 6 to 18 inch high sagebrush covered benches in June to July; move to alfalfa fields or greasewood bottoms when forbs on the benches dry out; and move back to sagebrush in late August to early September (MTNHP 2013b).

#### 7.3.6.2. Reasons for Decline

Greater Sage Grouse were once widespread and abundant and were historically found in 16 western states and three Canadian provinces. Sagebrush conversion to agriculture, heavy livestock grazing, eradication of sagebrush with herbicides and burning, and continued development and fragmentation of sagebrush rangelands have dramatically reduced populations and eliminated the grouse from many parts of its former range (NatureServe 2013).

7.3.6.1. Environmental Baseline / Occurrence in the Project Area No sage-grouse observations have been recorded within a minimum of five miles from the project area. Several recent observations have been recorded within 25 miles to

the south of the project area. The project area appears to be outside the current distribution of the sage grouse.

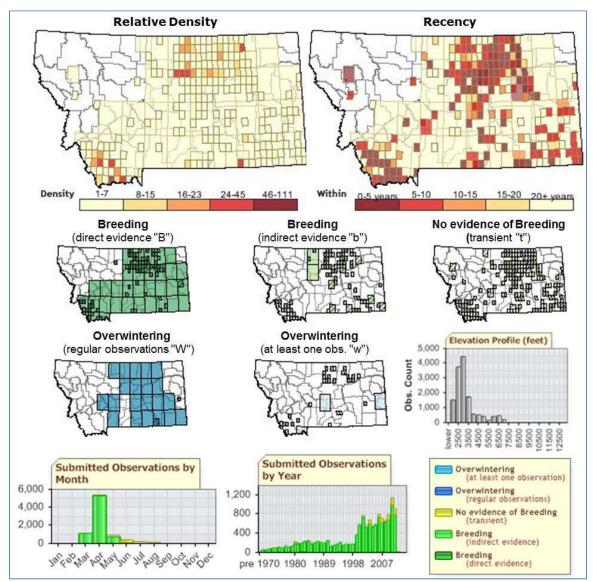


Figure 23. Summary of observations submitted for Greater Sage Grouse (MTNHP).

## 7.3.6.2. Effects of the Action / Impacts Analysis

Although some suitable habitat is present within the project area (big sagebrush, alfalfa fields and greasewood bottoms) the presence of the existing highway renders this habitat undesirable to sage grouse. As sage-grouse have not been observed within five miles of the project area, sage-grouse were not observed during the field visit, and given that more suitable and desirable habitat exists outside of the project area, it is unlikely that sage-grouse make other than rare, incidental use of this area. The proposed action will have negligible effect on sage-grouse.

## 7.3.6.3. Recommended Conservation Measures

No conservation measures are necessary for this species.

## 7.3.6.4. Proposed Determination of Effect

As no documented observations of Greater sage-grouse have occurred in recent history within miles of the project area, suitable habitat is limited within the project area, and lands adjacent to the project area are subject to moderate human occupancy and agricultural manipulation, the project will not jeopardize the continued existence of the species.

## 7.3.7. Sprague's Pipit (C)

## 7.3.7.1. Species Description

The adult Sprague's Pipit (*Anthus spragueii*) is a pale, slender, sparrow-sized bird with white outer tail feathers, a thin bill, pale legs, and a heavily streaked back. Adults reach a length of 6.5 inches, with a wingspan of 10 inches, and a weight of 23.7 to 24.0 grams. The sexes are alike. The sides of the head and indistinct buffy eye-rings are pale. (MTNHP 2013b).

#### 7.3.7.2. Status and Distribution

In 2010 The U.S. Fish and Wildlife Service reviewed the conservation status of Sprague's Pipit to determine whether the species warrants protection under the Endangered Species Act. The status review found that listing Sprague's Pipit as threatened or endangered is warranted, but that listing the species at this time is precluded by the need to complete other listing actions of a higher priority. As a result, the greater sage-grouse has been placed on the list of species that are candidates for Endangered Species Act Protection.

Sprague's Pipit is a migratory songbird whose known range in Montana includes the eastern two thirds of the state, where its preferred habitat (large expanses of native grassland) is found (Figure 24).

#### 7.3.7.3. Life History and Habitat Requirements

An endemic grassland bird, the Sprague's Pipit prefers native, medium to intermediate height prairie (Casey 2000) and in a short grass prairie landscape, can often be found in areas with taller grasses (Samson and Knopf 1996). The Sprague's Pipit is significantly more abundant in native prairie than in exotic vegetation (Dechant et al. 2001). Dechant (2001) also notes that the species has been shown to be area sensitive, requiring relatively large areas of appropriate habitat; the minimum area requirement in a Saskatchewan study was 470 acres (MTNHP 2013b).

#### 7.3.7.4. Reasons for Decline

Although population trends in Montana appear to be relatively stable in recent years, populations have been in decline over the long run and the species faces threats from covertype conversion, overgrazing, exotic plant invasions, altered fire regimes, and mowing prior to fledging of young (MTNHP 2013b).

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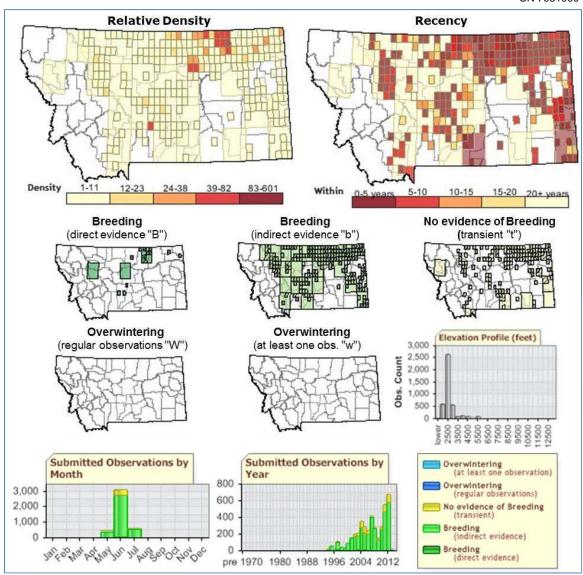


Figure 24. Summary of observations submitted for Sprague's Pipit (MTNHP).

## 7.3.7.5. Environmental Baseline / Occurrence in the Project Area

No observation of Sprague's pipit has been recorded within 25 miles of the project site, and this species was not observed during any of the field visits. The species is not known to overwinter in Montana, and its known breeding range in the state lies north of the Yellowstone River. A few observations of this bird in the eastern half of Madison county, near Ennis, have been documented (MTNHP). Aside from irregular incidental occurrence of migrating Sprague's Pipit, this species is not expected to occur in the project area due to a lack of suitable habitat and general landuse (agriculture) in the vicinity of the project.

## 7.3.7.6. Effects of the Action / Impacts Analysis

No effects are anticipated as the Sprague's pipit does not occur in the project area.

## 7.3.7.7. Recommended Conservation Measures

No conservation measures are necessary for this species.

## 7.3.7.8. Proposed Determination of Effect

As the Sprague's pipit is not expected to occur in the project area due to limited suitable habitat within the project area, and lands adjacent to the project area are subject to moderate human occupancy and agricultural manipulation, the project will not jeopardize the continued existence of the species.

## 7.3.8. Whitebark Pine (C)

## 7.3.8.1. Species Description

Whitebark pine (*Pinus albicaulis*) is a small tree (to 25 m tall) with ascending branches and a rounded or flat-topped crown. Bark is smooth, light gray. Leaves are yellow-green, 2–6 cm long, 5 per fascicle. Seed cones ovoid, 4–8 cm long, remaining on the tree and closed until opened and/or dislodged by squirrels or birds (MTNHP 2013b).

#### 7.3.8.2. Status and Distribution

Whitebark pine has been listed as a Candidate species for Threatened and Endangered status under the Endangered Species Act by the USFWS. Whitebark pine is a common component of subalpine forests and a dominant species of treeline and krummholtz habitats. It occurs in almost all major mountain ranges of western and central Montana (MTNHP 2013b).

## 7.3.8.3. Life History and Habitat Requirements

Whitebark pine is found in subalpine forests and treeline and krummholtz habitats.

#### 7.3.8.4. Reasons for Decline

Populations of Whitebark pine in Montana and across most of western North America have been severely impacted by past mountain pine beetle outbreaks and by the introduced pathogen, white pine blister rust. The results of which have been major declines in Whitebark pine populations across large areas of its range. Additionally, negative impacts associated with encroachment and increased competition from other trees, primarily subalpine fir have occurred as a result of fire suppression in subalpine habitats (MTNHP 2013b).

## 7.3.8.5. Environmental Baseline / Occurrence in the Project Area

The lower elevation grassland and riparian habitat of the project area is hostile to Whitebark pine. Observations of Whitebark pine are limited to the high mountain areas of Beaverhead and Madison counties. Whitebark pine does not occur in the project area.

## 7.3.8.6. Effects of the Action / Impacts Analysis

No effects are anticipated as Whitebark pine does not occur in the project area.

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## 7.3.8.7. Recommended Conservation Measures

No conservation measures are necessary for this species.

## 7.3.8.8. Proposed Determination of Effect

As Whitebark pine does not occur in the project area due to the lack of suitable habitat, the project *will not jeopardize the continued existence* of the species.

#### 8.0 WETLANDS

#### 8.1. Introduction

The project area was reviewed between June 10 and 13, 2013, to determine the location of Waters of the US including wetlands and other special aquatic sites. Twenty-six wetland determination data points were established in potential wetland areas to assess the presence of hydrophytic species, hydric soil, and wetland hydrology. The location of wetland determination data points and the surveyed wetland boundaries are shown in Appendix A. Wetland determination data forms are included in Appendix B. Photographs taken at each wetland determination data point are shown in Appendix C. Completed Montana Wetland Assessment Method (MWAM) functional assessment forms (Berglund and McEldowney 2008) of wetlands identified within the project area are located in Appendix D.

#### 8.2. Wetland Delineation Methods

Waters of the U.S. including special aquatic sites and jurisdictional wetlands were delineated in accordance with criteria established in the 1987 Corps of Engineers Wetland Delineation Manual (1987 Manual) using protocols detailed in The Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, Coast Region, Version 2.0 (WTI 91-2, 1991, ERDC/EL TR-10-1). Confluence conducted the field delineation between June 10 and 13, 2013. All wetlands identified onsite were assigned a hydrogeomorphic (HGM) wetland class in accordance with the guidance prepared by the Natural Resource Conservation Service (2008), and classified to the subclass level (with water regime modifier) using the wetland and deepwater habitat classification system developed by the U.S. Fish and Wildlife Service (Cowardin 1979). The boundaries of wetlands identified during the field investigation were mapped using a survey-grade GPS unit differentiated against All wetlands mapped within the project area were an established base station. assigned a jurisdictional status using best professional judgment and CWA jurisdiction guidance issued by the U.S. Environmental Protection Agency (USEPA) following the U.S. Supreme Court's decision in Rapanos v. United Stated and Carabell v. United <u>States</u> (U.S. Environmental Protection Agency 2008). All jurisdictional determinations presented in this report are preliminary and subject to verification by USACE and USEPA.

Confluence determined the wetland boundary in the field based on changes in plant communities and/or hydrology, and changes in soil characteristics. Topographic relief boundaries within the subject properties were also examined and cross referenced with soil and vegetatation communities as supportive information for this wetland

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delineation. The 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 the vegetation community type. If any one of the parameters did not exhibit positive wetland indicators, Confluence determined the area to be upland. The National Wetlands Inventory maps developed by the US Fish and Wildlife Service were cross-referenced during the field survey and used as supplemental information to support the presence or absence of wetlands across the site.

## 8.2.1. Hydrophytic Vegetation

Plants must be physiologically or morphologically adapted for life under saturated or anaerobic soil conditions to grow in wetlands. The USACE and the U.S. Fish and Wildlife Service (USFWS) have investigated the probability of occurrence of individual plant species in wetlands. Based on this investigation the USFWS developed an extensive list of plant species categorized as obligate (OBL), facultative wetland (FACW), facultative upland (FACU), or upland (UPL) (USFWS 1988 and 1993). The National Wetland Plant List (NWPL) was updated in 2012 in an effort led by the The 2012 NWPL was employed for this delineation. Species with an indicator status of OBL, FACW or FAC are considered wetland species. According to USACE methods, a sample point is deemed to have wetland vegetation if more than 50% of the number of dominant species present are hydrophytic species, if the prevalence index is ≤3.0, or if morphological adaptations are observed during the field In general, wetland boundaries on the site were delineated based on the distribution and relative dominance of wetland species along the wetland/upland interface.

## 8.2.2. **Hydric Soil**

The Natural Resource Conservation Service (NRCS) defines hydric soils as "soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile" (USDA 1987). The NRCS list of Hydric Soils in the United States (USDA 1987) and the Montana Hydric Soils List (2012) were reviewed to determine whether hydric soils were mapped on the site. The NRCS mapped sixteen separate soil map units within the study area (Figure 2). Four soil units mapped within the study area were found on the Montana Hydric Soils list and cover approximately 28% of the site.

Confluence investigated soils on the site through excavation of a series of 16-inch deep pits along the upland/wetland gradient. The wetland boundary was delineated based on the appearance of hydric soils along this gradient in concert with the appearance of hydrophytic vegetation. The location of 26 soil pit logs from typical upland and wetland locations are shown in Appendix A. Confluence determined the presence or absence of hydric soil using criteria established in the 1987 Manual and 2010 Regional Supplement: Western Mountains, Valleys, Coast. These criteria include certain physical characteristics observable in the field such as high organic content, accumulation of sulfidic material (sulfidic odor), greenish, bluish gray, gley, or dark soil colors (low soil chroma), depleted matrix, and reduction/oxidation features (mottling).

Confluence assessed the presence or absence of sulfidic material by odor, and soil colors and mottling with a Munsell soil color chart (Munsell 2000).

## 8.2.3. Wetland Hydrology

Confluence determined the presence or absence of wetland hydrology using criteria established in the 1987 Manual and 2010 Regional Supplement: Western Mountains, Valleys, Coast. Direct, visual indicators of wetland hydrology include observations of standing water or saturated soil, or evidence of previous water inundation or saturation such as drift lines, sediment deposits or watermarks. Additionally, wetland hydrology is often inferred from soil features such as oxidized rhizospheres, or from the apparent drainage patterns in the assessment area. Confluence examined each sample point for indicators of wetland hydrology. Soil pits excavated during the wetland delineation were used to evaluate groundwater levels within 16 inches of the ground surface. The data were recorded on the Wetland Data Forms (Appendix B).

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 (12.5 percent) of the growing season" (USACE 2010). Systems with continuous inundation or saturation for greater than 12.5 percent of the growing season are considered wetlands. The growing season is defined for purposes of this report as the number of days where there is a 50 percent probability that the minimum daily temperature is greater than or equal to 28 degrees Fahrenheit (Environmental Laboratory 1987). The average length of the growing season, as recorded at the Westby WRCC weather station, is 136 days. Areas defined as wetland would require 17 days of inundation or saturation within 12 inches of the ground surface to meet the hydrology criteria. Wetland hydrology may be supplied by surface water, groundwater, and/or direct precipitation.

#### 8.2.4. Function and Values Assessment Methods

Confluence used wetland assessment methods and forms developed by the Montana Department of Transportation (MDT) (Berglund and McEldowney 2008) for the functions and values assessment. The field assessment was conducted at the time of the on-site wetland delineation between June 10 and 13, 2013.

The following functions and values are evaluated by this method:

- A. Habitat for federally listed or proposed threatened or endangered plants or animals (T&E species),
- B. Habitat for plants or animals rated S1, S2, S3 by the Montana Natural, Heritage Program,
- C. General wildlife habitat,
- D. General fish/aquatic habitat.
- E. Flood attenuation,
- F. Long and short-term surface water storage.
- G. Sediment/nutrient/toxicant retention and removal.
- H. Sediment/shoreline stabilization.

- I. Production export/food chain support,
- J. Groundwater discharge/recharge,
- K. Uniqueness, and
- L. Recreation/education potential.

In performing a function and values assessment, a rating of low, moderate, high or NA (not applicable) is applied to each of the twelve functions and values (A-L) with accompanying point scores of 0.1 (lowest) to 1.0 (highest). Functional points are then summed and divided by the possible maximum score (functions and values ranked NA are not included) to yield a percentage score. This percentage is then used in conjunction with other criteria to provide an overall wetland ranking into one of four categories. A Category I ranking is the highest a wetland can receive, followed by Category II, Category III, and Category IV rankings.

## 8.3. Results

## 8.3.1. **Description of Delineated Wetlands**

Eighteen data points were located in areas that met the three wetland criteria. Fourteen wetland areas (Table 9), three Waters of the U.S. and two irrigation canals (Table 10) were delineated along the approximate 7.2-mile highway reach and totaled 11.30 acres of aquatic habitat identified within the 100-ft buffer on either side of centerline (Appendix A). The three Waters of the U.S. consist of the Beaverhead River, Stone Creek, an unnamed tributary (WW2). The two irrigation ditches include the Co-op Ditch and Warm Springs Ditch. The Beaverhead River was classified as lower perennial riverine with an unconsolidated bottom of cobble/gravel (R2UB1). Both Stone Creek and the perennial spring creek (WW2) were classified as upper perennial with an unconsolidated bottom of cobble/gravel and mud (R3UB1/3). The streams and river are discussed in detail in Section 4.0. The Co-op Ditch and Warm Springs Ditch flow through the project area north of the Beaverhead River. Both of these ditches eventually discharge back into the Beaverhead River via intricate irrigation network. The majority of wetlands identified along the project corridor are located in the northern quarter of the site and are associated with the Beaverhead River and irrigation networks adjacent to the highway. Table 9 summarizes the HGM and Cowardin classes, associated data points, primary source of wetland hydrology, MWAM assessment ratings and scores, and area. Table 10 provides a description of the waterways identified within the study area.

A large riparian wetland area (**WL-11**) is directly connected to the main stem of the Beaverhead River. This wetland area is located along the lower, active river terrace and subject to periodic flooding and includes a mosaic of palustrine emergent and scrub/shrub habitats. Narrow-leaf willow is the dominant shrub along the periodically scoured floodplain. With distance from the river channel, woods' rose, silver-berry, and choke cherry contribute to community diversity. Creeping meadow-foxtail (*Alopecurus arundicaneus*), sedges, artic rush (*Juncus arcticus*), and Canadian thistle are the dominant species within the understory of the scrub/shrub community and are also prevalent in the emergent communities. Hydrology is directly related to the surface

Table 9. General characteristics of wetlands along the Stone Creek - North project corridor.

Wetland ID	HGM Class	Cowardin Class <sup>1</sup>	Functional Assessment Rating and Score	Primary Source of Wetland Hydrology	Data Points	Approx Reference Post	Extends Outside of Study Area (Yes/No)	Area (ac)	Narrative Description	Nexus Narrative	
WL-1	Depressional	PEM1B	III / 43.64%	Hydrology provided by water level within Stone Creek	DP-1w, DP-2u	9.02	Yes	0.04	Approx 5ft wide emergent riparian wetland along Stone Creek.	Emergent riparian wetland adjacent to Stone Creek. Stone Creek diverted into an irrigation ditch, which connects to a canal. This canal flows directly into the Beaverhead River.	
WL-2	Depressional	PEM1E	III / 41%	Seasonal surface water in unnamed drainage	DP-3w	10.22	Yes	0.03	2ft wide swale with very narrow wetland buffer	Wetland includes narrow swale through ephemeral drainage. Wetland appears to terminate among down-gradient ranch infrastructure. No direct connection to WUS identified.	
WL-3	Depressional	PEM1E	III / 41%	Seasonal surface water in unnamed drainage	DP-4w	11.23	Yes	0.02	Gully below headgate.	Narrow wetland swale through seasonal drainage. Continuous (marginal) wetland habitat persistent though drainage, connects to canal with direct connection to Beaverhead River.	
WL-4	Depressional	PEM1E	III / 48%	Perennial surface water in unnamed drainage	None	12.73	Yes	0.13	Narrow wetland margin along unnamed tributary below impoundments	Contiguous wetland habitat to canal that drains into constructed MDT wetland complex, groundwater connection to Beaverhead River.	
WL-5	Depressional	PEM1B	IV / 28.75%	Precipitation, runoff	DP-5w	14.34	Yes	0.04	Shallow depression, historically maintained as wetland by irrigation ditch, no longer active. Occasional flooding during high flows.	Shallow depression, historically maintained as wetland by Mailey irrigation ditch, no longer active. Very marginal wetland connection to WUS identified.	
WL-6	Depressional	PEM1E	III / 63.64%	Groundwater, occassional flooding from Beaverhead River	None	14.40-14.50	No	0.06	Narrow swale (historic irrigation ditch)	Linear wetland (old irrigation canal?) with connection to WL-7 and Beaverhead River.	
WL-7	Depressional	PEM1E/PSS1E	III / 63.64%	Groundwater, occassional flooding from Beaverhead River	None	14.50-14.53	Yes	0.21	River terrace in active floodplain.	Lower river terrace with direct seasonal connection to Beaverhead River; groundwater connection (adjacency).	
WL-8	Depressional	PEM2B	No MWAM completed due to isolated, likely non- jurisdictional status	High seasonal groundwater, precipitation, runoff	DP-7u, DP-8w	14.49	No	0.01	Depression with shallow seasonal ground water, along low gradient of adjacent hay field.	Isolated wetland depression with no direct connection to other wetlands or WUS.	
WL-9	Depressional	PEM1E	No MWAM completed due to isolated, likely non- jurisdictional status	Groundwater, precipitation	None	14.51	Yes	0.12	Low area within cultivated field, marginal wetland connection to Beaverhead River	Wetland within low-lying area along edge of hay field. Wetland no contiguous with wetland riparian habitat along Beaverhead River; n connection identified.	
WL-10	Depressional	PEM1E	No MWAM completed due to isolated, likely non- jurisdictional status	Groundwater, precipitation	DP-9w, DP-11u	14.54	No	0.06	Similar to WL-9, isolated low area along margin of field	Wetland similar to WL-9 within low-lying area along edge of hay field. Wetland not contiguous with wetland riparian habitat along Beaverhead River; no connection identified.	
WL-11	Depressional	PEM1E/PSS1E	III / 63.64%	Groundwater, occassional flooding from Beaverhead River	DP-12w, DP-13w, DP-15w	14.57-14.64	Yes	1.97	River terrace in active floodplain.	Riparian wetland located directly along Beaverhead River.	
WL-12	Depressional	PEM1E/PSS1E	No MWAM completed due to isolated, likely non- jurisdictional status	Grounwater, precipitation	DP-14w	14.67	No	0.10	Depression with shallow groundwater, surrounded by man- made upland grades.	Isolated wetland depression surrounded by upland, no direct connection identified.	
WL-13	Depressional	PEM1E/PSS1E	III / 42.5%	Groundwater, precipitation	None	14.70-14.79	Yes	0.65	Historic ox-bow with high water table	Historic ox-bow with high water table supported by Beaverhead River and the Co-op ditch.	
WL-14	Depressional	PEM1B/PSS1B	III / 43.75%	Groundwater, occassional flooding from Beaverhead River	DP-17w	14.89	Yes	0.22	Cattail/willow depression, culvert under road at drain point.	Wetland located in old oxbow, connected to larger wetland outside of study area with direct connection to Beaverhead River.	
WL-15	Depressional	PEM1C	III / 53.75%	Groundwater, occassional flooding from Beaverhead River	DP-19w	14.95-15.07	Yes	0.86	Bulrush/cattail community, saturated soil surface.	Connected to a larger wetland complex (historic ox-bows) directly connected to the Co-op Ditch.	
WL-16	Depressional/ Riverine	PEM1E/SS1E	III / 60%	Groundwater, precipitation, irrigation diversion	DP-20w	15.06-15.28	Yes	1.22	Common reed veg community, surface water present in lowest depressions.	Wetland directly associated with the Co-op Ditch. Co-op Ditch with irrigation returns directly connected to WUS.	
WL-17	Depressional	PEM1E/PSS1E	III / 64.55%	Groundwater, precipitation, influence form irrigation canal	DP-21w	14.95-15.31	Yes	1.73	Wetland complex within hisotic oxbow complex that extends beyond survey area.	Wetland connected to larger wetland complex (abandonded oxbows) outside of project with contiguous connection to Beaverhead River.	
WL-18	Depressional	PEM1E/PSS1E	III / 64.55%	Groundwater, precipitation, irrigation canal	DP-23w, DP-24w, DP-25w, DP-26w	15.46-16.20+	Yes	1.98	Narrow wetland margin along irrigation canal, inundated from	Wetland fringe directly associated with the Warm Springs Ditch. WSD with irrigation returns directly connected to WUS.	

P - Palustrine; EM - Emergent; 1 - Persistent vegetation; 2 - Nonpersistnet; SS - Scrub/Shrub; 1 - Broad-leaved deciduous; B - Saturated; C - Seasonally Flooded; E - Seasonally Flooded/Saturated

Table 10. Waterways delineated along Stone Creek - North project area.

Waterways ID	Stream/Ditch Name	Watershed	Approx RP	Area (ac)	Narrative Description
WW-1	Stone Creek	Stone Creek - 100200020605	9.06	0.06	Approx. 15ft-wide channel with narrow wetland margin (WL-1)
WW-2	Unnamed Drainage	Beaverhead River - Charlton Slough 1002000207	12.72	0.01	Unnamed perennial channel below 5 Rivers Lodge; online impoundments above (east) highway.
WW-3	Beaverhead River	Beaverhead River - Big Dry Gulch - 100200020705	14.65	0.26	Approx. 60ft-wide channel bordered by palustrine emergent and scrub/shrub riparain wetlands.
IR-1	Co-op Dtich	Beaverhead River - Big Dry Gulch - 100200020705	15.16-15.53	0.83	Co-op Ditch with a diversion on Beaverhead River at Point of Rocks; eventually flows back into river through an intricate irrigation network.
IR-2	Warm Springs Ditch	Beaverhead River - Big Dry Gulch - 100200020705	15.51-16.20+	0.69	Warm Springs Ditch appears to originate from Co-op Ditch; sustained by shallow groundwater. Return flow into Beaverhead River.
Total Area				1.85	

water elevation within the river and contributes both periodic inundation and seasonal saturation to these areas. Soils generally qualified as hydric with a depleted matrix (F3) that exhibited redox concentrations within 12 inches of the soil surface.

The wetland WL-16 was identified along the Co-op Ditch that originates from the Beaverhead River near Beaverhead Rock. This canal flows along the western boundary of the Highway 41 project area for approximately a half mile before exiting the delineation area. The irrigation canal was classified as riverine streambed with intermittent hydrology. Along the margins of the canal, a mosaic of emergent and scrub/shrub habitats are supported. A diversion on this canal flows under Highway 41 and supports the Warm Springs Ditch irrigation network located along the east boundary of the site. The wetland area WL-18 also includes a mosaic of herbaceous and shrub habitats supported predominantly by water supplied through the Warm Springs Ditch. This canal likely gains groundwater along its upper reach. Several headgates along this waterway backwater surface water and periodically inundates adjacent wetland areas. Herbaceous vegetation common to these wetlands include creeping meadow-foxtail, curly dock, broadleaf cattail, showy milkweed, hard-stem club-rush, black bentgrass, common spike-rush, and American licorice with marginal wetland areas exhibiting higher cover of Kentucky bluegrass and smooth brome. A small population of beaked spikerush was identified within this wetland community. Indicators of wetland hydrology included surface water, high watertable, saturation, drift deposits, sulfuric odor, inundation and saturation visible on aerials, drain patterns, FAC-Neutral test, and geomorphic position. Positive hydric soil indicators included depleted matrix and hydrogen sulfide (A4).

Other delineated wetlands associated (adjacent to) with areas classified as riverine include **WL-1** and **WL-4**. Stone Creek flows through the project area and supports a narrow margin of palustrine emergent wetland (WL-1) along both sides of the channel. The dominant vegetation included creeping meadow-foxtail with a lesser amount of blue water speedwell established in inundated areas along the toe of the banks. A

perennial spring below the 5 Rivers lodge supports on-channel ponds just to the east of the site. These impoundments discharge into a very small channel (UT-3) that flows under Highway 41 through a culvert. Vegetation within this narrow wetland (WL-4) included broadleaf cattail and meadow-foxtail. Surface water flowing through both of these channels supported the localized wetland hydrology for the narrow riparian wetlands. Depleted matrix provided positive indicators of hydric soils along both drainages.

Two other unnamed drainages cross through the project area at RM 10.21 (**WL-2**) and RM 11.24 (**WL-3**). Both of these delineated wetland areas support seasonal wetland hydrology during the early growing season and transition to generally dry conditions during the latter part of the summer. Vegetation included creeping meadow-foxtail, smooth brome, and Kentucky bluegrass. The wetlands were classified as palustrine emergent with persistent vegetation, seasonally flooded/saturated.

The wetland **WL-14** was identified in an historic oxbow of the Beaverhead River and is supported by seasonally high watertables. Vegetation included a discontinuous overstory of narrow-leaf willow with white-stem gooseberry present in the understory. Showy milkweed, Northwest Territory sedge, hard-stem club-rush, broadleaf cattail, stinging nettle, and Canadian thistle were common herbs in this community. A culvert under the highway separates WL-14. The wetland was classified as palustrine emergent and scrub-shrub.

Wetland **WL-15** is a bulrush/cattail community supported by seasonal inundation, a high groundwater table, and occasional flooding from the Beaverhead River. The soils were mucky with redox concentration and classified as redox dark surface (F6) with hydrogen sulfide odor. This area is classified as palustrine emergent with persistent vegetation.

Located in a depression at the intersection of Highway 41 and E Bench Road, **WL-5** is hydrologically supported by precipitation and runoff. The wetland may have historically been supported by discontinued irrigation flow. The hydrophytic vegetation community included Arctic rush, creeping meadow-foxtail, smooth brome, hard-stem club-rush, curly dock, and lamb's-quarters. Positive hydrologic indicators were marginal and included saturation at 12 inches, saturation visible on aerials, and geomorphic position. Soils displayed redoximorphic concentrations between 5 and 14 inches below the surface and qualified as hydric with a depleted matrix. This wetland is connected to a larger wetland complex along the Beaverhead River via very marginal wetland habitat.

Four small, isolated wetland areas lack of connection to adjacent jurisdictional waters. The wetland area **WL-8** is situated along a driveway accessing the highway and is supported by water impounded by the driveway grade. Located in a shallow depression at a lower elevation than the adjacent hay field, positive wetland hydrologic indicators included sparsely vegetated concave surface and geomorphic position. The marginal hydrophytic community included low amounts of lamb's-quarters, tall scouring-rush, herb Sophia, and smooth brome. Soils supported redox concentrations

and qualified as hydric with a depleted matrix. This wetland was classified as palustrine emergent with non-persistent vegetation. Wetland **WL-9** and **WL-10** are located in small depressions along the edge of an active hayfield. These areas were surrounded by upland habitat and did not exhibit any connection to the nearby Beaverhead River riparian area. Wetland area **WL-12** is located around 60 feet from the edge of the Beaverhead River in a depression surrounded by man-made grades associated with a parking area adjoining the highway. Vegetation included a mosaic of shrub (narrow-leaf willow, white-stem gooseberry, and redosier dogwood) and emergent (smooth brome, reed canarygrass) vegetation. Saturation at 10 inches below the surface provided positive wetland hydrology. A depleted matrix provided a positive indicator for hydric soils.

## 8.3.2. Wetland Delineation and Functional Assessment Classification

Numerous, dis-contiguous wetlands were identified within the approximate 176-acre Stone Creek – North project area. MWAM forms (2008) were completed for twelve individual Assessment Areas (AAs). The locations of the AAs are shown in Figure 25. Results of the Functions and Values assessment (2008 MWAM) are provided in Table 11 with completed data forms for each assessment area located in Appendix D.

In general, wetland AAs along the Stone Creek - North project corridor rated as Category III wetlands, averaging 50% of the total possible score. Limitations of the AAs to achieve a greater rating may be principally associated with the high disturbance rating assigned for the general condition of most AAs. Disturbances within the AAs included highway right-of-way maintenance, cultivation, having, grazing, and hydrologic alteration. Surrounding the AAs, cultivation, grazing, mowing, and high road density were common. Structural diversity was generally low, with only a handful of wetland areas supporting willow stands. The wetland areas adjacent to the highway mostly provided poor habitat for federally listed or proposed T&E plants or animals and MTNHP recognized Species of Concern. One AA (WL-18) contains a small population of beaked spikerush, identified as S3 SOC. The two AAs that included the Beaverhead River provide suspected incidental habitat for Westslope cutthroat trout and Arctic grayling. The great blue heron is suspected to incidentally use some AAs and was noted flying above the Beaverhead River outside the study area. Suitable golden eagle habitat is located around Beaverhead Rock with incidental habitat noted in some AAs close to this area. General wildlife habitat was typically moderate, with common occurrence of wildlife signs and individuals. The proximity to the active highway corridor likely limits wildlife usage. Fish habitat was present within five AAs and averaged a moderate rating when applicable.

One AA, WL-5, rated as a Category IV wetland and reflects the quality of this small, seasonal, roadside depression. The AA WW-3 (west), located between the Beaverhead River and Highway 41, rated as a Category II wetland and achieved high ratings for general fish/aquatic habitat, flood attenuation, short and long term surface water storage, sediment/nutrient/toxicant removal, sediment/shoreline stabilization, production export/food chain support, and groundwater recharge. The AA WW-3

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(east), also located along the Beaverhead River, scored just shy of the 65% necessary for Category II rating. Aside from the AAs located directly along the Beaverhead River, recreation/education potential was considered not applicable for the wetland areas delineated along Stone Creek – North.

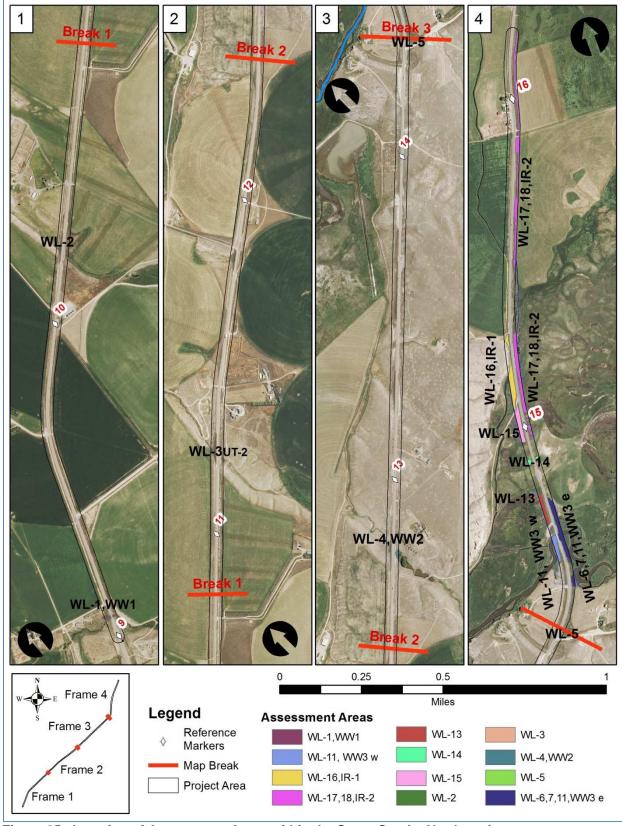


Figure 25. Location of Assessment Areas within the Stone Creek - North project area.

Table 11. Results of MWAM evaluations for Stone Creek - North project wetlands.

	Assessment Areas											
Function and Value Parameters 2008 MDT Montana Wetland Assessment Method	WW-1	WL-2	WL-3	WW-2	WL-5	WW-3 (east)	WW-3 (west)	WL-13	WL-14	WL-15	WL-16	WL-18
Wetlands and Waterways within Assessment Area	WL-1, WW-1	WL-2	WL-3	WL-4, WW-2	WL-5	WL-6, WL-7, WL-11, WW-3	WL-11, WW-3	WL-13	WL-14	WL-15	WL-16, IR-1	WL-17, WL-18, IR-2
Listed/Proposed T&E Species Habitat	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.1)	Low (0.1)	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)
MTNHP Species Habitat	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.0)	Low (0.1)	Low (0.1)	Low (0.0)	Low (0.1)	Low (0.1)	Low (0.0)	High (0.9)
General Wildlife Habitat	Low (0.3)	Mod (0.5)	Mod (0.5)	Mod (0.5)	Low (0.1)	Mod (0.5)	Mod (0.5)	Mod (0.5)	Mod (0.5)	High (0.9)	Mod (0.7)	Mod (0.5)
General Fish/Aquatic Habitat	Mod (0.5)	NA	NA	NA	NA	High (0.9)	High (0.9)	NA	NA	NA	Mod (0.6)	Mod (0.5)
Flood Attenuation	Mod (0.5)	Mod (0.5)	Mod (0.5)	Mod (0.5)	NA	High (0.8)	High (0.9)	NA	NA	NA	NA	High (1.0)
Short and Long Term Surface Water Storage	Low (0.3)	Low (0.2)	Low (0.2)	Low (0.2)	Low (0.3)	High (0.8)	High (0.8)	Low (0.3)	Low (0.3)	Mod (0.4)	High (0.8)	High (0.8)
Sediment/Nutrient/Toxicant Removal	Mod (0.7)	Mod (0.7)	Mod (0.7)	Mod (0.7)	High (0.9)	High (0.9)	High (0.9)	High (1.0)	High (1.0)	High (1.0)	High (0.9)	Mod (0.5)
Sediment/Shoreline Stabilization	Mod (0.7)	Mod (0.6)	Low (0.2)	High (1.0)	NA	Mod (0.7)	High (1.0)	NA	NA	NA	High (1.0)	High (1.0)
Production Export/Food Chain Support	Mod (0.6)	Mod (0.5)	Mod (0.5)	Mod (0.7)	Low (0.2)	High (0.9)	High (0.9)	Low (0.3)	Mod (0.6)	Mod (0.6)	Mod (0.7)	Mod (0.7)
Groundwater Discharge/Recharge	High (1.0)	High (1.0)	High (1.0)	High (1.0)	Mod (0.7)	High (1.0)	High (1.0)	High (1.0)	Mod (0.7)	High (1.0)	High (1.0)	High (1.0)
Uniqueness	Low (0.2)	Low (0.1)	Low (0.1)	Low (0.2)	Low (0.1)	Low (0.2)	Low (0.2)	Low (0.3)	Low (0.3)	Low (0.3)	Low (0.3)	Low (0.2)
Recreation/Education Potential	NA	NA	NA	NA	NA	Mod (0.1)	Mod (0.1)	NA	NA	NA	NA	NA
Actual Points / Possible Points	4.8 / 11	4.1 / 10	4.1 / 10	4.8 / 10	2.3 / 8	6.7 / 8	7.4 / 11	3.4 / 8	3.5 / 8	4.3 / 8	6.0 / 10	7.1 / 11
% of Possible Score Achieved	43.6%	41.0%	41.0%	48.0%	28.8%	63.6%	67.3%	42.5%	44%	54%	60.0%	64.6%
Overall Category	III	III	III	III	IV	III	II	III	III	III	III	III
Total Acreage of Assessed Wetlands within Site Boundaries (ac)	0.06	0.01	0.12	0.10	0.04	0.82	0.49	0.65	0.13	0.86	1.22	1.98
Functional Units (acreage x actual points)	0.29	0.04	0.49	0.48	0.09	5.74	3.63	2.21	0.46	3.70	7.32	14.06

## 8.3.3. **Potential Wetland Impacts**

Any realignment or widening of the highway with adjacent wetland habitat will likely result in wetland impact. Minimal impacts to aquatic resources are anticipated from the start of the project at Stone Creek to approximately RM 14.40 where the road drops into the Beaverhead Valley. This reach of highway may include the replacement of the Stone Creek Bridge and culvert replacements at UT-1, UT-2, and UT-3. wetland habitats become a design consideration from RM 14.40 to the northern end of the project. Of this approximate two-mile stretch of Highway 41, wetland habitat is present along one side of the road for 0.77 miles and present along both sides of the highway for 0.73 miles, totaling 1.5 miles of adjacent wetlands along this stretch of highway. The anticipated bridge replacement over the Beaverhead will have minimal impact to the streambed if designed and constructed to span the full width of the river. A slight alignment shift of the highway at the corner between RP 14.4 to 14.6 and over the Beaverhead River will likely impact existing wetlands. Although the overall quantity of wetlands impacted from an alignment shift across the river would probably be equal on either side (due to the symmetry of the delineated wetland boundary in this area, shifting the river crossing to the west may result in less impact to jurisdictional wetlands if the isolated wetland depression just north of the river within the road turnout is determined to be non-jurisdictional. A shift in this direction will also likely have less impact to the Beaverhead floodplain. It is anticipated that unavoidable wetland impacts will occur within the northern quarter of the site. An overlay of the projected footprint of the highway improvements with the surveyed wetland will provide a quantitative assessment of impact acreage.

# 8.3.4. Avoidance/Minimization Recommended Conservation Measures

Much of the wetland area in the northern portion of the project area is located at least twenty feet from the existing road edge. Mindful planning and design through areas with adjacent wetlands will result in minimal impact to aquatic resources. Some degree of wetland impact should be expected between RM 14.4 and the northern end of the project. The following bullets provide general guidance for avoiding and minimizing stream and wetland impacts and recommended conservation measures to protect aquatic resources.

- CWA Section 404, SPA 124, and MDEQ 318 permit conditions must be followed.
- Protect wetland and riparian areas with approved erosion control devices.
- Construction should be conducted when sites are as dry as possible to minimize erosion.
- Construction equipment should be restricted from wetland areas that have not been authorized on the permit and limited to the area needed to complete construction.
- Excavated soils should be stockpiled away from the river and wetland boundaries, and protected with erosion control measures.

- Store hazardous materials including petroleum compounds 100 feet from wetland and riparian areas in an area with spill protection.
- Any stream bank armoring designed to protect bridges from stream and river migration should be kept to the minimum length necessary.
- The new bridges should be designed to avoid placing artificial materials such as concrete abutments, riprap, and piers in the active channel and adjacent wetlands if possible.
- Placement of fill materials adjacent to the bridge and approaches should be minimized to protect riparian and wetland habitats adjacent to the river channel.
- Disturbed wetland and riparian areas should be revegetated with appropriate species using appropriate methods. Remove weed infestations before planting.
- If the Stone Creek North project includes re-alignment over the Beaverhead River, a slight shift to the west may result in less wetland impact than an equivalent shift to the east.

## 8.3.5. **Permitting Required**

The 404 permit application will be based on the location and extent of wetland impacts, which will be determined once a grading plan has been finalized.

## 8.3.6. **Proposed Wetland Mitigation**

Mitigation will depend on the extent of wetland impacts within the study area. The impacts will be determined once the construction limits are finalized. Wetland impacts less than 0.10 acre do not require compensatory mitigation by the USACE. If wetland impacts exceed this threshold compensatory wetland mitigation will be required. The MDT developed the Beaverhead Gateway wetland mitigation site on private property in close proximity to the Stone Creek – North project in 1997 with the goal of creating at least 52 acres of wetland. This site was designed to mitigate for specific wetland functions impacted by MDT roadway projects, including: storm water retention, roadway runoff filtration, sediment and nutrient retention, water quality, groundwater recharge, waterfowl and wildlife habitats and riparian restoration. As of 2006, available credit calculated at the site was 92.7 aquatic habitat acres, well in excess of the original 52-acre goal. If credits from this site are still available, they could be used to satisfy any compensatory mitigation requirements of this project.

#### 9.0 REFERENCES

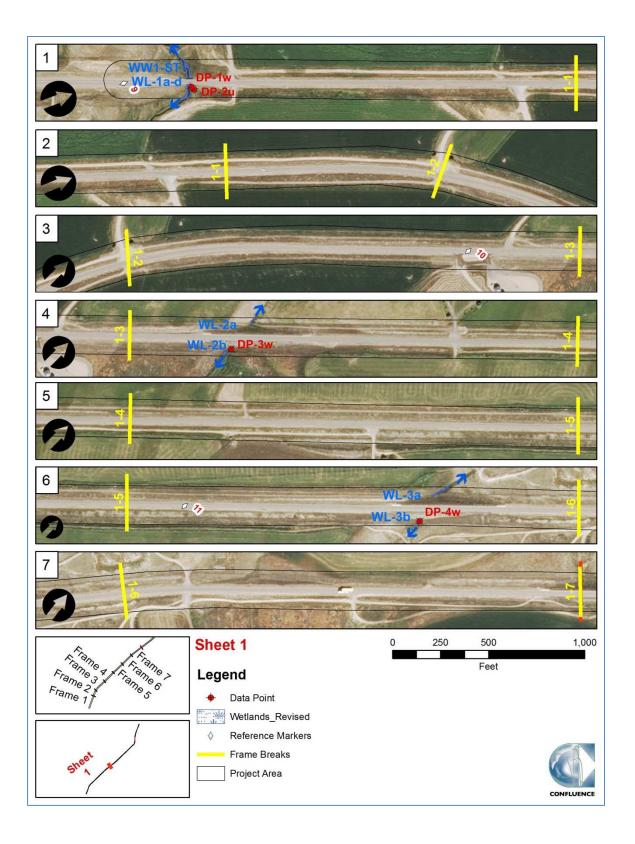
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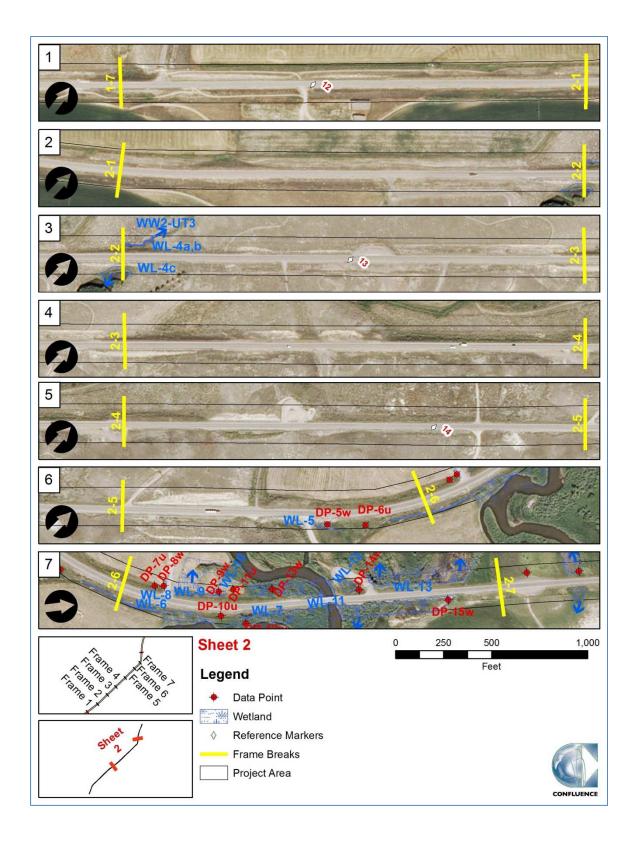
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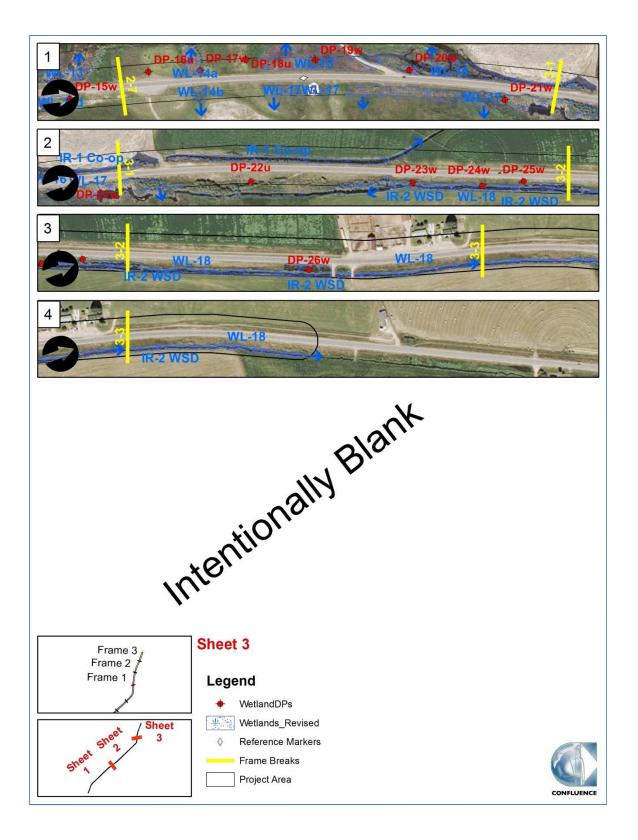
## Appendix A

Wetland Maps

MDT Biological Resources Report Stone Creek – North Beaverhead and Madison Counties, Montana







# Appendix B

**USACE** Wetland Determination Data Forms

MDT Wetland Mitigation Monitoring Stone Creek – North Beaverhead and Madison Counties, Montana

Project/Site: Stone Creek - North	City/County: Madison	Co Sampling Date: 6/11/2013
Applicant/Owner: MDT	· · ·	State: MT Sampling Point: DP-10u
	Section, Township, Ra	nnge: S 22 T 5S R 7W
		convex, none): flat Slope (%):0
		Long:112.45301 Datum!WGS84
Soil Map Unit Name: Havre loam		NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this		
Are Vegetation, Soil, or Hydrology sign	•	"Normal Circumstances" present? Yes V No No
Are Vegetation, Soil, or Hydrology na SUMMARY OF FINDINGS - Attach site map s		eeded, explain any answers in Remarks.)  ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes   No		
Hydric Soil Present? Yes No		
	within a Wetlar	nd? Yes <u> </u>
Remarks:		
DP well above water table and river level on abandor	ned terrace.	
VEGETATION – Use scientific names of plant	to	
VEGETATION - Ose scientific flames of plant	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: 2 (B)
4	•	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: )	0 = Total Cover	That Are OBL, FACW, or FAC: (A/B)
1	0 🗌	Prevalence Index worksheet:
2	0 🗆	Total % Cover of: Multiply by:
3.	0 🗌	OBL species 0 x 1 = 0
4.	0 🗆	FACW species 25 x 2 = 50
5	0 🗆	FACI species
5ft	= Total Cover	FACU species 0 x 4 = 0 UPL species x 5 = 0
Herb Stratum (Plot size: 5ft Juncus arcticus	20 <b>✓</b> FACW	Column Totals: 100 (A) 275 (B)
2. Equisetum hyemale	5	2.75
Bromus inermis	75 🔽 FAC	Prevalence Index = B/A =
4	0 🗍	Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation
5	0	2 - Dominance Test is >50%
6	Λ ΙΙ	3 - Prevalence Index is ≤3.0¹
7	0 🗆	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
8.	0 🗆	data in Remarks or on a separate sheet)
9	0 🔲	5 - Wetland Non-Vascular Plants <sup>1</sup>
10	0 🗆	Problematic Hydrophytic Vegetation¹ (Explain)
11		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	= Total Cover	be present, unless disturbed of problematic.
1	0	Hadasakata
2	0 🗍	Hydrophytic Vegetation
	0 = Total Cover	Present? Yes V No No
% Bare Ground in Herb Stratum		
Remarks:		
LIS Agent Come of Engineers		Western Mountains Valleys and Onnet Variet Co.
US Army Corps of Engineers		Western Mountains, Valleys, and Coast – Version 2.0

SOIL										Sampling Point: DP-10u
Profile Desc	cription:	(Describe	to the dep	th neede	d to docur	nent the ir	ndicator	or confirm	n the absence	of indicators.)
Depth		Matrix			Redo	x Features	;			
(inches)		(moist)	%	Color	(moist)	%	_Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks
0-5	10YR	3/2	100	-			-		Clay Loam	
5-12	10YR	4/2	95	10YR	2/2	5	D	M	Clay Loam	
12-16	10YR	5/2	99	10YR	3/4	1	C	M	Clay	
	-		-	-						
	-			-						
1 <sub>T</sub>		D-D			d Matrice Of				21	
<sup>1</sup> Type: C=Ce Hydric Soil								ed Sand G		cation: PL=Pore Lining, M=Matrix.  ors for Problematic Hydric Soils <sup>3</sup> :
Histosol		(			dy Redox (S		,			m Muck (A10)
	pipedon (A	<del>\</del> 2)			ped Matrix					d Parent Material (TF2)
Black Hi	istic (A3)				my Mucky N			t MLRA 1	) 🔲 Ven	y Shallow Dark Surface (TF12)
	en Sulfide				my Gleyed		)		Oth	er (Explain in Remarks)
		ark Surfac	e (A11)		leted Matrix	. ,			3,	
	ark Surfac Jucky Min				ox Dark Su		7)			ors of hydrophytic vegetation and
	illeyed Ma				leted Dark : ox Depress		")			and hydrology must be present, as disturbed or problematic.
Restrictive I					OX 2001000	10110 (1 0)				so alotarboa of problematic.
Type:	, , ,									
Depth (in	ches):								Hydric Soil	Present? Yes No _
Remarks:										
HYDROLO	GY									
Wetland Hy	drology l	ndicators:								
Primary Indic	cators (mi	nimum of o	ne require	d; check a	all that apply	y)			Seco	ndary Indicators (2 or more required)
Surface	Water (A	1)			Water-Stai	ined Leave	s (B9) (e	xcept	v	Vater-Stained Leaves (B9) (MLRA 1, 2,
High Wa	ater Table	(A2)			MLRA	1, 2, 4A, a	nd 4B)		_	4A, and 4B)
Saturation	on (A3)				Salt Crust					Prainage Pattems (B10)
	larks (B1)				Aquatic Inv					ry-Season Water Table (C2)
	nt Deposit				Hydrogen					saturation Visible on Aerial Imagery (C9)
	oosits (B3				Oxidized F		_	_		Geomorphic Position (D2)
	at or Crust				Presence		,	•		Shallow Aquitard (D3)
	osits (B5)			+	Recent Iro			-	_	AC-Neutral Test (D5)
	Soil Crac	on Aerial I	mageni (R	, <del> </del>	Stunted or Other (Exp			(LKK A	_	Raised Ant Mounds (D6) (LRR A)  rost-Heave Hummocks (D7)
		ed Concave			Other (Exp	naili III IXCI	ilaiks)		'	Tost-Heave Huminocks (D1)
Field Obser	•	, a 00110ava	, 0011000 (							
Surface Water		t? Y	es 🗆	No 🔽	Depth (inc	ches):				
Water Table					Depth (inc					
Saturation P					Depth (inc				land Hydrolog	y Present? Yes No
(includes cap	oillary fring	ge)								,
Describe Re	corded Da	ata (stream	gauge, mo	nitoring	well, aerìal p	ohotos, pre	vious ins	spections),	, if available:	
Damedia										
Remarks: No signs of	wetland	hydrology	,							
. 10 digito di	cuana	, ai ology								
I .										

Project/Site: Stone Creek - North			Citv/Countv	, Madison	Со		Samp	ling Date:	6/11/	/2013
Applicant/Owner: MDT							Sampl			
Investigator(s): B Sandefur			Section To	wnship Rar						
Landform (hillslope, terrace, etc.): Terrace										0
Soil Map Unit Name: Havre loam										
Are climatic / hydrologic conditions on the	site typical for this		_	_	_					
Are Vegetation, Soil, or Hy	_	_					s" present		) No	, $\Box$
Are Vegetation , Soil , or Hy		-					swers in Re		<u>,                                     </u>	′
	<u>.</u>			-	,,,	-		-		
SUMMARY OF FINDINGS – Atta			samplin	g point lo	ocations	, transe	cts, impe	ortant fe	atures	s, etc
		- <del>   </del>	le th	ne Sampled	Δrea					
	Yes No			in a Wetlan		Yes _	N	10 🔽	_	
Remarks:	ies iii									
DP on upper river terrace, rarely floo	ded.									
VEGETATION – Use scientific n	ames of plan									
Tree Stratum (Plot size:	)	Absolute % Cover	Dominan Species?	t Indicator Status			vorksheet:			
1				<u> </u>			nt Species CW, or FAC		2	(A)
2.		^								( )
3.		^				mber of Do Across All			2	(B)
4		0			Doroont	of Domina	nt Species			
	,	0	_ = Total C	over			CW, or FAC		1	(A/B)
Sapling/Shrub Stratum (Plot size:		0			Prevaler	nce Index	workshee	t:		
1			·		Tota	ıl % Cover	of:		oly by:	_
2		0			OBL spe			x 1 =	0	_
4.		^			FACW s	pecies	5	x 2 =	10	_
5		0			FAC spe			x 3 =	255	=
		0	= Total C	over		pecies	10	x 4 =	50	=
Herb Stratum (Plot size: 5ft Bromus inermis	_)	40		FAC	UPL spe	cies Totals:		x 5 =	315	(D)
'- <del></del>		$-\frac{40}{30}$		FAC	Column	i otais:∟	100	(A)		(B)
2. Poa pratensis Agropyron intermedium		10		UPL	1		idex = B/A		3.15	
Alopecurus arundinaceus		15		FAC			tation Indi			
5 Equisetum hyemale		5		FACW			for Hydrop		tation	
6.			- 💳				Test is >5 Index is ≤3			
7		0					cal Adaptat		vide sun	nortino
8.		0			d	lata in Ren	narks or on	a separat	e sheet)	porting
9		0					n-Vascula			
10		0					ydrophytic '	-		
11		0					c soil and vi disturbed o			must
Woody Vine Stratum (Plot size:	,	100	_= Total Co	over	be prese	TI, UIIICSS			<u> </u>	
1		0			Usadana	4: a				
2.		0	·		Hydroph Vegetati		_			
	0	0	= Total Co	ver	Present	?	Yes	No_		
% Bare Ground in Herb Stratum										
Remarks:										
US Army Corps of Engineers					Wester	n Mountain	ıs, Valleys,	and Coas	t – Versi	ion 2.0
July Sorps of Engineers						Jantalli	z, vancys,	aa 00as		J., Z.O

SOIL										;	Sampling Poin	t: DP-11u
Profile Desc	cription:	(Describe	to the dep	th need	ed to docu	ment the in	ndicator	or confirm	n the absence			
Depth		Matrix			Redo	x Features						
(inches)		(moist)	%	Colo	r (moist)	%	_Type <sup>1</sup> _	Loc <sup>2</sup>	Texture		Remarks	
0-2	10YR	3/4	100						Silt Loam			
2-10	10YR	3/2	95	10YR	2/1	5	С	М	Clay Loam			
10-16	10YR	4/1	95	10YR	4/6	5	С	М	Clay Loam			
						-						
	-											
<sup>1</sup> Type: C=C	oncentrati	ion, D=De	oletion, RM	=Reduce	d Matrix, C	S=Covered	or Coate	ed Sand G			=Pore Lining,	
Hydric Soil		s: (Applio	able to all	_			d.)				blematic Hyd	lric Soils³:
Histosol					idy Redox (				_	cm Muck (A	•	
	pipedon (A	<del>1</del> 2)			oped Matrix	. ,					aterial (TF2)	
	istic (A3)	(0.4)			my Mucky I			t MLRA 1)			Dark Surface (	(TF12)
	en Sulfide		no (A11)		my Gleyed				0	her (Explair	in Remarks)	
	а веюw ц ark Surfac	ark Surfac	e (ATT)		leted Matri lox Dark Su				3Indies	tore of hydr	ophytic vegeta	tion and
_	Jucky Min				leted Dark		7)			-	ophytic vegeta igy must be pr	
_	Gleyed Ma				lox Depress		' /				d or problema	
Restrictive						( /						
Туре:												
Depth (in	ches):								Hydric Sc	il Present?	Yes 🔽	No 🗆
Remarks:												
HYDROLO												
Wetland Hy				d: abaak	all that one	h.c)			San	andanı İndis	atora /2 or ma	uro roquirod)
Primary India	•		one require	u; cneck	1		(00) (			-	ators (2 or mo	
	Water (A					ined Leave		except				9) (MLRA 1, 2,
	ater Table	(A2)			1	1, 2, 4A, a:	nd 4B)			4A, and	•	
Saturation	` '				Salt Crust		(D40)				attems (B10)	(00)
	larks (B1)					vertebrates Sulfide Od				<del>-</del>	Water Table	
	nt Deposit					Sullide Odi Rhizospheri	. ,	Listas Da				al Imagery (C9)
	posits (B3 at or Crus	-		-	-	of Reduced		-		•	Position (D2)	
	posits (B5)					n Reductio		=		Shallow Aqu FAC-Neutra		
	Soil Crac					r Stressed F		,	, =		Mounds (D6)	(I DD A)
			lmagery (B	7)	-	plain in Rer		/			Hummocks (	
			e Surface (		) Other (EX	piain in itei	naiks)			11031-11647	s Hammocks (	<i>01)</i>
Field Obser		Ja Jonioa i	0 0011000 (	50,								
Surface Wat		+2 \	/es	No V	Depth (in	chae):						
Water Table			′es		Depth (in							
					_				المسط المنطام	Dwa-a	2 V 🗆	No <u></u>
Saturation Parallel (includes car			/es	IVØ <b> </b> ▼	Depth (in	cnes):		—   weti	iano nyoroio	gy Present	r res	_ 140
Describe Re			n gauge, mo	onitoring	well, aerial	photos, pre	vious ins	spections),	if available:			
Remarks:												
	hydro ind	dicator, a	rea may h	ave sea	sonal shal	low groun	dwater.	Minimal	wetland hyd	rology pre	sent during g	rowing
season.												

Project/Site: Stone Creek - North	C	City/County: Madison	Со	Sampling Date:6/11/2013
Applicant/Owner: MDT				Sampling Point: DP-12w
		Section Township Rar	nge: <b>S</b> 22	T 5S R 7W
Landform (hillslope, terrace, etc.): Terrace		l ocal relief (concave o	onvex none) flat	Slope (%):0
Subregion (LRR): LRR E	Lat:	45.382225	Long: -112.4	152808333333 <sub>Datum</sub> WGS84
Soil Map Unit Name: Rivra			N\//Lcla	ssification Upland
Are climatic / hydrologic conditions on the site typical for this		_		
Are Vegetation, Soil, or Hydrology si	-			ces" present? Yes 🔽 No 🔲
Are Vegetation, Soil, or Hydrology no				nswers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s		·		•
			·	
		Is the Sampled		
Wetland Hydrology Present? Yes V		within a Wetlan	d? Yes	No
Remarks:				
DP on river terrace in active floodplain.				
VEGETATION - Use scientific names of plan	ts.			
Tree Stratum (Plot size: 30ft)	Absolute	Dominant Indicator	Dominance Test	worksheet:
1 Prunus virginiana	5	Species? Status FACU	Number of Domin That Are OBL, FA	
2	0			
3.	^		Total Number of I Species Across A	.3
4.	0			<del></del>
15ft	5	= Total Cover	Percent of Domin That Are OBL, FA	
Sapling/Shrub Stratum (Plot size: 15ft )  1 Salix exigua	40	<b>✓</b> FACW	Prevalence Inde	x worksheet:
Rosa woodsii	5	FACU	Total % Cove	er of: Multiply by:
3 Elaeagnus angustifolia	5	FAC	OBL species _	0 x 1 = 0
4	0		FACW species _	
5	0		FAC species _	70 x 3 = 210
	50	= Total Cover	FACU species _	•
Herb Stratum (Plot size: 5ft)  Alopecurus arundinaceus	60	✓ FAC	UPL species	x 5 =
Carex sp.		FAC NL	Column Totals:	120 (A) 330 (B) 2.75
Cirsium arvense		FAC		Index = B/A =
0	0			etation Indicators:
4.       5.	0			st for Hydrophytic Vegetation se Test is >50%
6.	0			te Index is ≤3.0 <sup>1</sup>
7.	0			gical Adaptations <sup>1</sup> (Provide supporting
8	0			marks or on a separate sheet)
9	0			lon-Vascular Plants <sup>1</sup>
10	0			dydrophytic Vegetation <sup>1</sup> (Explain)
11	0			ric soil and wetland hydrology must significations sold and wetland hydrology must
Woody Vine Stratum (Plot size:)	_ 70	= Total Cover		
1	0		Hydrophytic	
2.	0		Vegetation	
0	0	= Total Cover	Present?	Yes No
% Bare Ground in Herb Stratum				
Remarks:				
US Army Corps of Engineers			Western Mounta	ins, Valleys, and Coast – Version 2.0
	Е	3-5		

SOIL										Sampling Point: DP-12w
Profile Desc	ription: (D	escribe t	o the dep	th need	d to docur	nent the ir	ndicator	or confir	m the absence	of indicators.)
Depth		Matrix			Redo	x Features	i		_	
(inches)	Color (n		%		(moist)	%	_Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR	4/2	95	10YR	4/6	5	C	M	Sandy Loam	
8-14	10YR	3/2	95	10YR	4/4	5	С	М	Sandy Clay	
<sup>1</sup> Type: C=C	oncentration	D=Depl	etion RM	=Reduce	d Matrix, CS	S=Covered	or Coate	ed Sand (	- ————— Brains <sup>2</sup> Lo	cation: PL=Pore Lining, M=Matrix.
Hydric Soil								ou ounu c		ors for Problematic Hydric Soils <sup>3</sup> :
Histosol					dy Redox (S		,			m Muck (A10)
	oipedon (A2)	)			oped Matrix					d Parent Material (TF2)
Black Hi	istic (A3)			Loa	my Mucky N	/lineral (F1	) (excep	t MLRA 1	I) 🔲 Ver	y Shallow Dark Surface (TF12)
	en Sulfide (A				my Gleyed		ı		Oth	ner (Explain in Remarks)
	d Below Dar		(A11)		leted Matrix				3	
	ark Surface (				lox Dark Su		71			ors of hydrophytic vegetation and
	Mucky Minera Bleyed Matrix				leted Dark : lox Depress		()			and hydrology must be present, ss disturbed or problematic.
Restrictive I					ox Depiess	10113 (1 0)			diffe	as distarbed of problematic.
Type:	, (	,.								
Depth (in	ches):								Hydric Soi	I Present? Yes 🔽 No 🔲
Remarks:									1.7	
HYDROLO	GY									
Wetland Hy										
Primary Indic	cators (minin	num of or	ne require	d; check	all that apply	y)			<u>Seco</u>	ndary Indicators (2 or more required)
	Water (A1)				Water-Stai	ned Leave	s (B9) (e	except	\	Vater-Stained Leaves (B9) (MLRA 1, 2,
	iter Table (A	.2)				1, 2, 4A, a	nd 4B)			4A, and 4B)
Saturation	` '				Salt Crust					Drainage Pattems (B10)
	larks (B1)			<u> </u>	Aquatic Inv					Ory-Season Water Table (C2)
Sedimer		(B2)			Hydrogen					Saturation Visible on Aerial Imagery (C9)
	posits (B3)	2.43			Oxidized F		_	_		Geomorphic Position (D2)
	at or Crust (E	34)		_	Presence			-		Shallow Aquitard (D3)
	oosits (B5) Soil Cracks	/DG\			Recent Iro Stunted or			-		FAC-Neutral Test (D5) Raised Ant Mounds (D6) ( <b>LRR A</b> )
	on Visible or		nagen//R	7)	Other (Exp			/		Frost-Heave Hummocks (D7)
	/ Vegetated				Other (Exp	nam m ren	naiks)		,	Tost-Heave Hallimocks (D7)
Field Obser		00110010	0011000 (	50,						
Surface Water		Υe	s $\square$	No 🔽	Depth (inc	ches):				
Water Table					Depth (inc					
Saturation Pi					Depth (inc				tland Hydrolog	ıy Present? Yes <u>✓</u> No □
(includes cap	oillary fringe)	)								,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Describe Re	corded Data	(stream	gauge, m	onitoring	well, aerìal p	photos, pre	vious ins	spections)	), if available:	
Remarks:										
iveilialks.										

Project/Site: Stone Creek - North	C	City/County	Madison	Co		Sar	mpling Date	e: 6/11	/2013
Applicant/Owner: MDT				Stat	te: MT	—— Sar	npling Poir	nt: DP-13v	v
Investigator(s): B Sandefur	5	Section, To	wnship, Rai	nge: S	22	<b>T</b> 5S	R 7	W	
									0
Subregion (LRR): LRR E									
Soil Map Unit Name: Havre loam						ssification			
Are climatic / hydrologic conditions on the site typical for thi	is time of vea								
Are Vegetation, Soil, or Hydrology	_							✓ N	。
Are Vegetation, Soil, or Hydrology ı	•			eded, expl			_		
				,	-				o oto
SUMMARY OF FINDINGS – Attach site map		Samping	g point i	ocations	s, trans	ecis, in	ропані	ieature	s, etc.
Hydrophytic Vegetation Present?  Yes   Hydric Soil Present?  Yes   Yes   N		Is th	e Sampled	Area					
	10	with	in a Wetlan	nd?	Yes	<b>✓</b>	No 🔲		
Remarks:									
DP along lower river terrace with periodic overbank	flows and h	nigh water	table duri	ng spring					
VEGETATION – Use scientific names of pla	nto								
VEGETATION - Ose scientific frames of prairies	Absolute	Dominant	Indicator	Domina	nca Tact	workshe	ot:		
Tree Stratum (Plot size:)	% Cover					ant Speci			
1						CW, or F.		2	(A)
2				Total Nu	ımber of í	Dominant		•	
3					Across A			2	(B)
4				Percent	of Domin	ant Speci	es	1	
Sapling/Shrub Stratum (Plot size: 15ft )	0	= Total Co	over	That Are	OBL, FA	CW, or F	AC:	1	(A/B)
1 Salix exigua	30	<b>✓</b>	FACW	Prevale	nce Inde	x worksh			
2.	0					er of: 0		ltiply by: 0	
3.	0				ecies _		_ ^ ' =	70	=
4	0			FACVV s	ipecies _	35 95	_ x2=	285	=
5	0				pecies _		_ x 3 - <u> </u> x 4 = <u> </u>	0	=
Herb Stratum (Plot size: 5ft )	30	= Total Co	over	UPL spe	_	0		0	
Alopecurus arundinaceus	95	<b>✓</b>	FAC		Totals:	130		355	(B)
Juncus arcticus	5		FACW	D		landari — F		2.73077	_ , ,
3.						Index = E	ndicators:		
4.	0				-		ophytic Ve		
5	0				-	e Test is			
6				<b>✓</b> 3 - F	revalenc	e Index is	≤3.0 <sup>1</sup>		
7				4 - 1	Morpholo	gical Adap	otations¹ (F	Provide su	pporting
8	0		· <del></del>				on a sepai		)
9							ular Plants <sup>°</sup> tic Vegetati		-:->
10				_			d wetland l		
11		= Total Co					d or proble		must
Woody Vine Stratum (Plot size:)		- Total Co	V 61						
1	0			Hydropi	hytic				
2	0			Vegetat Present		Yes	✓ N/	, 🗆	
% Bare Ground in Herb Stratum0	0	= Total Co	ver	Fieseill		169	<u> </u>	<i>,</i>	
Remarks:									
US Army Corps of Engineers				Wester	n Mounta	ins, Valley	ys, and Co	ast – Vers	ion 2.0

SOIL										Sampling Point: DP-13w
Profile Desc	cription:	(Describe	to the dep	th neede	d to docur	nent the ir	ndicator	or confir	m the absence	e of indicators.)
Depth		Matrix	_	-	Redo	x Features				
(inches)		(moist) 3/2	%	Color	(moist)	%	Type	Loc <sup>2</sup> _	Texture	Remarks
0-5	10YR		100						Clay Loam	
5-10	10YR	4/2	95	10YR	4/4	5		M	Clay	
10-16	10YR	5/1	95	7.5YR	4/6	5	C	M	Sandy Clay	
									- <del></del>	
<sup>1</sup> Type: C=Ce	oncentrati	on D=Den	letion RM:	=Reducer	d Matrix CS	S=Covered	or Coate	ed Sand G	Prains 21 o	cation: PL=Pore Lining, M=Matrix.
Hydric Soil								ou ound c		ors for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)			$\square$ San	dy Redox (	S5)			2 cr	m Muck (A10)
	pipedon (A	<del>1</del> 2)			ped Matrix				=	d Parent Material (TF2)
	istic (A3)	( ) 4 )		_	my Mucky N	,		t MLRA 1		y Shallow Dark Surface (TF12)
	en Sulfide	(A4) ark Surfac	ο (Δ11)		my Gleyed leted Matrix		1		Oth	ner (Explain in Remarks)
	ark Surfac		E (ATT)	_ :	ox Dark Su				<sup>3</sup> Indicate	ors of hydrophytic vegetation and
	lucky Min				leted Dark		7)			and hydrology must be present,
	Gleyed Ma			Red	ox Depress	ions (F8)			unle	ss disturbed or problematic.
Restrictive I	Layer (if p	oresent):								
Туре:										
Depth (in	ches):								Hydric Soi	I Present? Yes <u>✓</u> No <u> </u>
HYDROLO										
Wetland Hy				-lll	-11 4141				C+	
Primary India	•		ne require	a; cneck a			- (DD) /-			Indary Indicators (2 or more required)
	Water (A1 ater Table				Water-Sta	ined Leave <b>1, 2, 4A, a</b> i		except		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Saturation		(MZ)			Salt Crust		nu 46)		Пг	Orainage Pattems (B10)
	larks (B1)				Aquatic In		(B13)			Ory-Season Water Table (C2)
<u>✓</u> Sedimer					Hydrogen				_	Saturation Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)	)			Oxidized F	Rhizospher	es along	Living Ro	ots (C3) 🔽 (	Geomorphic Position (D2)
Algal Ma	at or Crust	t (B4)			Presence		,	•		Shallow Aquitard (D3)
	osits (B5)			Ļ	Recent Iro					FAC-Neutral Test (D5)
	Soil Crack		(0)	<u>,                                    </u>	Stunted or			)1) (LRR <i>i</i>		Raised Ant Mounds (D6) (LRR A)
Inundation		on Aeriai i ed Concave			Other (Exp	olain in Ker	narks)			Frost-Heave Hummocks (D7)
Field Obser	•	o Concave	, Surface (	50)						
Surface Water		t? Y	es 🗆	No 🔽	Depth (in	ches):				
Water Table					Depth (in					
Saturation Pi	resent?	Υ	es 🔲		Depth (in				land Hydrolog	yy Present? Yes <u>✓</u> No <u>□</u>
(includes car										
Describe Re	coraea Da	ata (stream	gauge, mo	militoring /	well, aerial j	priotos, pre	ivious ins	spections)	, ir avallable:	
Remarks:										
Soils moist	at 16in.,	seasonal	high wate	er table.						

Project/Site: Stone Creek - North		city/County: Madis	on Co	Sampli	ing Date:	6/11/2013
Applicant/Owner: MDT				IT Sampli		
	ç	Section Township	Range: S 2		<b>R</b> 7W	
			ve, convex, none):			2 (%). 0
Subregion (LRR): LRR E		•				
Soil Map Unit Name: Rivra	_ Lal		NW			· · · · · · · · · · · · · · · · · · ·
		_				
Are climatic / hydrologic conditions on the site typical for this	-					$\Box$
Are Vegetation, Soil, or Hydrology si	-		re "Normal Circums			No
Are Vegetation, Soil, or Hydrology n	aturally prob	olematic? (If	f needed, explain a	ny answers in Re	marks.)	
SUMMARY OF FINDINGS - Attach site map	showing	sampling poin	t locations, tra	insects, impo	ortant fea	tures, etc.
Hydrophytic Vegetation Present? Yes Veg No.	<u> </u>					
	,	Is the Samp		🔽		
Wetland Hydrology Present? Yes Ves No		within a Wet	tland?	Yes <u> </u>	° <u> </u>	
Remarks:						
DP in depression with shallow groundwater, surroun	ded by ma	n-made upland g	jrades.			
VEGETATION – Use scientific names of plan	te					
VEGETATION — Ose scientific flames of plan	Absolute	Dominant Indicat	or Dominance	Test worksheet:		
Tree Stratum (Plot size:)		Species? Status	2	ominant Species		
1	0			L, FACW, or FAC	:	2 (A)
2			Total Number	r of Dominant		•
3			Species Acro			2 (B)
4	0		Percent of Do	ominant Species		1
Sapling/Shrub Stratum (Plot size: 15ft )	0	= Total Cover		L, FACW, or FAC	:	(A/B)
Salix exigua	35	<b>✓</b> FACW	/ Prevalence I	ndex worksheet		
Ribes inerme	10	FAC	Total % (	Cover of:		
3 Cornus alba	10	UPL	OBL species			0
4					^ _	250
5.	0		FAC species	0	^ -	45 0
	55	= Total Cover	FACU specie	10	^ -	50
Herb Stratum (Plot size: 5ft )  Phalaris arundinacea	90	<b>✓</b> FACW	UPL species Column Total		^ =	245
2. Bromus inermis		FAC	— Column Total	15:	(A) <u>3</u>	(D)
				nce Index = B/A		2.3
3				Vegetation Indi		
4				d Test for Hydroph	-	tion
5	0			nance Test is >50		
7	0		_   _ 0 - 1 1000	alence Index is ≤3 hological Adaptat		do cupportina
8	0			n Remarks or on		
9.	0		5 - Wetla	and Non-Vascular	·Plants1	
10	0		Problema	atic Hydrophytic \	/egetation¹ (	(Explain)
11	0			hydric soil and w		
	95	= Total Cover	be present, u	inless disturbed o	r problemati	C.
Woody Vine Stratum (Plot size:)	0					
1			— Hydrophytic Vegetation			
2	0	= Total Cover	Present?	Yes 🔽	No	]
% Bare Ground in Herb Stratum		- Total Covel				
Remarks:						
US Army Corps of Engineers			Western Mo	untains, Valleys,	and Coast –	Version 2.0
	В	3-9				

SOIL									Sampling Point: DP-14w
Profile Desc	cription: (Descri	be to the dep	th need	ed to docu	ment the ir	ndicator	or confir	m the absence	
Depth	Matrix			Redo	ox Features			_	
(inches) 0-8	Color (moist) 10YR 3/4		Colo	r (moist)	%	_Type <sup>1</sup> _	_Loc <sup>2</sup> _	<u>Texture</u> Clay Loam	Remarks
8-16	10YR 5/2	95	10YR	4/6	5	С	М	Sandy Clay	
							-	_,	
									-
	oncentration, D=D						ed Sand (		cation: PL=Pore Lining, M=Matrix.
	Indicators: (App	licable to all				ed.)			ors for Problematic Hydric Soils <sup>3</sup> :
Histosol	` '			idy Redox (					m Muck (A10)
	pipedon (A2)		_	pped Matrix					d Parent Material (TF2)
	istic (A3) en Sulfide (A4)			-	Mineral (F1 Matrix (F2)		t MLRA 1	_	ry Shallow Dark Surface (TF12) ner (Explain in Remarks)
	d Below Dark Sur	face (A11)	_	oleted Matri				_	, ,
Thick D	ark Surface (A12)		Rec	lox Dark Su	ırface (F6)			<sup>3</sup> Indicat	ors of hydrophytic vegetation and
Sandy N	Mucky Mineral (S1	)	Dep	leted Dark	Surface (F	7)		wetla	and hydrology must be present,
Sandy C	Gleyed Matrix (S4)		Rec	lox Depres	sions (F8)			unle	ss disturbed or problematic.
Restrictive	Layer (if present	):							
Туре:									
Depth (in	ches):							Hydric Soi	I Present? Yes <u>✓</u> No □
Remarks:									
HYDROLO	GY								
	drology Indicato	rs:							
Primary India	cators (minimum d	of one required	d; check	all that app	ly)			Seco	ndary Indicators (2 or more required)
Surface	Water (A1)			] Water-Sta	ined Leave	s (B9) (e	xcept		Water-Stained Leaves (B9) (MLRA 1,
	ater Table (A2)				1, 2, 4A, a		•		4A, and 4B)
✓ Saturati				Salt Crust		•			Orainage Pattems (B10)
	Marks (B1)				vertebrates	s (B13)			Dry-Season Water Table (C2)
	nt Deposits (B2)				Sulfide Od			_	Saturation Visible on Aerial Imagery (
	posits (B3)		Ī	_	Rhizospher		Livina Ro	_	Geomorphic Position (D2)
	at or Crust (B4)		Ī	_	of Reduced		-		Shallow Aquitard (D3)
	posits (B5)		Ī	_	on Reduction	•	-	_	FAC-Neutral Test (D5)
	Soil Cracks (B6)		Ī	_	r Stressed		-	_	Raised Ant Mounds (D6) (LRR A)
_	ion Visible on Aeri	al Imagery (B	7)		plain in Rer	•	., (	,	Frost-Heave Hummocks (D7)
	y Vegetated Conc			, (		,			(= 1)
Field Obser		•							
Surface Wat	er Present?	Yes	No 🔽	Depth (in	nches):				
Water Table		Yes	_	_	nches):		I		
Saturation P	resent?	Yes	_			4.0	.	tland Hydrolog	gy Present? Yes 🔽 No 🗌
(includes car Describe Re	pillary fringe) corded Data (stre	am gauge, mo	nitoring	well, aerial	photos, pre	evious ins	pections	), if available:	
Remarks:	ression with sha	allow around	water						
oloseu uep	1639IOH WILH SHO	mow ground	water.						

Project/Site: Stone Creek - North	City/Coun	w Madison (	Co		Sampling Da	ate: 6/11/2	2013
Applicant/Owner: MDT		· · ·			Sampling Po		
	Section, T	ownshin Ran				7W	
Landform (hillslope, terrace, etc.): Swale						Slone (%):	0
Subregion (LRR): LRR E		•				–	
Soil Map Unit Name: Rivra, cool-Fluvaquents complex							
						<u> </u>	
Are climatic / hydrologic conditions on the site typical for this	_						
Are Vegetation, Soil, or Hydrology si	•				present? Yes		
Are Vegetation, Soil, or Hydrology na			,	-	rs in Remarks	•	
SUMMARY OF FINDINGS – Attach site map	showing sampli	ng point lo	cations, t	ransects	, importan	it features	, etc.
	' <del></del>	the Sampled : thin a Wetland		Yes 🗸	No _	]	
	wii					<del></del>	
Remarks:  DP in emergent wetland, not mapped as wetland by	NWI.						
2)							
VEGETATION - Use scientific names of plan	ts.						
		nt Indicator	Dominanc	e Test work	ksheet:		
	% Cover Species	? Status		Dominant S		1	/A \
1. 2.				BL, FACW,			(A)
3.	•			ber of Domir cross All Stra		1	(B)
4.	0 🗆						(13)
	= Total 0	Cover		Dominant S BL, FACW,		1	(A/B)
Sapling/Shrub Stratum (Plot size:)	0 □			e Index wor			
1			Total %	% Cover of:	N	lultiply by:	_
2			OBL specie		10 x 1 =	10	
3	. — — —		FACW spe	cies	0 x 2 =	0	_
4.         5.	0		FAC specie	es	60 x 3 =	Ĭ .	_
	0 = Total 0	 Cover		cies	0	•	=
Herb Stratum (Plot size: 5ft )			UPL specie		x 5 =	190	=
1 Alopecurus pratensis	60	- FAC OBL	Column To	itals:70	(A)		_ (B)
2. Ranunculus cymbalaria Eleocharis palustris	5	OBL OBL			c = B/A =	2.71429	_
Polygonum sp.		NL		_	on Indicators		
, <u> </u>	0				Hydrophytic V	/egetation	
5	0			minance Te			
6	0	<del>-</del>		evalence Ind	iex is ≤3.0° Adaptations <sup>1</sup> i	(Provide cuer	nortina
8.	0 🗌				s or on a sep		Juling
9.	0		🖳 5 - We	tland Non-V	/ascular Plant	s <sup>1</sup>	
10	0 🗌		│ <u>└</u> Proble	matic Hydro	phytic Vegeta	ation¹ (Explair	n)
11					il and wetland urbed or prob		nust
Manda Vina Chatura (Blot sine)	= Total C	over	be present	, unless dist	— Prob		
Woody Vine Stratum (Plot size:)  1	0			·· -			
2.	0 🗆	<del> </del>	Hydrophyt Vegetation	1			
0	0 = Total C	over	Present?	Ye	es 🔽 N	1o <u> </u>	
% Bare Ground in Herb Stratum							
Remarks:							
US Army Corps of Engineers			Western N	Mountains M	/alleys, and C	oast – Versic	n 2 0
	B-11				, o, and o		2.0
	וו-ט						

SOIL									Sampling Point: DP-15w
Profile Des	cription: (Describ	e to the dep	th need	ed to docur	nent the in	ndicator	or confir	m the absence	
Depth	Matrix			Redo	x Features	,		_	
(inches)	Color (moist)	%	Colo	r (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup> _	Texture	Remarks
0-6	10YR 2/1	100						Silty Clay	
6-13	N 4/	95	10YR	3/4	5	С	M	Clay Loam	
	-								
							. <u> </u>		
	Concentration, D=D						ed Sand G		ocation: PL=Pore Lining, M=Matrix.
	Indicators: (Appl	licable to all	_			ed.)			ors for Problematic Hydric Soils <sup>3</sup> :
Histoso				idy Redox (	,				m Muck (A10)
$\overline{}$	pipedon (A2)			pped Matrix		\	4 MI DA 1		d Parent Material (TF2) ry Shallow Dark Surface (TF12)
_	listic (A3) en Sulfide (A4)			my Mucky M my Gleyed			T WILKA 1	_	ry Shallow Dark Surface (1F12) her (Explain in Remarks)
	ed Below Dark Surf	ace (A11)		oleted Matrix		,		0.1	iei (Expiaiii iii Neiliaiks)
	ark Surface (A12)	acc (/(11)		ox Dark Su				<sup>3</sup> Indicat	ors of hydrophytic vegetation and
	Mucky Mineral (S1)	•		oleted Dark		7)			and hydrology must be present,
	Gleyed Matrix (S4)			lox Depress		,			ss disturbed or problematic.
Restrictive	Layer (if present)	:							
Туре:									
Depth (in	nches):							Hvdric Soi	il Present? Yes 🔽 No 🔲
HYDROLC	)GY								
Wetland Hy	drology Indicator	s:							
Primary Indi	icators (minimum o	f one require	d; check	all that appl	y)			Seco	ondary Indicators (2 or more required)
Surface	· Water (A1)			] Water-Sta	ined Leave	s (B9) (e	except		Water-Stained Leaves (B9) (MLRA 1, 2,
High W	ater Table (A2)			MLRA	1, 2, 4A, a	nd 4B)			4A, and 4B)
✓ Saturati	ion (A3)			Salt Crust	(B11)				Drainage Pattems (B10)
Water N	Marks (B1)			Aquatic In	vertebrates	s (B13)		[	Dry-Season Water Table (C2)
Sedime	nt Deposits (B2)			Hydrogen	Sulfide Od	or (C1)		9	Saturation Visible on Aerial Imagery (C9
Drift De	posits (B3)			Oxidized F	Rhizospher	es along	Living Ro	oots (C3) 🔲 🤇	Geomorphic Position (D2)
Algal M	at or Crust (B4)			Presence	of Reduce	d Iron (C	4)	8	Shallow Aquitard (D3)
Iron De	posits (B5)			] Recent Iro	n Reductio	n in Tille	d Soils (C	(6) F	FAC-Neutral Test (D5)
Surface	Soil Cracks (B6)			Stunted or	Stressed	Plants (D	1) (LRR /	<b>A</b> ) F	Raised Ant Mounds (D6) ( <b>LRR A</b> )
Inundat	ion Visible on Aeria	ıl Imagery (B	7)	Other (Exp	olain in Rei	marks)		<u>✓</u> F	Frost-Heave Hummocks (D7)
Sparsel	y Vegetated Conca	ve Surface (	(B8)						
Field Obser	rvations:								
Surface Wat	ter Present?	Yes	No	Depth (in	ches):				
Water Table	Present?	Yes	No 🗸	Depth (in	ches):				
Saturation F		Yes 🔽	No	_	ches):	4.0	.	tland Hydrolog	gy Present? Yes 🔽 No 🗌
	pillary fringe) ecorded Data (strea	ım gauge, m	onitoring	well, aerial į	photos, pre	evious ins	spections)	), if available:	
Remarks:									

Project/Site: Stone Creek - North	c	City/County:	Beaverhe	ead Co		Sam	npling Date:	6/12	/2013
Applicant/Owner: MDT				Stat	te: MT	 Sam	npling Point	DP-16u	
Investigator(s): B Sandefur	5	Section, Tov	wnship, Rai	nge: S	22	<b>T</b> 5S	R 7∨	V	
Landform (hillslope, terrace, etc.): Lowland	լ	Local relief	(concave, d	convex, no	ne): flat		SI	lope (%):	1.74
Subregion (LRR): LRR E									
Soil Map Unit Name: Villy silty clay loam									
Are climatic / hydrologic conditions on the site typical for this	time of yea								
Are Vegetation, Soil, or Hydrology signs.	-						nt? Yes 💽	/ No	, $\Box$
Are Vegetation, Soil, or Hydrology na	-						Remarks.)		
					_		•		4-
SUMMARY OF FINDINGS – Attach site map s		Samping	g point it	ocations	, trans	ects, im	portant i	eatures	s, etc.
Hydrophytic Vegetation Present? Yes   Hydric Soil Present? Yes □ No		Is the	e Sampled	Area					
Wetland Hydrology Present? Yes No		with	in a Wetlan	ıd?	Yes		No 🔽	_	
Remarks:									
DP along slight, subtle rise in topo. Although hydroph	nytic comm	nunity indi	cated, veg	g com is s	mooth b	orome, gre	asewood	, & basir	า wild
rye.	<u>.                                    </u>								
VEGETATION – Use scientific names of plant		Danisası	1 - 4' 1	I D	T				
Tree Stratum (Plot size:)	Absolute <u>% Cover</u>	Dominant Species?				t workshee hant Specie			
1	0					ACW, or FA		1	(A)
2	0			Total Nu	ımher of	Dominant			
3						All Strata:		1	(B)
4				Percent	of Domin	ant Specie	ıs	4	
Sapling/Shrub Stratum (Plot size: )	0	= Total Co	ver			ACW, or FA		1 	(A/B)
1	0			Prevale	nce Inde	x workshe	et:		
2	0					er of:	Multi	iply by:	_
3	0				ecies _		_ x 1 =	0	=
4.	0			FACW s	pecies _	100		300	=
5	0			FAC spe	ecies _ pecies _		_ x 3 =	0	=
5ft	0	= Total Co	ver	UPL spe		0	_ x 4 = x 5 =	0	=
Herb Stratum (Plot size: 5ft Bromus inermis	90	<b>✓</b>	FAC		Totals:	100	(A)	300	(B)
2 Cirsium arvense	5		FAC		_			3	_ (5)
3 Asclepias speciosa	5	一	FAC			Index = B getation In			
4	0				•	_	ophytic Veg	etation	
5	0				-	ce Test is >		jetation	
6.	0					ce Index is			
7	0			4 - 1	Morpholo	gical Adap	tations¹ (Pr	ovide sup	porting
8	0						on a separa	ite sheet)	
9	0					Non-Vascu			
10	0			I .			c Vegetatio		
11							d wetland hy d or problen		nust
Woody Vine Stratum (Plot size:)	100	= Total Co	ver						
1	0			Hydropi	hytic				
2.	0			Vegetat	ion	[			
0	0	= Total Co	ver	Present	:?	Yes	No.		
% Bare Ground in Herb Stratum									
Adjacent species in same community indicitive of up	land comp	nunity.							
		-							
US Army Corps of Engineers				Wester	n Mounta	nins, Valley	s, and Coa	st – Versi	on 2.0

SOIL										Sampling Point: DP-16u
Profile Desc	cription:	(Describe	to the dep	th neede	d to docur	nent the in	ndicator	or conf	irm the absen	ce of indicators.)
Depth		Matrix			Redo	x Features	;			
(inches)		(moist)	%	Color	(moist)	%	_Type <sup>1</sup> _	_Loc <sup>2</sup>	Texture	Remarks
0-5	10YR	2/2	100						Loam	
5-12	10YR	4/2	100						Silty Clay Loa	am
12-16	10YR	6/1	95	10YR	6/2	5	С	М	Sandy Loan	Very faint redox at 14in.
			-						_	
<sup>1</sup> Type: C=C								ed Sand		Location: PL=Pore Lining, M=Matrix.
Hydric Soil		s: (Applic	able to all				ed.)			ators for Problematic Hydric Soils <sup>3</sup> :
Histosol		4.0)		_	dy Redox (S	,				cm Muck (A10)
	pipedon (A istic (A3)	42)			oped Matrix my Mucky N		\	4 MI DA	=	Red Parent Material (TF2) /ery Shallow Dark Surface (TF12)
	en Sulfide	(A4)		_	my Niucky i my Gleyed I	,		UNLKA	_	other (Explain in Remarks)
		ark Surfac	e (A11)		leted Matrix		,			The (Explain in Remarks)
	ark Surfac		( )		ox Dark Su	. ,			<sup>3</sup> Indic	ators of hydrophytic vegetation and
Sandy N	Jucky Min	eral (S1)			leted Dark		7)		we	etland hydrology must be present,
	Gleyed Ma			<u> </u>	ox Depress	ions (F8)			un	less disturbed or problematic.
Restrictive	Layer (if <sub>l</sub>	present):								
Туре:										
Depth (in	ches):								Hydric S	oil Present? Yes No _ V
Remarks:	40:									
Redox belo	w ı∠ırı.									
HYDROLO										
Wetland Hy									_	
Primary India	•		ne required	l; check a	1				<u>Se</u>	condary Indicators (2 or more required)
	Water (A	-			Water-Stai			xcept		Water-Stained Leaves (B9) (MLRA 1, 2,
	ater Table	(A2)				1, 2, 4A, a	nd 4B)			4A, and 4B)
Saturation	, ,			<u> </u>	Salt Crust		(540)		<u> </u>	Drainage Patterns (B10)
	larks (B1)			<u>-</u>	Aquatic Inv					Dry-Season Water Table (C2)
	nt Deposit			<u></u>	Hydrogen  Oxidized F			l is in a F		Saturation Visible on Aerial Imagery (C9)
	posits (B3 at or Crust			<u> </u>	Presence		-	-	Roots (C3)	Geomorphic Position (D2)
	posits (B5)			+	Recent Iro		,	•	(C6)	∫ Shallow Aquitard (D3) ]FAC-Neutral Test (D5)
	Soil Crac			一	Stunted or				_	Raised Ant Mounds (D6) (LRR A)
		on Aerial I	magery (B)	, <del>–</del>	Other (Exp			(LICI		Frost-Heave Hummocks (D7)
		ed Concave			, other text					3 - 100 - 10
Field Obser			`	,						
Surface Wat	er Presen	t? Y	es 🗆 I	No 🗸	Depth (inc	ches):				
Water Table					Depth (inc					
Saturation P					Depth (inc				etland Hydrol	ogy Present? Yes No _ ✓
(includes car	pillary fring	ge)								
Describe Re	corded Da	ata (stream	gauge, mo	nitoring	well, aerial p	ohotos, pre	evious ins	spection	s), if available:	
Remarks:		duration	hiaht-	. 4061-		f ourfoot	budze			
Infrequent a	มาน รกอศั	uuration	nign wate	iadie, i	io signs o	surface	пуаго.			

Project/Site: Stone Creek - North	(	City/County	Madison	Со		Sami	oling Date:	6/12/	2013
Applicant/Owner: MDT							oling Point:		
Investigator(s): B Sandefur		Section Tow	nehin Par	Siat	22	Same	R 7W	/	
Landform (hillslope, terrace, etc.): Swale	`	Lead relief /	nsnip, Kai	ge	mali CONC	ave		070 (0/ ):	
Landform (hillslope, terrace, etc.): Swale Subregion (LRR): LRR E	1 -4:	45 387016	concave, c 6666667	onvex, nor	ne). <u>551151</u>	-112 453	SI 3295	ope (%) WGS	84
	_ Lat:							um. V OO	<del></del>
Soil Map Unit Name: Villy silty clay loam						ssification: <sup>l</sup>			
Are climatic / hydrologic conditions on the site typical for this								_	_
Are Vegetation, Soil, or Hydrology sign	gnificantly o	disturbed?	Are "I	Normal Cir	cumstance	es" presen	t?Yes_	<u> </u>	
Are Vegetation, Soil, or Hydrology na	aturally prob	olematic?	(If ne	eded, expla	ain any an	swers in F	Remarks.)		
SUMMARY OF FINDINGS - Attach site map s	howing	sampling	point lo	cations	, transe	cts, imp	ortant f	eatures	, etc.
Hydrophytic Vegetation Present? Yes No									
			Sampled						
Wetland Hydrology Present? Yes Ves No		within	a Wetlan	d?	Yes _		No <u> </u>		
Remarks:									
DP in cattail/willow depression, culvert under road at	drain poir	nt.							
VEGETATION – Use scientific names of plant	ts.								
	Absolute	Dominant	Indicator	Domina	nce Test	workshee	t:		
Tree Stratum (Plot size:)		Species?				ant Specie		0	
1						CW, or FA		3	(A)
2			<u>_</u>	Total Nu	mber of D	ominant		2	
3				Species	Across Al	l Strata:		3	(B)
4	0			Percent	of Domina	ant Species	3	4	
Sapling/Shrub Stratum (Plot size: 15ft )	0	= Total Cov	er			CW, or FA		1	(A/B)
1 Ribes inerme	5		FAC	Prevaler	nce Index	workshee	et:		
Salix exigua	45		FACW	Tota	al % Cover		<u>Multi</u>		$\neg$
3.	0			OBL spe			x 1 =	90	=
4	^			1	pecies _		x 2 =	90	=
5.	0				ecies	^	x 3 =	48	=
	50	= Total Cov	er		oecies	0	x 4 =	0	=
Herb Stratum (Plot size: 5ft )	5		FAC	UPL spe			x 5 =	228	- (D)
1 Asclepias speciosa 2 Carex utriculata	45		OBL	Column	Totals:	101	(A)		(B)
2. Carex utriculata Schoenoplectus acutus			OBL			ndex = B/.	A =	50993	_
3. Circium arvense			FAC		-	etation Ind			
5 Urtica dioica			FAC			-	phytic Veg	etation	
Typha latifolia	40		OBL			e Test is >			
7	0			三 5-1		e Index is ≤			
8	0						ations¹ (Pro n a separa		porting
9	0					on-Vascula		,	
10	0			Prob	olematic H	łydrophytic	Vegetatio	n¹ (Explai	n)
11.	0						wetland hy		nust
	101	= Total Cove	er	be prese	ent, unless	disturbed	or problen	ıatic.	
Woody Vine Stratum (Plot size:)	0								
1			<del></del>	Hydroph					
2				Vegetati Present		Yes 🔽	No		
% Bare Ground in Herb Stratum	0	_= Total Cove	er						
Remarks:									
US Army Corps of Engineers				Western	n Mountaii	ns, Valleys	, and Coas	st – Versio	on 2.0
	В	-15							

SOIL										Sampling Point: DP-17w
Profile Desc	ription: (	Describe	to the dep	th neede	d to docur	nent the ir	ndicator	or confir	m the absence	of indicators.)
Depth		Matrix			Redo	x Features			_	
(inches)		(moist)	%	Color	(moist)	%	Type	_Loc <sup>2</sup>	Texture	<u>Remarks</u>
0-10	10YR	2/1	100						Clay Loam	
10-16	10YR	4/2	95	10YR	3/3	5	C	M	Clay	
			,							
¹Type: C=Co	oncentratio	on, D=Dep	letion, RM:	=Reduce	d Matrix, CS	S=Covered	or Coate	ed Sand G	 Grains.	cation: PL=Pore Lining, M=Matrix.
Hydric Soil										ors for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)			San	dy Redox (S	S5)			2 cr	m Muck (A10)
	pipedon (A	.2)			oped Matrix				=	d Parent Material (TF2)
Black Hi					my Mucky N			t MLRA 1		y Shallow Dark Surface (TF12)
	n Sulfide		- (011)		my Gleyed I				Oth	er (Explain in Remarks)
	ark Surfac	ark Surfac	e (ATT)		leted Matrix ox Dark Sui				<sup>3</sup> Indicate	ors of hydrophytic vegetation and
	lucky Mine			_	leted Dark		7)			and hydrology must be present,
	Sleyed Ma				ox Depress		. /			ss disturbed or problematic.
Restrictive I										· ·
Туре:										
Depth (inc	ches):								Hydric Soil	Present? Yes 🔽 No 🔲
Remarks:										
HYDROLO	GY									
Wetland Hyd	drology Ir	idicators:								
Primary Indic	cators (mir	<u>imum of o</u>	ne require	d; check	all that apply	y)			Secor	ndary Indicators (2 or more required)
Surface	Water (A1	)			Water-Stai			xcept	v	Vater-Stained Leaves (B9) (MLRA 1, 2,
	iter Table	(A2)				1, 2, 4A, a	nd 4B)			4A, and 4B)
<u>✓</u> Saturatio				<u> </u>	Salt Crust					Prainage Pattems (B10)
	arks (B1)				Aquatic Inv					Pry-Season Water Table (C2)
	nt Deposits			Ļ	Hydrogen				_	saturation Visible on Aerial Imagery (C9)
	osits (B3)			-	Oxidized R		_	_		Geomorphic Position (D2)
	t or Crust			+	Presence o   Recent Iro		-	-	_	Shallow Aquitard (D3)
	osits (B5) Soil Crack			-	Stunted or			-		AC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
		on Aerial II	magery (R	7)	Other (Exp		•	(LKK)	<i>-</i>	rost-Heave Hummocks (D7)
		d Concave			Other (Exp	nam m rei	naiks)		'	Tost-Heave Hummooks (D1)
Field Observ	•	<u> </u>	· canaco (							
Surface Wate		? Y	es 🗆	No 🔽	Depth (inc	ches):				
Water Table					Depth (inc					
Saturation Pr				No [	-	ches):	4.0	.	tland Hydrolog	y Present? Yes 🔽 No 🔲
(includes cap	oillary fring	e)						_		, 1 100 <u> </u>
Describe Re	corded Da	ta (stream	gauge, mo	nitoring	well, aerial p	ohotos, pre	vious ins	spections)	), if available:	
Remarks:										
itoiliaiks,										

Project/Site: Stone Creek - North	C	City/County: Madiso	n Co	Sa	moling Date:	6/12/2013
Applicant/Owner: MDT				MT Sai		
		Section, Township, R				
		Local relief (concave				
Subregion (LRR): LRR E	Lat	45.387681666666	, convex, none,	-112.4535333	33333 Datu	WGS84
Soil Map Unit Name: Villy silty clay loam						IIII. 1000 I
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrology si	-			mstances" prese		No
Are Vegetation, Soil, or Hydrology na	aturally prol	blematic? (If r	needed, explain	n any answers in	Remarks.)	
SUMMARY OF FINDINGS - Attach site map s	showing	sampling point	locations, t	transects, in	ıportant fe	atures, etc.
Hydrophytic Vegetation Present? Yes No	_ <b></b>					
Hydric Soil Present? Yes No		Is the Sample		$\Box$		
Wetland Hydrology Present? Yes No		within a Wetla	and?	Yes	No <u>V</u>	_
Remarks:						
DP in upland on slight rise above adjacent wetland.						
VEGETATION – Use scientific names of plan	ts.					
	Absolute	Dominant Indicator	r Dominanc	e Test workshe	et:	
Tree Stratum (Plot size:)		Species? Status		Dominant Spec		0
1			_ That Are O	BL, FACW, or F	AC:	(A)
2	_		Total Numb	ber of Dominant		4
3			_   Species Ad	cross All Strata:		(B)
4				Dominant Speci		0.5
Sapling/Shrub Stratum (Plot size: 15ft )	0	_ = Total Cover		BL, FACW, or F		(A/B)
1. Sarcobatus vermiculatus	25	<b>✓</b> FACU		e Index worksh		
2.	0			% Cover of:		oly by:
3.	0			_	_ x 1 =	0
4	0			70	_ ^ <u>-</u> ==	210
5	0		FAC specie FACU spec		x 3 = _ x 4 =	100
5ft	25	_ = Total Cover	UPL specie	25		125
Herb Stratum (Plot size: 5ft)  1 Cardaria draba	25	<b>✓</b> UPL	Column To		(A)	435 (B)
Poa pratensis		FAC	_			3.625
Bromus inermis	40	FAC		alence Index = I tic Vegetation I	B/A =	
Glycyrrhiza lepidota	10	FAC		nc vegetation i pid Test for Hyd		station
5.	0			minance Test is		itation
6.	0			evalence Index is		
7.	0			rphological Ada		vide supporting
8	0			a in Remarks or		
9	0		-   = " " " " " " " " " " " " " " " " " "	tland Non-Vasc		
10	0		-   -	matic Hydrophy		
11	0			of hydric soil an , unless disturbe		
Woody Vine Stratum (Plot size:)	95	_= Total Cover	DO PIOCOIN	, amoud distance	- Problem	
1	0		Li. ada a a la cala	4: a		
2.	0		<ul> <li>Hydrophyf</li> <li>Vegetation</li> </ul>	n		
0	0	= Total Cover	Present?	Yes _	No	
% Bare Ground in Herb Stratum		_				
Remarks:						
US Army Corps of Engineers			\Mestern N	Mountains, Valle	vs. and Coast	t – Version 2.0
OG / Milly Odipa of Engineera	_	47	4 AC 2 CC 111	nountains, valle	yo, and odasi	voision 2.0
	В	-17				

SOIL							Sampling Point: DP-18u
Profile Desc	cription: (D	escribe	to the depth	needed to document the indicator or	confirm	the absence	
Depth		Matrix		Redox Features			· ·
(inches)	Color (n		%		Loc <sup>2</sup>	Texture	Remarks
0-6	10YR	2/3	100			Clay Loam	
6-12	10YR	4/3	100			Clay	
12-16	10YR	4/2	100			Clay	No redox
	-						
				educed Matrix, CS=Covered or Coated S	Sand Gr		cation: PL=Pore Lining, M=Matrix.
		(Application	able to all LF	RRs, unless otherwise noted.)			ors for Problematic Hydric Soils <sup>3</sup> :
Histosol			L	Sandy Redox (S5)			m Muck (A10)
	pipedon (A2)	)	<u>L</u>	Stripped Matrix (S6)			d Parent Material (TF2)
	istic (A3)	41	<u> </u>	Loamy Mucky Mineral (F1) (except M	LRA 1)	_	y Shallow Dark Surface (TF12)
	en Sulfide (A d Below Dar		- (A11) = =================================	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)		0tr	ner (Explain in Remarks)
	ark Surface		= (ATT) =	Redox Dark Surface (F6)		3Indicat	ors of hydrophytic vegetation and
	Aucky Miner		F	Depleted Dark Surface (F7)			and hydrology must be present,
_	Gleyed Matri			Redox Depressions (F8)			ss disturbed or problematic.
Restrictive							
Туре:							
Depth (in	ches):					Hydric Soi	I Present? Yes ☐ No 🗹
Remarks:						-	
HYDROLO							
Wetland Hy			no roquirod:	shock all that apply)		Saca	ndan/Indicators (2 or more required)
	•	num or o	ne requirea; o	check all that apply)	4		ndary Indicators (2 or more required)
	Water (A1)	2)		Water-Stained Leaves (B9) (exc	ept	\	Vater-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (A	(2)		MLRA 1, 2, 4A, and 4B)			4A, and 4B)
Saturation				☐ Salt Crust (B11)			Orainage Patterns (B10)
	larks (B1)	(50)		Aquatic Invertebrates (B13)			Ory-Season Water Table (C2)
	nt Deposits (	(B2)		Hydrogen Sulfide Odor (C1)			Saturation Visible on Aerial Imagery (C9)
_	posits (B3)	7.43		Oxidized Rhizospheres along Liv	ing Roo		Geomorphic Position (D2)
	at or Crust (E	34)		Presence of Reduced Iron (C4)	n-::- (00		Shallow Aquitard (D3)
	oosits (B5)	(DC)		Recent Iron Reduction in Tilled S	•		FAC-Neutral Test (D5)
	Soil Cracks		(DZ)	Stunted or Stressed Plants (D1)	(LRR A		Raised Ant Mounds (D6) (LRR A)
			magery (B7) : Surface (B8	Other (Explain in Remarks)			Frost-Heave Hummocks (D7)
Field Obser		Concave	Sullace (Do	)	T		
		v	es 🗌 No	Depth (inches):			
Surface Wat							
Water Table			es No		144.11		
Saturation P (includes cap			es _L No	Depth (inches):	vvetia	and Hydrolog	y Present? Yes No
			gauge, moni	toring well, aerial photos, previous inspe	ctions),	if available:	
Remarks:							
No surface	nydro indic	ators					

Project/Site: Stone Creek - North	City/County: Madison	Co Sampling Date: 6/13/2013
Applicant/Owner: MDT		State: MT Sampling Point: DP-19w
	Section, Township, Rar	nge: S 22 T 5S R 7W
Landform (hillslope, terrace, etc.): Valley bottom	Local relief (concave o	convex, none): concave Slope (%): 0
Subregion (LRR): LRR E	45.3886633333333	Long:112.45332 Datum WGS84
Soil Map Unit Name: Villy silty clay loam		NWI classification:PEM
Are climatic / hydrologic conditions on the site typical for this		
Are Vegetation, Soil, or Hydrology sig	•	• —
Are Vegetation, Soil, or Hydrology na SUMMARY OF FINDINGS - Attach site map s		eded, explain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes   ✓ No  Hydric Soil Present? Yes  ✓ No	Is the Sampled	
Wetland Hydrology Present? Yes V No		
Remarks:  DP in bulrush/cattail com, saturated soil surface.		
Di in banasi voattan com, saturatea son sunace.		
VEGETATION - Use scientific names of plant	S.	
Total Ottobara (District	Absolute Dominant Indicator	Dominance Test worksheet:
, , , , , , , , , , , , , , , , , , , ,	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
1 2		That Are OBL, FACW, or FAC: (A)
3	^	Total Number of Dominant Species Across All Strata: 2 (B)
4	<b>^</b>	
	0 = Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species100 x 1 =100
3		FACW species0 x 2 =0
4		FAC species0 x 3 =0
5	0 = Total Cover	FACU species 0 x 4 = 0
Herb Stratum (Plot size: 5ft )		UPL species 0 x 5 = 0
Schoenoplectus acutus	80 OBL	Column Totals:(A)
2. Typha latifolia	O OBL	Prevalence Index = B/A =
3		Hydrophytic Vegetation Indicators:
4		1 - Rapid Test for Hydrophytic Vegetation
5		2 - Dominance Test is >50%
6		3 - Prevalence Index is ≤3.0 <sup>1</sup>
7		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
8		5 - Wetland Non-Vascular Plants
9 10	0	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
11.	0	Indicators of hydric soil and wetland hydrology must
· · ·	100 = Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		
1		Hydrophytic
2	0	Vegetation Present? Yes ✓ No □
% Bare Ground in Herb Stratum	e Total Cover	<u> </u>
Remarks:		<u> </u>
US Army Corps of Engineers		Western Mountains, Valleys, and Coast – Version 2.0

SOIL								Sampling Point: DP-19w
Profile Des	cription: (Descril	oe to the dept	h needed to docu	ment the in	dicator	or confirm	n the absence of	
Depth	Matrix	(	Redo	ox Features				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks
0-16	10YR 2/1	97	10YR 3/4	3	С	M	Muck	
	•	<u> </u>						
1Type: C=C	Concentration D=0		Reduced Matrix, C	S=Covered	or Coato	d Sand Gr	rains <sup>2</sup> Locati	ion: PL=Pore Lining, M=Matrix.
			_RRs, unless othe			u Sanu Gi		for Problematic Hydric Soils <sup>3</sup> :
Histoso		nouble to un	Sandy Redox (		u.,			fluck (A10)
	pipedon (A2)		Stripped Matrix					arent Material (TF2)
	listic (A3)		Loamy Mucky		(ovcont	MI DA 1\	_	hallow Dark Surface (TF12)
_	en Sulfide (A4)		Loamy Gleyed			WILKA I)	_ ·	(Explain in Remarks)
	ell Sullide (A4) ed Below Dark Surf	ace (A11)	Depleted Matri	, ,				(Explain in Remarks)
	ark Surface (A12)	acc (ATT)	Redox Dark Su	. ,			3Indicators	of hydrophytic vegetation and
	Mucky Mineral (S1	)	Depleted Dark		<b>7</b> )			hydrology must be present,
	Gleyed Matrix (S4)		Redox Depres		,			disturbed or problematic.
	Layer (if present)							
Туре:		,-						
	iches):						Hydric Soil Pr	resent? Yes 🔽 No 🔲
Remarks:							Tiyane Son Ti	esent: res_E No_E
itemaiks.								
HYDROLC	GY							
Wetland Hy	drology Indicator	rs:						
			; check all that app	ly)			Seconda	ary Indicators (2 or more required)
	Water (A1)			ined Leave:	s (R9) (ex	rcent		er-Stained Leaves (B9) (MLRA 1, 2,
_	ater Table (A2)			1, 2, 4A, ar		ССР		A, and 4B)
					iu 46)			•
Saturati			Salt Crust		(D.4.0)			nage Pattems (B10)
	Marks (B1)			vertebrates				Season Water Table (C2)
	nt Deposits (B2)		_ <b>✓</b> Hydrogen					ration Visible on Aerial Imagery (C9)
	posits (B3)		_ <b></b> Oxidized		_	_		morphic Position (D2)
	at or Crust (B4)		Presence			=		llow Aquitard (D3)
Iron De	posits (B5)		Recent Iro	on Reduction	n in Tilled	l Soils (C6	S) 🔽 FAC	-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stunted o	r Stressed F	Plants (D1	i) (LRR A	.) Rais	ed Ant Mounds (D6) (LRR A)
_ <b>✓</b> Inundat	ion Visible on Aeri	al Imagery (B7	) Other (Ex	plain in Ren	narks)		Fros	t-Heave Hummocks (D7)
Sparsel	y Vegetated Conc	ave Surface (E	38)					
Field Obser	rvations:		*					
Surface Wat	ter Present?	Yes 🗆 N	lo <u> </u>	iches):				
Water Table	Present?	Yes 🗸 N	lo Depth (ir		_	_		
Saturation F			lo Depth (ir			- N/o+l	and Hudralagu II	resent? Yes 🔽 No 🔲
	pillary fringe)	res_ <u>v</u>	to Debut (ii	iches)		- Avery	allu nyulology r	resent? res <u>v</u> No <u> </u>
		am gauge, mo	nitoring well, aerial	photos, pre	vious ins	pections),	if available:	
Remarks:								
. ,								

Project/Site: Stone Creek - North	City/County: Madis	son Co Sampling Date: 6/11/2013
Applicant/Owner: MDT		State: MT Sampling Point: DP-1w
	Section, Township,	Range: S 12 T 6S R 8W
		/e, convex, none): flat Slope (%):
		306 Long: -112.526928333333 Datum/WGS84
Soil Map Unit Name: Havre-Glendive complex		NWI classification: Upland
Are climatic / hydrologic conditions on the site typical fo		
		re "Normal Circumstances" present? Yes 🗸 No 🗌
Are Vegetation, Soil, or Hydrology	·	f needed, explain any answers in Remarks.)
		nt locations, transects, important features, etc.
		tiocations, transects, important reatures, etc.
Hydrophytic Vegetation Present? Yes   Hydric Soil Present? Yes   ✓		
Wetland Hydrology Present?		tland? Yes <u>V</u> No <u> </u>
Remarks:		
DP in approx 5ft wide emergent riparian wetland	d along Stone Creek.	
VEGETATION – Use scientific names of p	nlante	
VEGETATION - Ose scientific fiames of p	Absolute Dominant Indicat	tor Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Species? Status	
1		That Are OBL, FACW, or FAC: (A)
2	• –	Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		That Are OBL, FACW, or FAC: (A/B)
1	0	Prevalence Index worksheet:
2		
3		FACW species 0 x 2 = 0
4		FAC species 90 x 3 = 270
5		FACU species 0 x 4 = 0
Herb Stratum (Plot size: 5ft )	0 = Total Cover	UPL species 0 x 5 = 0
1 Alopecurus arundinaceus	90 V FAC	Column Totals: 95 (A) 275 (B)
2. Veronica anagallis-aquatica	5 OBL	Prevalence Index = B/A = 2.89474
3		Hydrophytic Vegetation Indicators:
4		1 - Rapid Test for Hydrophytic Vegetation
5		💆 2 - Dominance Test is >50%
6	$\frac{}{}$	
7	$\frac{}{}$	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
8	$\frac{}{}$	5 - Wetland Non-Vascular Plants
9 10.	$\frac{}{}$	Problematic Hydrophytic Vegetation (Explain)
11.		1Indicators of hydric soil and wetland hydrology must
	95 = Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		
1	$\frac{}{}$	Hydrophytic
2		Vegetation Present? Yes ✓ No
% Bare Ground in Herb Stratum0	= Total Cover	
Remarks:		
US Army Corps of Engineers		Western Mountains, Valleys, and Coast – Version 2.0

B-21

SOIL									Sampling Point: DP-1w
Profile Des	cription: (De	scribe to the d	epth need	ed to docu	ment the in	dicator o	or confir	m the absence	
Depth		Matrix		Rede	ox Features				
(inches)	Color (m		Colo	r (moist)	%	Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks
0-4	10YR	3/3 10	0					Clay Loam	
4-12	10YR :	3/1 9	7 10YR	4/6	3	С	М	Sandy Clay	
		D=Depletion, R					d Sand C		cation: PL=Pore Lining, M=Matrix.
		(Applicable to				a.)			ors for Problematic Hydric Soils <sup>3</sup> :
Histoso	, ,			ndy Redox	. ,			_	m Muck (A10)
	pipedon (A2)			pped Matrix		/	MIDAA		l Parent Material (TF2) y Shallow Dark Surface (TF12)
_	istic (A3) en Sulfide (A4	1)			Mineral (F1) Matrix (F2)	(except	WILKA		er (Explain in Remarks)
	•	Surface (A11)		oleted Matri				0.11	er (Explain in Nemarks)
	ark Surface (			dox Dark Si	. ,			<sup>3</sup> Indicate	ors of hydrophytic vegetation and
	Mucky Minera		_		Surface (F7	)			and hydrology must be present,
	Gleyed Matrix			dox Depres		•			ss disturbed or problematic.
Restrictive	Layer (if pre	sent):							
Туре:									
Depth (in	ches):							Hydric Soil	Present? Yes No
Remarks:									
Soil rocky a	at 12in								
HYDROLO	iCV								
	drology Indi	oatore:							
-		num of one requi	ired: check	all that ann	lv)			Seco	ndary Indicators (2 or more required)
	Water (A1)	iani of one regal	red, check	_	••	· /DO\ /==			<del></del>
		2)			ained Leaves		xcept	v	Vater-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (A	2)		_	1, 2, 4A, an	ia 4B)			4A, and 4B)
✓ Saturati			<u> </u>	Salt Crust		(D40)			Prainage Patterns (B10)
	larks (B1)	70)	<u>_</u> _	_	vertebrates				Pry-Season Water Table (C2)
	nt Deposits (i	32)	<b>+</b>	_	Sulfide Odd		libria a Da		saturation Visible on Aerial Imagery (C9)
	posits (B3)	4)	<u>+</u>	_	Rhizosphere	_	_		Geomorphic Position (D2)
_	at or Crust (B	4)	+	_	of Reduced		=		Shallow Aquitard (D3)
	oosits (B5)	(De)	<del>-</del>	_	on Reduction				AC-Neutral Test (D5)
	Soil Cracks		/DZ)	_	r Stressed F		i) (LRR /		Raised Ant Mounds (D6) (LRR A)
		Aerial Imagery		J Other (⊏x	plain in Rem	iarks)			rost-Heave Hummocks (D7)
		Concave Surface	e (B8)						
Field Obser		$\Box$	5	<b>.</b>					
Surface Wat		Yes		_	nches):	_	_		
Water Table	Present?				iches):		_		
Saturation P		Yes _ 🗸	_ No	Depth (ir	nches):		_ We	tland Hydrolog	y Present? Yes <u>✓</u> No <u> </u>
	pillary fringe) corded Data	(stream gauge,	monitorina	well aerial	nhotos nres	vious ins	nections)	) if available:	
Describe ive	corded Data	(Stream gauge,	monttoning	well, achai	priotos, pre-	/1043 II13 <sub>}</sub>	pections	, ii avallabic.	
Domarko									
Remarks:									

Project/Site: Stone Creek - North		City/County: Madison	Со	Samp	ling Date:	6/13/2013	3
Applicant/Owner: MDT				/IT Samp			
**		Section, Township, Rar					_
		Local relief (concave, o			Slo	ne (%):	0
Subregion (LRR): LRR E	L at:	45.3899916666667	Long:	 112.452951666	667 Datu	"WGS84	_
Soil Map Unit Name: Villy silty clay loam	_ Lat			VI classification:			
	· · · · · · · · · · · · · · · · · · ·						_
Are climatic / hydrologic conditions on the site typical for this							٦
Are Vegetation, Soil, or Hydrology sign	-			nstances" present		No _L	
Are Vegetation, Soil, or Hydrology na	aturally pro	blematic? (If ne	eded, explain a	any answers in R	emarks.)		
SUMMARY OF FINDINGS - Attach site map s	howing	sampling point lo	ocations, tr	ansects, imp	ortant fe	atures, et	c.
Hydrophytic Vegetation Present? Yes No							
		Is the Sampled within a Wetlan		Yes <u>V</u> N	ua 🗆		
1 21		within a vvetian	ur	res r	10	<del>-</del>	
Remarks:  DP in common reed veg community, surface water p	rocont in	lowest depressions					
DF III common reed veg community, surface water p	resent in	lowest depressions.					
VEGETATION - Use scientific names of plant	ts.						_
	Absolute	Dominant Indicator	Dominance	Test worksheet	:		
		Species? Status		Dominant Species		1	
1	^		That Are OE	BL, FACW, or FAC	):	(A)	
2		·		er of Dominant		1	
3			Species Acr	oss All Strata:		(B)	
4	0	= Total Cover		ominant Species		1	<b>D</b> .
Sapling/Shrub Stratum (Plot size:)		Total Cover		BL, FACW, or FAC		(A/E	3) —
1	0			Index workshee		li e las ii	
2	0		OBL species	Cover of: 5		5	
3	0				x 2 =	190	
4	0		FAC species		x 3 =	0	
5	0		FACU speci	^	x 4 =	0	
Herb Stratum (Plot size: 5ft )	0	_ = Total Cover	UPL species	^	x 5 =	0	
1 Phragmites australis	95	<b>✓</b> FACW		als: 100	(A)	195 (B	3)
Schoenoplectus acutus	5	OBL		ence Index = B/A	\ _	1.95	
3.	0			c Vegetation Ind			
4	0			d Test for Hydrop		tation	
5	0			inance Test is >5	-		
6	0		<b>⊻</b> 3 - Prev	alence Index is ≤	3.0 <sup>1</sup>		
7	0		4 - Morr	phological Adapta	tions <sup>1</sup> (Prov	vide supportir	ng
8				in Remarks or or and Non-Vascula		sneet)	
9		- <del> </del>		and Non-vascula natic Hydrophytic		<sup>1</sup> (Evolain)	
10				of hydric soil and v			
11	100	= Total Cover		unless disturbed			
Woody Vine Stratum (Plot size:)		Total Covel					
1	0		Hydrophytic	С			
2	0		Vegetation Present?	Vos. 🗸	No [		
0	0	_= Total Cover	riesent	res	<u></u>	<u> </u>	
% Bare Ground in Herb Stratum							
US Army Corps of Engineers			Western Me	ountains, Valleys,	and Coast	- Version 2.	0.
	E	3-23					

SOIL								Sampling Point: DP-20w
Profile Des	cription: (Describe	to the dept	n needed to docui	ment the in	dicator o	or confirm	the absence of	
Depth	Matrix	•		x Features				-
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks
0-12	10YR 2/1	97	10YR 3/4	3	С	PL	Muck	
	-							
<del></del>								
1 <sub>T.,,,,,</sub> , C=C			Dadwaad Matrix Ci					on Di-Doro Lining M-Matrix
	oncentration, D=De Indicators: (Applicators)					a Sand Gr		on: PL=Pore Lining, M=Matrix.  for Problematic Hydric Soils <sup>3</sup> :
Histoso					u.,			luck (A10)
_	pipedon (A2)	_					_	arent Material (TF2)
	istic (A3)	_	Loamy Mucky I		(avaant	MI DA 1\		hallow Dark Surface (TF12)
	en Sulfide (A4)	_	Loamy Gleyed		ехсері	WERA I)		Explain in Remarks)
	d Below Dark Surfa	00 (411)	Depleted Matrix					Explain in Remarks)
	ark Surface (A12)	ce (ATT)	Redox Dark Su				3Indicators	of hydrophytic vegetation and
	Mucky Mineral (S1)	-	Depleted Dark		')			hydrology must be present,
	Gleyed Matrix (S4)	-	Redox Depress		,			listurbed or problematic.
	Layer (if present):		Nedox Depless	510113 (1 0)			umess u	istarbed of problematic.
	Layer (ii present).							
Type:	I X							
Depth (in	ches):		<del></del>				Hydric Soil Pr	esent? Yes <u>V</u> No <u> </u>
Remarks:								
HYDROLO	GY							
Wetland Hy	drology Indicators	:						
-	cators (minimum of		check all that appl	v)			Seconda	ry Indicators (2 or more required)
	Water (A1)			ined Leaves	s (R9) (ex	cent		er-Stained Leaves (B9) (MLRA 1, 2,
_	,			1, 2, 4A, ar	. , ,	cept		A, and 4B)
	ater Table (A2)				IU 46)			•
✓ Saturati	, ,		Salt Crust		(D40)			nage Pattems (B10)
	Marks (B1)		_ ·	vertebrates	, ,			Season Water Table (C2)
	nt Deposits (B2)			Sulfide Odd				ration Visible on Aerial Imagery (C9)
	posits (B3)			Rhizosphere	-	-		morphic Position (D2)
_	at or Crust (B4)			of Reduced			_	low Aquitard (D3)
Iron De	posits (B5)			n Reduction				-Neutral Test (D5)
Surface	Soil Cracks (B6)		L Stunted or	Stressed F	Plants (D1	) (LRR A)	L Rais	ed Ant Mounds (D6) ( <b>LRR A</b> )
_ <b>✓</b> Inundati	ion Visible on Aerial	Imagery (B7	) Other (Exp	olain in Rem	narks)		Fros	t-Heave Hummocks (D7)
Sparsel	y Vegetated Concav	re Surface (B	8)					
Field Obser	vations:							
Surface Wat	ter Present?	Yes 🔲 N	o Depth (in	ches):		_		
Water Table	Present?	Yes 🗸 N	o Depth (in	ches):	3			
Saturation P			o Depth (in			- Motla	and Hydrology P	resent? Yes 🔽 No 🔲
	pillary fringe)	162 1	o Debu (iii	G1163)		-   Wella	ilia Hyarology F	resent: res <u> </u>
	corded Data (strear	n gauge, mor	nitoring well, aerìal	photos, pre	vious insp	pections), i	f available:	
Remarks:								

Project/Site: Stone Creek - North	(	city/County: Madison	Со		Sampling	ı Date:	6/13/2	2013
Applicant/Owner: MDT	`	only county.		: MT				
		Section, Township, Rar				R 7W		
		Local relief (concave, c						0
Subregion (LRR): LRR E		•					–	
Soil Map Unit Name: Villy silty clay loam							n.v.v. OOC	
			_	NWI classifi		"		
Are climatic / hydrologic conditions on the site typical for this	_							
Are Vegetation, Soil, or Hydrology si	-		Normal Circ	umstances"	present? `	Yes <u></u> ✓	No	
Are Vegetation, Soil, or Hydrology n	aturally prob	olematic? (If ne	eded, explai	n any answ	ers in Rema	arks.)		
SUMMARY OF FINDINGS - Attach site map s	showing	sampling point lo	ocations,	transect	s, import	ant fea	atures	, etc.
Hydrophytic Vegetation Present? Yes V	o							
	o	Is the Sampled		[				
Wetland Hydrology Present? Yes No	o	within a Wetlan	d?	Yes	✓ No_	Ш		
Remarks:								
DP in emergent wetland dominated by eleocharis co	mmunity.							
VEGETATION – Use scientific names of plan	ite							
VEGETATION — Ose scientific flames of plan	Absolute	Dominant Indicator	Dominan	ce Test wo	rkshoot.			
Tree Stratum (Plot size:)		Species? Status		of Dominant				
1				OBL, FACW			1	(A)
2			Total Num	nber of Dom	inant		4	
3			Species A	Across All St	rata:		1	(B)
4	0		Percent of	f Dominant :	Species		1	
Sapling/Shrub Stratum (Plot size: )	0	_= Total Cover	That Are (	OBL, FACW	I, or FAC:		1	(A/B)
1	0			ce Index wo				
2	0			% Cover of				7
3.	0		OBL spec		93 x		93	=
4.	^			ecies	_		4	=
5	0		FAC spec				15 0	=
	0	= Total Cover	1	ecies	x,	4 =	0	=
Herb Stratum (Plot size: 5ft)  Agrostis gigantea	5	□ FAC	UPL spec	otals: 1		5 =	112	(B)
2 Eleocharis palustris	90	OBL	Column	otals.	(A,	/	1.12	_ (B)
3 Schoenoplectus acutus	3	OBL OBL		/alence Inde				
Epilobium ciliatum		FACW		ytic Vegeta				
7.				apid Test for		_	ation	
5				ominance Te revalence In				
7	0			evalence in orphological			ido cupr	oortina
8	0			ita in Remar				Jorting
9.	0		5 - W	etland Non-	·Vascular Pl	ants <sup>1</sup>		
10	0		Proble	ematic Hydr	rophytic Veç	getation <sup>1</sup>	(Explain	n)
11	0			s of hydric s				ıust
	100	= Total Cover	be presen	it, unless dis		robiema	IIC.	
Woody Vine Stratum (Plot size:)	0							
1			Hydrophy Vegetatio					
2	0	= Total Cover	Present?	γ	res 🔽	No _		
% Bare Ground in Herb Stratum		_= Total Cover						
Remarks:								
US Army Corps of Engineers			Western	Mountains,	Valleys, an	d Coast	– Versio	n 2.0
	В	-25						

SOIL			Sampling Point: DP-21w
Profile Description: (Descr	ibe to the depth	needed to document the indicator or c	
DepthMatri		Redox Features	
(inches) Color (moist) 0-10 10YR 2/1	100	Color (moist) % Type Lo	DC <sup>2</sup> Texture Remarks  Muck
		Reduced Matrix, CS=Covered or Coated Sa	
	plicable to all L	RRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Sul Thick Dark Surface (A12)		Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) (except ML Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6)	□ 2 cm Muck (A10) □ Red Parent Material (TF2) RA 1) □ Very Shallow Dark Surface (TF12) □ Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S	1) _[	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4		Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present	t):		
Туре:		<u></u>	
Depth (inches):			Hydric Soil Present? Yes No
HYDROLOGY			
Wetland Hydrology Indicate	are:		
Primary Indicators (minimum		check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1)	or one required,		
✓ High Water Table (A2)		L Water-Stained Leaves (B9) (excep MLRA 1, 2, 4A, and 4B)	ot Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Saturation (A3)		Salt Crust (B11)	Drainage Pattems (B10)
Water Marks (B1)		Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Sediment Deposits (B2)		✓ Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Oxidized Rhizospheres along Livin	
Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5)		Recent Iron Reduction in Tilled So	
Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (L	
✓ Inundation Visible on Aer	ial Imagery (B7)	Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Cond	cave Surface (B	3)	
Field Observations:		_	
Surface Water Present?	Yes 🔽 N	o Depth (inches):2	
Water Table Present?	Yes 🔽 N	o Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes V N	o Depth (inches): itoring well, aerial photos, previous inspect	Wetland Hydrology Present? Yes V No No
Describe Recorded Data (stre	am gauge, mon	itoring well, aerial photos, previous inspect	ions), ir available.
Remarks:			

Project/Site: Stone Creek - North	Cit	y/County:	Madison	Со		Sam	oling Date:	6/13/	/2013
Applicant/Owner: MDT							oling Point:		
	Se	ection. Tov	wnship. Ran	ae: S	15	<b>T</b> 5S	<b>R</b> 7W		
Landform (hillslope, terrace, etc.): Valley bottom	Lo	ocal relief	(concave c	onvex none	) flat		Slo	pe (%):	36.3
Subregion (LRR): LRR E	Lat: 4	5.393781	16666667	Long:	· /·	-112.45	 1185 <sub>Dati</sub>	<sub>ım</sub> WGS	84
Soil Map Unit Name: Villy silty clay loam				1					
Are climatic / hydrologic conditions on the site typical for this	Name of court		_						
<u> </u>	-								
Are Vegetation, Soil, or Hydrology si	-							<u> </u>	' <u> </u>
Are Vegetation, Soil, or Hydrology na SUMMARY OF FINDINGS - Attach site map s				eded, explair	-			aturos	e otc
			g point ic	, cations,	ti aii 30	, m	ortant it	Jature	, c.c.
Hydrophytic Vegetation Present?  Yes V  Hydric Soil Present?  Yes No		Is the	e Sampled	Area					
· ·		withi	n a Wetlan	d?	Yes _		No 🔽	_	
Remarks:									
DP in scrub/shrub upland outside direct influence of	irrigation ca	ınal.							
VEGETATION – Use scientific names of plan	t-a								
VEGETATION – Use scientific names of plan		Daminant	la dia atau	Daminan	. T t.		4.		
Tree Stratum (Plot size:)	Absolute <u>% Cover</u>		Indicator Status	Dominand Number of					
1	0			That Are C				3	(A)
2	0			Total Num	her of D	ominant			
3				Species A				4 	(B)
4				Percent of	Domina	nt Species	:	0.75	
Sapling/Shrub Stratum (Plot size: 15ft )	=	Total Co	ver	That Are C				0.75	(A/B)
Salix exigua	70	<b>✓</b>	FACW	Prevalenc	e Index	workshee	et:		
Sarcobatus vermiculatus	10		FACU	Total	% Cover	of:	<u>Multip</u>	oly by:	$\neg$
3	0			OBL speci			x 1 =	0	=
4	0			FACW spe		00	x 2 =	140	=
5	0			FAC speci		10	x 3 =	180 40	=
5ft	80	= ⊺otal Co	ver	FACU spe		25	x 4 =	125	=
Herb Stratum (Plot size: 5ft Cardaria draba	25	<b>✓</b>	UPL	UPL speci		405	(A)	485	(B)
2. Bromus inermis	30	<u> </u>	FAC				2	93939	<u> </u>
Poa pratensis	30	<b>V</b>	FAC			ndex = B/	A =		
4.	0			Hydrophy			ncators: phytic Vege	atation.	
5	0			2 - Do		•		etation	
6.	Λ					e Index is ≤			
7	0						ations <sup>1</sup> (Pro	vide sup	portina
8.	0						n a separat		
9	0			🖳 5 - We					
10	0			Proble	ematic H	ydrophytic	Vegetation	n¹ (Expla	in)
11	0						wetland hy or problem		nust
Woody Vine Stratum (Plot size:)	=	Total Cov	/er	be present	i, umoss	distarbed	or problem	atio.	
1	0			l la selacione	4:-				
2	0			Hydrophy Vegetatio		_	_		
0	0 =	Total Cov		Present?		Yes	No_		
% Bare Ground in Herb Stratum			- 40						
Remarks:									
US Army Corns of Engineers				Master	Mountai	ac \/alla	and Car-	+ \/a==	on 2 0
US Army Corps of Engineers				vvesterni	wountail	is, valleys	, and Coas	ı – versi	UII Z.U

SOIL						Sampling Point: DP-22u
Profile Desc	ription: (E	Describe	to the dep	th needed to document the indicator or co	onfirm the abser	nce of indicators.)
Depth		Matrix		Redox Features		
(inches) 0-6	Color (	moist) 3/3	<u>%</u> 100	Color (maist) % Type Lo	<u>Clay Loam</u>	
6-12	10YR	4/3	100		Clay Loam	1
12-17	10YR	4/2	100		Clay	
						_
				Reduced Matrix, CS=Covered or Coated Sa		Location: PL=Pore Lining, M=Matrix.
		: (Applica	able to all	LRRs, unless otherwise noted.)		cators for Problematic Hydric Soils <sup>3</sup> :
Histosol		2.		Sandy Redox (S5)		2 cm Muck (A10)
Black Hi	oipedon (A2	2)		<ul><li></li></ul>		Red Parent Material (TF2) Very Shallow Dark Surface (TF12)
	en Sulfide (A	A4)		Loamy Gleyed Matrix (F2)		Other (Explain in Remarks)
	d Below Da		e (A11)	Depleted Matrix (F3)		CAPIGN IN NOTICE (EXPLAINE)
	ark Surface		,	Redox Dark Surface (F6)	<sup>3</sup> Indi	cators of hydrophytic vegetation and
	lucky Mine			Depleted Dark Surface (F7)	w	etland hydrology must be present,
	Sleyed Matr	. ,		Redox Depressions (F8)	uı	nless disturbed or problematic.
Restrictive I	Layer (if pr	resent):				
Type:						
Depth (inc	ches):			<del></del>	Hydric S	Soil Present? Yes _ U No _ 🗹
Remarks:	احدا مدادا	40:		in unner 40in of sell		
Ca accumu	iation beid	JW I∠III.,	no redox	in upper 12in of soil.		
	<b>0</b> 1/					
HYDROLO						
Wetland Hyd					_	
	•		ne required	l; check all that apply)		econdary Indicators (2 or more required)
	Water (A1)			Water-Stained Leaves (B9) (excep	ot <u> </u>	Water-Stained Leaves (B9) (MLRA 1, 2,
	iter Table (/	A2)		MLRA 1, 2, 4A, and 4B)	Г	4A, and 4B)
Saturation				Salt Crust (B11)		☐ Drainage Pattems (B10)
_	larks (B1)	(D2)		☐ Aquatic Invertebrates (B13)☐ Hydrogen Sulfide Odor (C1)		Dry-Season Water Table (C2)
	nt Deposits posits (B3)	(DZ)		Nydrogen Suilide Odor (CT) Oxidized Rhizospheres along Livin	a Boots (C3)	Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
	at or Crust (	'RA')		Presence of Reduced Iron (C4)	ig (C5)	☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3)
	osits (B5)	(04)		Recent Iron Reduction in Tilled Soi	ils (C6)	FAC-Neutral Test (D5)
	Soil Cracks	s (B6)		Stunted or Stressed Plants (D1) (L		Raised Ant Mounds (D6) (LRR A)
	on Visible o		magery (B7			Frost-Heave Hummocks (D7)
	/ Vegetated					
Field Observ	vations:					
Surface Wate	er Present?	Υ.	es 1	No Depth (inches):		
Water Table	Present?	Y	es 1	No Depth (inches):		
Saturation Pr	resent?	Y	es t	No <b>✓</b> Depth (inches):	Wetland Hydro	logy Present? Yes 🔲 No 🔽
(includes cap			00H00 ~~	nitoring well, aerìal photos, previous inspecti	ione) if available	
Describe Ke	corueu Dati	a (sireain	yauye, 1110	mnoming well, aerial priotos, previous inspecti	ions), ii avallable	
Remarks:						
	hydro indi	cator, wa	iter table	~4ft below surface		
	•	,				

Project/Site: Stone Creek - North	(	City/County: Madison	Со		Samplir	ng Date:	6/13/	2013
Applicant/Owner: MDT				MT				
	•	Section, Township, Ran	_	15 <b>T</b>				-
		Local relief (concave, c		<sub>Դ</sub> . flat		Slo	ne (%):	36.3
Subregion (LRR): LRR E								
Soil Map Unit Name: Villy silty clay loam	_ Lat							
Are climatic / hydrologic conditions on the site typical for this	a time of year							
Are Vegetation, Soil, or Hydrology s	-						Na	
	-		Normal Circu				NO	
Are Vegetation, Soil, or Hydrology n		,	eded, explair	-		,		
SUMMARY OF FINDINGS – Attach site map	showing	sampling point lo	cations,	transect	s, impo	rtant fe	atures	i, etc.
	o	Is the Sampled	Aron					
	o <u> </u>	within a Wetlan		Yes	✓ No			
Wetland Hydrology Present? Yes V No	<u> </u>							
DP in scrub/shrub wetland.								
VEGETATION – Use scientific names of plan	ıts.							
Tree Stratum (Plot size:)	Absolute	Dominant Indicator Species? Status	Dominano	e Test wo	rksheet:			
1		Species: Status		f Dominant DBL, FACW			3	(A)
2.	^							6.0
3.	^			ber of Dom cross All St			3	(B)
4.	0							(-)
154	0	= Total Cover		Dominant  BL, FACW			1	(A/B)
Sapling/Shrub Stratum (Plot size: 15ft )  1 Salix exigua	85	<b>✓</b> FACW	Prevalenc	e Index w	orksheet:			
2 Rosa multiflora	- <del> </del>	FACU	Total '	% Cover of	<u>f</u>	Multip	ly by:	_
			OBL speci	es	<u> </u>	د 1 = <u></u>	0	
3			FACW spe	ecies		ر 2 = <u> </u>	170	_
4			FAC speci	es		ر ع = <u></u>	105	_
5	95	= Total Cover		cies		< 4 =	40	=
Herb Stratum (Plot size: 5ft)			UPL speci		100	< 5 =	0	_
1. Bromus inermis		FAC	Column To	otals:	130(/	A)	315	(B)
Poa pratensis	- <del>- 15</del> 0	FAC	Prev	alence Inde	ex = B/A =	2.4	2308	_
3				rtic Vegeta				
4				pid Test fo		-	tation	
5				minance T				
6				evalence In				
7			dat	orphologica ta in Remai	rks or on a	ons" (Prov i separate	/ide supp e sheet)	porting
9.	0			etland Non-			,	
10	0		Proble	ematic Hydi	rophytic V	egetation	¹ (Explai	n)
11.	0			of hydric s				nust
	35	= Total Cover	be present	t, unless di	sturbed or	problema	ıtic.	
Woody Vine Stratum (Plot size:)	0							
1	0		Hydrophy					
2			Vegetatio Present?	΄΄ Υ	res 🔽	No		
% Bare Ground in Herb Stratum		= Total Cover						
Remarks:			I.					-
			184					
US Army Corps of Engineers			vvestern l	Mountains,	Valleys, a	nd Coast	– Versio	on 2.0
	В	-29						

Profile Desc			•							
Depth (inches)	Cala	Matrix (maiet)	%	Calca		x Features	Tues a 1	1.5-2	Taritira	Donastis
(inches) 0-6	10YR	(moist) 3/2	95	10YR	(moist) 4/6	- <u>%</u> - 5	Type <sup>1</sup> C	Loc <sup>2</sup>	<u>Texture</u> Clay Loam	Remarks
6-12	10YR	4/2	95	10YR	4/6	5		M	Clay Loam	
									-	
Type: C=Co	ncentration	on, D=Depl	etion, RM:	=Reduce	d Matrix, CS	S=Covered	or Coate	ed Sand G	- ————— Brains.	cation: PL=Pore Lining, M=Matrix.
Hydric Soil I										ors for Problematic Hydric Soils <sup>3</sup> :
Histosol					dy Redox (				_	m Muck (A10)
	pipedon (A	.2)			oped Matrix					d Parent Material (TF2)
Black His	. ,	(0.4)				Mineral (F1)		t MLRA 1		y Shallow Dark Surface (TF12) er (Explain in Remarks)
	n Sulfide I Below D	(A4) ark Surface	(A11)		my Gleyed leted Matrix				Oth	ет (схрыш ін кешатка)
	rk Surfac		(////	_ :	lox Dark Su	. ,			<sup>3</sup> Indicate	ors of hydrophytic vegetation and
	lucky Min			$\equiv$		Surface (F7	<b>'</b> )			and hydrology must be present,
_	leyed Ma				lox Depress					ss disturbed or problematic.
Restrictive L	ayer (if p	resent):								
Туре:										
Depth (inc	ches):								Hydric Soil	Present? Yes <u>V</u> No <u> </u>
Remarks:										
IYDROLO(		ndicators:								
IYDROLOO Wetland Hyd	irology Ir		ne require	d check a	all that appl	V)			Seco	ndary Indicators (2 or more required)
IYDROLOG Wetland Hyd Primary Indic	drology Ir ators (mir	nimum of or	ne require	d; check a	,	••	s (B9) (e	vcent		ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1 2
IYDROLOG Wetland Hyc Primary Indic Surface N	drology Ir ators (mir Water (A1	nimum of or )	ne require	d; check a	Water-Sta	ined Leave:		xcept		Vater-Stained Leaves (B9) (MLRA 1, 2,
IYDROLOO Wetland Hyo Primary Indic Surface V	drology Ir ators (mir Water (A1 ter Table	nimum of or )	ne require	d; check a	Water-Sta	ined Leaves 1, 2, 4A, ar		xcept	v	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
IYDROLOO Wetland Hyo Primary Indic Surface V High Wa Saturatio	drology Ir ators (mir Water (A1 ter Table en (A3)	nimum of or )	ne require	d; check a	Water-Sta MLRA Salt Crust	ined Leaves <b>1, 2, 4A, a</b> r (B11)	nd 4B)	xcept	v	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Prainage Pattems (B10)
IYDROLOG Wetland Hyd Primary Indic Surface N High Wa Saturatio Water M:	drology Ir ators (mir Water (A1 ter Table en (A3)	nimum of or ) (A2)	ne require	d; check a	Water-Sta MLRA Salt Crust Aquatic In	ined Leaves 1, 2, 4A, ar	(B13)	xcept	v	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
IYDROLOG Wetland Hyd Primary Indic Surface N High Wa Saturatio Water M:	drology Ir sators (mir Water (A1 ter Table en (A3) arks (B1) it Deposits	nimum of or ) (A2) s (B2)	e require	d; check a	Water-Sta MLRA Salt Crust Aquatic In Hydrogen	ined Leaves 1, 2, 4A, ar (B11) vertebrates	(B13) or (C1)	·		Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Pattems (B10) Ory-Season Water Table (C2)
IYDROLOG Wetland Hyd Primary Indic Surface V High Wa Saturatio Water Mater Mat	drology Ir sators (mir Water (A1 ter Table en (A3) arks (B1) it Deposits	nimum of or ) (A2) s (B2)	ne require	d; check a	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F	ined Leaves  1, 2, 4A, ar  (B11)  vertebrates  Sulfide Odd	(B13) or (C1) es along	Living Ro	V C C C S oots (C3) G	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Pattems (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9
IYDROLOG Wetland Hyd Primary Indic Surface V High Wa Saturatio Water Mater Mat	drology Ir lators (mir water (A1 ter Table on (A3) larks (B1) obsits (B3) t or Crust	imum of or ) (A2) s (B2) (B4)	ne require	d; check a	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F	ined Leaves  1, 2, 4A, ar  (B11)  vertebrates  Sulfide Odo  Rhizosphere	(B13) or (C1) es along	Living Ro	□ V □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Pattems (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) (AC-Neutral Test (D5)
Wetland Hyden Surface Management of the Saturation Water Management Sediment Algal Management Manag	drology Ir sators (mir water (A1 ter Table on (A3) arks (B1) it Deposits posits (B3) t or Crust osits (B5)	(A2)  (B2)  (B4)	ie require	d; check a	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or	ined Leaves 1, 2, 4A, ar (B11) vertebrates Sulfide Odd Rhizosphere of Reduced in Reduction Stressed F	nd 4B)  (B13) or (C1) es along I Iron (C4) n in Tille Plants (D	Living Ro 4) d Soils (C	Ots (C3)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Orainage Pattems (B10)  Ory-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Seomorphic Position (D2)  Shallow Aquitard (D3)  CAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
IYDROLOG Wetland Hyc Primary Indic Surface S High Wa Saturatio Water Mater Mat	drology Ir lators (mir Water (A1 ter Table on (A3) arks (B1) it Deposits losits (B3) it or Crust osits (B5) Soil Crack on Visible	nimum of or ) (A2) s (B2) (B4) ss (B6) on Aerial In	nagery (B	7)	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or	ined Leaves  1, 2, 4A, ar  (B11) vertebrates Sulfide Odd Rhizosphere of Reduced in Reduction	nd 4B)  (B13) or (C1) es along I Iron (C4) n in Tille Plants (D	Living Ro 4) d Soils (C	Ots (C3)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Pattems (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) (AC-Neutral Test (D5)
IYDROLOG Wetland Hyc Primary Indic Surface V High Wa Saturatio Water Mater Mat	drology Ir ators (mir Water (A1 ter Table on (A3) arks (B1) at Deposits osits (B3) t or Crust osits (B5) Soil Crack on Visible	(B4)	nagery (B	7)	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or	ined Leaves 1, 2, 4A, ar (B11) vertebrates Sulfide Odd Rhizosphere of Reduced in Reduction Stressed F	nd 4B)  (B13) or (C1) es along I Iron (C4) n in Tille Plants (D	Living Ro 4) d Soils (C	Ots (C3)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Orainage Pattems (B10)  Ory-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Seomorphic Position (D2)  Shallow Aquitard (D3)  CAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
Wetland Hyde Primary Indice Surface Water Manager Mana	drology Ir lators (mir Water (A1 ter Table on (A3) arks (B1) arks (B3) t Deposits losits (B3) t or Crust osits (B5) Soil Crack on Visible Vegetate vations:	imum of or ) (A2) s (B2) (B4) ss (B6) on Aerial Ir d Concave	nagery (B Surface (	7) B8)	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or	ined Leaves  1, 2, 4A, ar  (B11) vertebrates Sulfide Odo Rhizosphere of Reduced in Reduction Stressed F blain in Rem	(B13) or (C1) es along I Iron (C4 n in Tille Plants (D narks)	Living Ro 4) d Soils (C 1) (LRR /	Ots (C3)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Orainage Pattems (B10)  Ory-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Seomorphic Position (D2)  Shallow Aquitard (D3)  CAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
IYDROLOG  Wetland Hyc  Primary Indic  Surface V  High Wa  Saturatio  Water Mandal Mand	drology Ir lators (mir Water (A1 ter Table on (A3) arks (B1) arks (B3) arks (B3) tor Crust osits (B5) Soil Crack on Visible Vegetate vations:	imum of or ) (A2) s (B2) (B4) ss (B6) on Aerial Ir d Concave	nagery (B Surface (	7) B8)	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leaves 1, 2, 4A, ar (B11) vertebrates Sulfide Odd Rhizosphere of Reduced in Reduction Stressed F blain in Rem	(B13) or (C1) es along I Iron (C4 n in Tille Plants (D narks)	Living Ro 4) d Soils (C 1) (LRR /	Ots (C3)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Orainage Pattems (B10)  Ory-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Seomorphic Position (D2)  Shallow Aquitard (D3)  CAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
IYDROLOG  Wetland Hyd  Primary Indic  Surface V  High Wa  Saturatio  Water Ma  Sedimen  Algal Ma  Iron Dep  Surface S  Inundatio  Sparsely  Field Observ  Surface Water  Water Table	drology Ir lators (mir Water (A1 ter Table on (A3) arks (B1) at Deposits losits (B3) for Crust losits (B5) Soil Crack on Visible Vegetate vations: er Present?	imum of or ) (A2) (B2) (B4) (S (B6) on Aerial Ir d Concave ? Ye	nagery (B Surface (	7) B8) No <b>Y</b>	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leaves 1, 2, 4A, ar (B11) vertebrates Sulfide Odd Rhizosphere of Reduced in Reduction Stressed F blain in Ren ches): ches):	(B13) (B13) or (C1) es along I Iron (C4 n in Tille Plants (D narks)	Living Ro 4) d Soils (C 1) (LRR /	oots (C3)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Staturation Visible on Aerial Imagery (C9) Secomorphic Position (D2) Shallow Aquitard (D3) EAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
IYDROLOG  Wetland Hyc  Primary Indic  Surface V  High Wa  Saturatio  Water Mand Mand Mand Mand Mand Mand Mand Mand	drology Ir lators (mir water (A1 ter Table on (A3) arks (B1) arks (B3) arks (B3) to Crust losits (B5) Soil Crack on Visible vegetate vations: er Present? resent?	imum of or ) (A2) (B4) (S (B6) on Aerial Ir d Concave Ye Ye	nagery (B Surface ( es es	7) B8) Vo V	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leaves  1, 2, 4A, ar  (B11) vertebrates Sulfide Odd Rhizosphere of Reduced in Reduction Stressed F blain in Ren  ches): ches): ches):	(B13) (B13) or (C1) es along I Iron (C4 n in Tille Plants (D narks)	Living Ro 4) d Soils (C 1) (LRR /	ots (C3)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Orainage Pattems (B10)  Ory-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Seomorphic Position (D2)  Shallow Aquitard (D3)  CAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)
Primary Indic  Primary Indic  Surface V  High Wa  Saturatio  Water Ma  Sedimen  ✓ Drift Dep  Algal Ma  Iron Dep  Surface S  Inundatic  Sparsely  Field Observ  Surface Water  Water Table I  Saturation Pr	drology Ir lators (mir water (A1 ter Table on (A3) arks (B1) arks (B3) arks (B3) to Crust losits (B5) Soil Crack on Visible vegetate vations: er Present? resent?	imum of or ) (A2) (B4) (S (B6) on Aerial Ir d Concave Ye Ye	nagery (B Surface ( es es	7) B8) Vo V	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leaves  1, 2, 4A, ar  (B11) vertebrates Sulfide Odd Rhizosphere of Reduced in Reduction Stressed F blain in Ren  ches): ches): ches):	(B13) (B13) or (C1) es along I Iron (C4 n in Tille Plants (D narks)	Living Ro 4) d Soils (C 1) (LRR /	ots (C3)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Staturation Visible on Aerial Imagery (C9) Secomorphic Position (D2) Shallow Aquitard (D3) EAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
IYDROLOG Wetland Hyc Primary Indic Surface V High Wa Saturatio Water Mater Mat	drology Ir lators (mir water (A1 ter Table on (A3) arks (B1) arks (B3) arks (B3) to Crust losits (B5) Soil Crack on Visible vegetate vations: er Present? resent?	imum of or ) (A2) (B4) (S (B6) on Aerial Ir d Concave Ye Ye	nagery (B Surface ( es es	7) B8) Vo V	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leaves  1, 2, 4A, ar  (B11) vertebrates Sulfide Odd Rhizosphere of Reduced in Reduction Stressed F blain in Ren  ches): ches): ches):	(B13) (B13) or (C1) es along I Iron (C4 n in Tille Plants (D narks)	Living Ro 4) d Soils (C 1) (LRR /	ots (C3)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Staturation Visible on Aerial Imagery (C9) Secomorphic Position (D2) Shallow Aquitard (D3) EAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
IYDROLOG  Wetland Hyc  Primary Indic  Surface V  High Wa  Saturatio  Water Mand Mand Mand Mand Mand Mand Mand Mand	drology Ir lators (mir water (A1 ter Table on (A3) arks (B1) arks (B3) arks (B3) to Crust losits (B5) Soil Crack on Visible vegetate vations: er Present? resent?	imum of or ) (A2) (B4) (S (B6) on Aerial Ir d Concave Ye Ye	nagery (B Surface ( es es	7) B8) Vo V	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leaves  1, 2, 4A, ar  (B11) vertebrates Sulfide Odd Rhizosphere of Reduced in Reduction Stressed F blain in Ren  ches): ches): ches):	(B13) (B13) or (C1) es along I Iron (C4 n in Tille Plants (D narks)	Living Ro 4) d Soils (C 1) (LRR /	ots (C3)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Staturation Visible on Aerial Imagery (C9) Secomorphic Position (D2) Shallow Aquitard (D3) EAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
IYDROLOG Wetland Hyc Primary Indic Surface V High Wa Saturatio Water Mater Mat	drology Ir lators (mir water (A1 ter Table on (A3) arks (B1) arks (B3) arks (B3) to Crust losits (B5) Soil Crack on Visible vegetate vations: er Present? resent?	imum of or ) (A2) (B4) (S (B6) on Aerial Ir d Concave Ye Ye	nagery (B Surface ( es es	7) B8) Vo V	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leaves  1, 2, 4A, ar  (B11) vertebrates Sulfide Odd Rhizosphere of Reduced in Reduction Stressed F blain in Ren  ches): ches): ches):	(B13) (B13) or (C1) es along I Iron (C4 n in Tille Plants (D narks)	Living Ro 4) d Soils (C 1) (LRR /	ots (C3)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Staturation Visible on Aerial Imagery (C9) Secomorphic Position (D2) Shallow Aquitard (D3) EAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Project/Site: Stone Creek - North	City/County: Madisor	ı Co	Sampling Date:6/13/2013
Applicant/Owner: MDT	only, o out thy:		Sampling Point: DP-24w
	Section, Township, Ra		
Landform (hillslope, terrace, etc.): Shoreline	Section, Township, Ne	ganyay nana): flat	Slope (%):36.3
Subregion (LRR): LRR E	Local relief (concave,	7	-112.44987 Datum WGS84
Soil Map Unit Name: Havre loam	_	NWI cla	
Are climatic / hydrologic conditions on the site typical for this		(If no, explain	
Are Vegetation, Soil, or Hydrology s	ignificantly disturbed? Are	"Normal Circumstand	ces" present? Yes 🔽 No 🔲
Are Vegetation, Soil, or Hydrology n	aturally problematic? (If n	eeded, explain any a	nswers in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing sampling point	ocations, transe	ects, important features, etc.
Hydrophytic Vegetation Present? Yes V	o <u> </u>		
	o Is the Sample		
	o within a Wetla	nd? Yes	No
Remarks:			
DP in narrow wetland margin along irrigation ditch.			
VECETATION Has acceptific names of plan	·4~		
VEGETATION – Use scientific names of plan		\D ·	
Tree Stratum (Plot size:)	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test	
1		<ul> <li>Number of Domin</li> <li>That Are OBL, FA</li> </ul>	
2	• □	Total Number of [	Cominant
3	0	Species Across A	
4		· .	<del></del>
	= Total Cover	Percent of Domin That Are OBL, FA	
Sapling/Shrub Stratum (Plot size:)	0 □	Prevalence Index	
1	$-\frac{0}{0}$		er of: Multiply by:
2		OBL species	4.0
3	$-\frac{0}{0}$		0 x 2 = 0
4	$-\frac{0}{0}$	FAC species _	92 <sub>x 3 = 276</sub>
5		FACU species _	
Herb Stratum (Plot size: 5ft )	= Total Cover	UPL species _	0 x 5 = 0
Asclepias speciosa	5   FAC	Column Totals:	102 (A) 286 (B)
Alopecurus arundinaceus	65 <u>V</u> FAC	•	2 80392
Scirpus microcarpus	5 OBL		Index = B/A = getation Indicators:
4 Eleocharis palustris	5 OBL		st for Hydrophytic Vegetation
Glycyrrhiza lepidota	2		ce Test is >50%
6. Poa pratensis			ce Index is ≤3.0 <sup>1</sup>
7			gical Adaptations <sup>1</sup> (Provide supporting
8.	0 🔲		emarks or on a separate sheet)
9.	0 🗌	5 - Wetland N	Non-Vascular Plants <sup>1</sup>
10.	0 🗌	Problematic	Hydrophytic Vegetation <sup>1</sup> (Explain)
11.	0 🔲		ric soil and wetland hydrology must
	102 = Total Cover	be present, unless	s disturbed or problematic.
Woody Vine Stratum (Plot size:)			
1	$-\frac{0}{2}$	Hydrophytic	
2		Vegetation Present?	Yes 🔽 No
% Para Cround in Hash Stratum	0= Total Cover	i leacht:	.03 100
% Bare Ground in Herb Stratum			
US Army Corps of Engineers		Western Mounta	ins, Valleys, and Coast – Version 2.0
and the second s	D 24		, ,
	B-31		

SOIL										Sampling Point: DP-24w
Profile Desc	cription: (	Describe	to the dep	th neede	ed to docu	ment the in	dicator	or confir	m the absence	
Depth		Matrix			Redo	ox Features			_	
(inches)		(moist)	%	Color	(moist)	%	Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks
0-5	10YR	2/2	100						Clay Loam	
5-12	10YR	4/2	95	10YR	4/4	5	С	M	Clay	
12-16	10YR	4/1	95	10YR	4/4	5	D	M	Clay	
								-		
	-									
<sup>1</sup> Type: C=C								d Sand G		ation: PL=Pore Lining, M=Matrix.
Hydric Soil		: (Applic	able to all				d.)			rs for Problematic Hydric Soils <sup>3</sup> :
Histosol	, ,				dy Redox (					Muck (A10)
	pipedon (A	2)			oped Matrix		/		_	Parent Material (TF2)
	istic (A3) en Sulfide (	(ΔΔ)				Mineral (F1) Matrix (F2)	(excepi	I WILKA 1	, — ·	r Shallow Dark Surface (TF12) er (Explain in Remarks)
	d Below Da		e (A11)		oleted Matri				Othe	(Explain in Kemarks)
	ark Surface		- ( )		lox Dark Su	. ,			<sup>3</sup> Indicato	rs of hydrophytic vegetation and
	Mucky Mine			Dep	leted Dark	Surface (F7	<b>'</b> )			nd hydrology must be present,
	Gleyed Mat			Rec	lox Depres	sions (F8)			unles	s disturbed or problematic.
Restrictive	Layer (if p	resent):								
Туре:										
Depth (in	ches):								Hydric Soil	Present? Yes <u>V</u> No
HYDROLO	GY									
Wetland Hy	drology In	dicators:								
Primary Indi	-		ne required	d; check	all that app	ly)			<u>Secon</u>	dary Indicators (2 or more required)
Surface	Water (A1	)			Water-Sta	ained Leaves	s (B9) ( <b>e</b> :	xcept	w	ater-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (	(A2)			1	1, 2, 4A, ar	nd 4B)			4A, and 4B)
<u>✓</u> Saturati	, ,			<u> </u>	Salt Crust					rainage Pattems (B10)
	larks (B1)					vertebrates				ry-Season Water Table (C2)
	nt Deposits			<u> </u>	-	Sulfide Odd				aturation Visible on Aerial Imagery (C9)
_	posits (B3)				-	Rhizosphere	_	_		eomorphic Position (D2)
	at or Crust posits (B5)	(64)		+		of Reduced on Reduction		-		nallow Aquitard (D3) AC-Neutral Test (D5)
	Soil Crack	e (B6)		-	7	r Stressed F				aised Ant Mounds (D6) (LRR A)
	ion Visible		magery (B	7)		plain in Rem		) (LIXIX)		rost-Heave Hummocks (D7)
	y Vegetate				J Other (EX	piair iii recii	iai koj			ost-ricave riaminosks (B7)
Field Obser	, ,			/						
Surface Wat		? Y	es 🗌	No 🔽	Depth (in	nches):				
Water Table					_	nches):				
Saturation P	resent?	Y				iches):			tland Hydrology	Present? Yes V No
			gauge, mo	nitoring	well, aerìal	photos, prev	vious ins	pections)	), if available:	
Remarks:	1 4	·								
Hydro strict	ly trom irri	igation ca	anal							

Project/Site: Stone Creek - North	C	ity/County	Madison	Co		Sam	pling Date:	6/13/	/2013
Applicant/Owner: MDT							pling Point:		
Investigator(s): B Sandefur	8	Section, To	wnship, Rar	nge: S	15	T 5S	<b>R</b> 7W	ı	
									0
Subregion (LRR): LRR E									
Soil Map Unit Name: Havre loam									
Are climatic / hydrologic conditions on the site typical for th									
Are Vegetation, Soil, or Hydrology	_							No.	, $\Box$
Are Vegetation, Soil, or Hydrology				eded, expla		·			
				· ·	_			t	
SUMMARY OF FINDINGS – Attach site map		Sampiin	g point it	Cations	, transe		Jortant 10		s, etc.
Hydrophytic Vegetation Present?  Yes   Hydric Soil Present?  Yes   Yes		Is th	e Sampled	Area		_	_		
	No	with	in a Wetlan	d?	Yes _		No <u> </u>	_	
Remarks:									
DP at head of wetland, small berm controls any fur	ther upgradi	ent inund	ation.						
VEGETATION – Use scientific names of pla	nte								
VEGETATION – Ose scientific flames of pla	Absolute	Dominant	t Indicator	Dominar	nce Test v	vorkshee	. <del>.</del>		
Tree Stratum (Plot size:)	% Cover				of Domina			•	
1					OBL, FAC				(A)
2				Total Nui	mber of D	ominant		2	
3					Across All			2	(B)
4				Percent	of Domina	nt Specie:	s	1	
Sapling/Shrub Stratum (Plot size: )	0	= Total Co	over		OBL, FAC				(A/B)
1	0				ce Index				
2.	0				I % Cover			ply by: 45	
3	0				cies oecies		x 1 =	0	=
4	0			FAC spe			x 3 =	96	=
5					ecies		x 4 =	0	=
Herb Stratum (Plot size: 5ft )	0	= Total Co	over	UPL spe		0	x 5 =	0	
Poa pratensis	20	<b>✓</b>	FAC		Totals:	77	(A)	141	(B)
7. Typha latifolia	45	<b>✓</b>	OBL	Dro	valence Ir	sday - Di	1.	83117	
3. Alopecurus arundinaceus	10		FAC	1	ytic Vege				
4. Asclepias speciosa	2		FAC				phytic Vege	etation	
5	0				)ominance	•			
6	0			<b>✓</b> 3-P	revalence	Index is:	≤3.0 <sup>1</sup>		
7				4 - N	1orphologi	cal Adapt	ations¹ (Pro	vide sup	porting
8	0			1 —			n a separat	te sheet)	
9					Vetland No		ar Plants" ⊳Vegetatior	al (Eugla)	:>
10	$-\frac{0}{0}$		·	l .			wetland hy		
11		= Total Co					or problem		iiust
Woody Vine Stratum (Plot size:)		= Total Co	ver						
1	0			Hydroph	ıytic				
2	0			Vegetati		Yes V	<b>7</b> N-		
0	0	= Total Co	ver	Present*	f	res	<u> </u>		
% Bare Ground in Herb Stratum									
US Army Corps of Engineers				Westerr	n Mountair	ıs, Valleys	s, and Coas	st – Versi	on 2.0

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SOIL							Sampling Point: DP-25w
Profile Desc	ription: (Describe	to the depth	needed to docur	ment the indicator	or confirm	n the absence	of indicators.)
Depth	Matrix						
(inches) 0-10	Color (moist) 10YR 4/2	95 1	Color (moist) 0YR 3/4	5 C	Loc <sup>2</sup>	Texture Clay Loam	Remarks
	-	<del></del>					
				·			
				- <del> </del>			
Type: C=Co	oncentration, D=Dep	letion, RM=F	Reduced Matrix, CS	S=Covered or Coate	d Sand Gr	rains. <sup>2</sup> Loc	cation: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators: (Applic	able to all L	RRs, unless other	rwise noted.)		Indicato	ors for Problematic Hydric Soils <sup>3</sup> :
Histosol			Sandy Redox (				m Muck (A10)
:	pipedon (A2)	L	Stripped Matrix			_	d Parent Material (TF2)
Black Hi	stic (A3) n Sulfide (A4)	<u> </u>	Loamy Mucky № Loamy Gleyed	Mineral (F1) ( <b>except</b> Matrix (F2)	: MLRA 1)		y Shallow Dark Surface (TF12) er (Explain in Remarks)
	d Below Dark Surfac	e (A11)	Depleted Matrix				er (Explain in Nemarks)
	ark Surface (A12)		Redox Dark Su	• •		<sup>3</sup> Indicate	ors of hydrophytic vegetation and
Sandy M	lucky Mineral (S1)		Depleted Dark			wetla	and hydrology must be present,
	Bleyed Matrix (S4)	L	Redox Depress	ions (F8)		unles	ss disturbed or problematic.
	_ayer (if present):						
Туре:							
Depth (inc	ches):		<u> </u>			Hydric Soil	Present? Yes V No No
Remarks:	d in water death t	10in					
Soil Sample	d in water, depth t	10 10111					
HYDROLO	GY						
Wetland Hyd	drology Indicators:						
Primary Indic	ators (minimum of o	ne required;	check all that apply	у)		Seco	ndary Indicators (2 or more required)
✓ Surface	Water (A1)		Water-Stai	ined Leaves (B9) (ex	xcept	v	Vater-Stained Leaves (B9) (MLRA 1, 2,
_ <b>✓</b> High Wa	ter Table (A2)		MLRA	1, 2, 4A, and 4B)			4A, and 4B)
<u>✓</u> Saturatio	on (A3)		Salt Crust	, ,			Prainage Pattems (B10)
	arks (B1)			vertebrates (B13)			ry-Season Water Table (C2)
	it Deposits (B2)			Sulfide Odor (C1)			saturation Visible on Aerial Imagery (C9)
	oosits (B3)			Rhizospheres along I	-		Geomorphic Position (D2)
	it or Crust (B4)			of Reduced Iron (C4	•		Shallow Aquitard (D3)
	osits (B5) Soil Cracks (B6)			n Reduction in Tilled Stressed Plants (D	-	_	AC-Neutral Test (D5) Raised Ant Mounds (D6) ( <b>LRR A</b> )
	on Visible on Aerial I	magery (B7)		plain in Remarks)	1) (LINK A		rost-Heave Hummocks (D7)
	Vegetated Concave			Jan III (Ciriano)			root ricayo riaminiosko (B7)
Field Observ			,				
Surface Wate	er Present? Y	es 🗆 No	Depth (inc	ches):			
Water Table	Present? Y	es 🗌 No	_	ches):			
Saturation Pr		es No		ches):		and Hydrolog	y Present? Yes 🔽 No 🔲
(includes cap	oillary fringe) corded Data (stream	gauge mon	itoring well perial r	nhotos incevious inse	nections)	if available:	
Describe Nec	Sorded Data (Stream	gauge, mon	itoming won, dendi	priotos, provious iris	poctions),	ii avallabio.	
Remarks:							
Hydro from a	adj irr dirch, headç	gates contro	ol inundation/sat	in wetland.			

Project/Site: Stone Creek - North	City/County: Madison	Co Sampling Date: 6/13/2013
Applicant/Owner: MDT		State: MT Sampling Point: DP-26w
	Section, Township, Ra	nge: S 15 T 5S R 7W
		convex, none): concave Slope (%):0
		5 Long: -112.44799333333 Datum/WGS84
Soil Map Unit Name: Havre loam		NWI classification. Upland
Are climatic / hydrologic conditions on the site typical for this		
Are Vegetation , Soil , or Hydrology , significant size size typical for this		
	•	• —
Are Vegetation, Soil, or Hydrology na		eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing sampling point le	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No Hydric Soil Present? Yes ✓ No Wetland Hydrology Present? Yes ✓ No Remarks:	Is the Sampled within a Wetlar	
DP along irrigation canal, inundated from backwater/h	neadgate.	
VEGETATION - Use scientific names of plant	S.	
VEGETATION GOS GOISINING HAMISO OF PRAIN	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Species? Status	Number of Dominant Species
1	• –	That Are OBL, FACW, or FAC:(A)
2	• □	Total Number of Dominant 2
3		Species Across All Strata: (B)
4	0 = Total Cover	Percent of Dominant Species 1
Sapling/Shrub Stratum (Plot size:)	=   Otal Cover	That Are OBL, FACW, or FAC: (A/B)
1	0	Prevalence Index worksheet:  Total % Cover of: Multiply by:
2	0 🔲	OBL species 0 x 1 = 0
3		FACW species 0 x 2 = 0
4		FAC species 85 x 3 = 255
5		FACU species0 x 4 =0
Herb Stratum (Plot size: 5ft )	= Total Cover	UPL species 0 x 5 = 0
1. Rumex crispus	15 FAC	Column Totals: <u>85</u> (A) <u>255</u> (B)
2. Alopecurus arundinaceus	40 FAC	Prevalence Index = B/A =
3. Plantago major	5	Hydrophytic Vegetation Indicators:
4. Poa pratensis	25 FAC	1 - Rapid Test for Hydrophytic Vegetation
5		2 - Dominance Test is >50%
6		3 - Prevalence Index is ≤3.0¹
7 8	0	4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
9	0	5 - Wetland Non-Vascular Plants
10	0	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
11.	0 🗆	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
	85= Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	0	
1		Hydrophytic Vegetation
2	0 = Total Cover	Present? Yes Vo No
% Bare Ground in Herb Stratum		
Remarks:		
LIS Army Corns of Engineers		Mostora Mouataina Vallaus and Occat. Variation C.C.
US Army Corps of Engineers		Western Mountains, Valleys, and Coast – Version 2.0
	B-35	

SOIL							Sampling Point: DP-26W
Profile Desc	cription: (Describe	to the dept	h needed to docu	ment the indica	tor or confi	irm the absence o	
Depth	Matrix	•		x Features			•
(inches)	Color (moist)	%	Color (moist)	%Тур	oe <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0-12	10YR 4/2	97	10YR 3/4	3 C	M	Clay Loam	
	-						
1Tuno: C=C	oncentration, D=De	olotion DM-	Padusad Matrix Cl		ootod Saad		tion: DI = Doro Lining M=Matrix
	Indicators: (Applic				oated Sand		tion: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :
Histosol			Sandy Redox (	-			Muck (A10)
_	pipedon (A2)	_	Stripped Matrix			_	Parent Material (TF2)
	pipedon (Az) istic (A3)	_		. (୦୦) Mineral (F1) ( <b>ex</b> e	cont MIDA	_	Shallow Dark Surface (TF12)
_	en Sulfide (A4)	-	Loamy Gleyed		cept wilka	<i>'</i> = <i>'</i>	(Explain in Remarks)
	d Below Dark Surfac	- (Δ11)	Depleted Matri:	, ,		Other	(Explain in Nemarks)
	ark Surface (A12)		Redox Dark Su			3Indicators	s of hydrophytic vegetation and
	Mucky Mineral (S1)	_	Depleted Dark	. ,			d hydrology must be present,
	Gleyed Matrix (S4)	-	Redox Depress				disturbed or problematic.
	Layer (if present):			710110 (1 0)		4111000	distance of problematic.
Туре:							
Depth (in	choc):					Hydric Soil P	Present? Yes 🔽 No 🔲
. ,	cnes).					nyuric Soil P	resent? fes <u>v</u> No <u> </u>
Remarks:							
HYDROLO	GY						
Wetland Hv	drology Indicators	:					
	cators (minimum of		check all that appl	v)		Second	ary Indicators (2 or more required)
✓ Surface	•			ined Leaves (B9	a) (evcent		ter-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (A2)			1, 2, 4A, and 4E			4A, and 4B)
Saturati			Salt Crust		رد		ainage Pattems (B10)
	larks (B1)				2)		
				vertebrates (B13			-Season Water Table (C2)
	nt Deposits (B2)			Sulfide Odor (C			turation Visible on Aerial Imagery (C9)
	posits (B3)			Rhizospheres ald	_		omorphic Position (D2)
	at or Crust (B4)		_	of Reduced Iron		_	allow Aquitard (D3)
	posits (B5)			n Reduction in			C-Neutral Test (D5)
	Soil Cracks (B6)			Stressed Plant		_	sed Ant Mounds (D6) (LRR A)
	ion Visible on Aerial			olain in Remarks	5)	Fro	st-Heave Hummocks (D7)
Sparsely	y Vegetated Concav	e Surface (B	8)				
Field Obser							
Surface Wat	er Present?	res 🔽 N	lo Depth (in	ches):			
Water Table	Present?	res 🔽 N	lo Depth (in	ches):			
Saturation P	resent?	res 🔽 N	lo Depth (in	ches):	We	etland Hydrology	Present? Yes 🔽 No 🔲
	pillary fringe)						
Describe Re	corded Data (strean	n gauge, mor	nitoring well, aerial	photos, previous	s inspections	s), if available:	
Remarks:							

Project/Site: Stone Creek - North	(	City/County: Madison	Со	Samp	ling Date:	6/10/2013
Applicant/Owner: MDT				T Samp		
		Section, Township, Rar			<b>R</b> 8W	
Landform (hillslope, terrace, etc.): Lowland		Local relief (concave, c	onvex none). f	lat	Slop	ne (%)· 0
Subregion (LRR): LRR E	Lat:	45.32302333333333	Long:	-112.52	.683 <sub>Datun</sub>	nWGS84
Soil Map Unit Name: Havre-Glendive complex						
Are climatic / hydrologic conditions on the site typical for this		_				
Are Vegetation, Soil, or Hydrology sig	-			stances" present		No. $\square$
Are Vegetation, Soil, or Hydrology na	-			ny answers in Re		140
		·		•	,	_1
SUMMARY OF FINDINGS – Attach site map s		sampling point ic	ocations, tra	insects, imp	ortant fea	atures, etc.
		Is the Sampled	Δτεα			
Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No		within a Wetlan		Yes N	۷o <u>۷</u>	
Remarks:						
DP approx 20ft from Stone Creek in upland.						
VEGETATION – Use scientific names of plant						
Tree Stratum (Plot size:)	Absolute % Cover	Dominant Indicator Species? Status		Test worksheet		
1				ominant Species _, FACW, or FAC		0 (A)
2	0		Total Number	r of Dominant		
3			Species Acro			(B)
4	0		Percent of Do	ominant Species		•
Sanling/Shruh Stratum (Blot size:	0	= Total Cover		_, FACW, or FAC		0 (A/B)
Sapling/Shrub Stratum (Plot size:)	0		Prevalence I	ndex workshee	t:	
1 2			Total % 0	Cover of:		
3	0		OBL species		x 1 =	0
4.	0		FACW specie		x 2 =	15
5	0		FAC species		^ =	20
5ft	0	= Total Cover	FACU species UPL species	^	x 4 =	0
Herb Stratum (Plot size: 5ft)  Ambrosia sp.	80	<b>✓</b> NL		10	1	35 (B)
2 Sisymbrium altissimum	5	FACU				3.5
Bassia scoparia	5	FAC		nce Index = B/A Vegetation Ind		
4	0			Test for Hydrop		ation
5	0			nance Test is >5		311011
6.	0			lence Index is ≤		
7	0			hological Adapta		
8	0			n Remarks or on		sheet)
9	0			ind Non-Vascula		(=1-1-)
10				atic Hydrophytic		
11				hydric soil and v nless disturbed o		
Woody Vine Stratum (Plot size:)		= Total Cover				
1	0		Hydrophytic			
2	0		Vegetation		l [	
0	0	= Total Cover	Present?	Yes	No <u></u>	<u>*                                    </u>
% Bare Ground in Herb Stratum						
nomans.						
US Army Corps of Engineers			Western Mo	untains, Valleys,	and Coast -	- Version 2.0
	В	-37				

SOIL						Sampling Point: DF	P-2u
Profile Desc	ription: (Describe	to the depth	needed to document the indicator	or confirm	the absence of i		
Depth	Matrix		Redox Features				
(inches) 0-6	Color (moist) 10YR 4/4	100	Color (moist) % Type <sup>1</sup>	Loc <sup>2</sup>	Texture Silt Loam	Remarks	
6-14	10YR 5/3	100		S	andy Loam		
			educed Matrix, CS=Covered or Coate RRs, unless otherwise noted.)	ed Sand Gra		on: PL=Pore Lining, M=M for Problematic Hydric S	
Histosol		able to all Er	Sandy Redox (S5)			uck (A10)	ons .
_	oipedon (A2)	F	Stripped Matrix (S6)			rent Material (TF2)	
Black Hi		<u> </u>	Loamy Mucky Mineral (F1) (excep	t MLRA 1)		nallow Dark Surface (TF12	2)
Hydroge	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	C MERCA 1)	_ ·	Explain in Remarks)	-)
	d Below Dark Surfac	ce (A11) 💄	Depleted Matrix (F3)		2		
	ark Surface (A12)	L	Redox Dark Surface (F6)			of hydrophytic vegetation a	
_	Mucky Mineral (S1)	F	Depleted Dark Surface (F7)			hydrology must be presen	ıt,
	Bleyed Matrix (S4)  Layer (if present):		Redox Depressions (F8)		uniess ai	sturbed or problematic.	
Type:							
Depth (inc			_		Hydric Soil Pre	esent? Yes 🔲 N	lo 🗸
HYDROLO	CV						
	drology Indicators:	•					
-	cators (minimum of		check all that apply)		Secondar	ry Indicators (2 or more re	auired)
Surface	*		_ Water-Stained Leaves (B9) (€	except		r-Stained Leaves (B9) (M	
	iter Table (A2)		MLRA 1, 2, 4A, and 4B)	мооре		A, and 4B)	
Saturation			Salt Crust (B11)			age Pattems (B10)	
_	larks (B1)		Aquatic Invertebrates (B13)		_	Season Water Table (C2)	
	nt Deposits (B2)		Hydrogen Sulfide Odor (C1)			ration Visible on Aerial Ima	agery (C9
	posits (B3)		Oxidized Rhizospheres along	Living Roots		norphic Position (D2)	• , .
Algal Ma	at or Crust (B4)		Presence of Reduced Iron (C	4)	Shall	ow Aquitard (D3)	
Iron Dep	osits (B5)		Recent Iron Reduction in Tille	d Soils (C6)	FAC-	Neutral Test (D5)	
Surface	Soil Cracks (B6)		Stunted or Stressed Plants (D	1) (LRR A)	Raise	ed Ant Mounds (D6) ( <b>LRR</b>	( <b>A</b> )
Inundation	on Visible on Aerial	lmagery (B7)	Other (Explain in Remarks)		Frost	-Heave Hummocks (D7)	
Sparsely	/ Vegetated Concav	e Surface (B8	)				
Field Obser							
Surface Water	er Present?	′es <u> </u>	` ` ` /	I			
Water Table		′es No					
Saturation Projection (includes cap	oillary fringe)	′es No				resent? Yes l	No <u>V</u>
Describe Re	corded Data (stream	n gauge, moni	toring well, aerìal photos, previous ins	spections), if	available:		
Remarks:							
	uence of Stone Ci	eek water ta	ble, potentially with occasional flo	ooding of v	ery short durati	ion.	

Project/Site: Stone Creek - North	City/County: Beaverh	ead Sampling Date: 6/10/2013
Applicant/Owner: MDT		State: MT Sampling Point: DP-3w
	Section, Township, Ra	nnge: S 6 T 6S R 7W
Landform (hillslope, terrace, etc.): Gulch or Gully	Local relief (concave.	convex, none): concave Slope (%): 1.74
Subregion (LRR): LRR E	45.3369216666667	Long: -112.515448333333 Datum;WGS84
Soil Map Unit Name: Kalsted-Scravo, stony Cabbart co		NWI classification. Upland
Are climatic / hydrologic conditions on the site typical for this		
Are Vegetation, Soil, or Hydrology si		
Are Vegetation, Soil, or Hydrology n.	•	'
		eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing sampling point l	ocations, transects, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks:  Yes   No  No  No  No  No  No  No  No  No  N		
DP in 2ft wide swale with very narrow wetland buffer		
VEOLETATION III ' ''E'	1-	
VEGETATION – Use scientific names of plan		
Tree Stratum (Plot size:)	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet:  Number of Dominant Species
1	0 🗆	That Are OBL, FACW, or FAC:(A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
4	•	Percent of Dominant Species 1
Sapling/Shrub Stratum (Plot size: )	= Total Cover	That Are OBL, FACW, or FAC: (A/B)
1	0 🗌	Prevalence Index worksheet:
2.	0 🗆	Total % Cover of:  ORI species  ORI species  ORI species  ORI species
3	0 🗆	ODL species X I -
4	0 🔲	FACW species0 x 2 =0  FAC species100 x 3 =300
5	0	FACU species 0 x 4 = 0
Herb Stratum (Plot size: 5ft )	= Total Cover	UPL species 0 x 5 = 0
Alopecurus arundinaceus	100 <b>▼</b> FAC	Column Totals: 100 (A) 300 (B)
Ranunculus sp.	1 NL	Prevalence Index = B/A = 3
3.	0	Hydrophytic Vegetation Indicators:
4		1 - Rapid Test for Hydrophytic Vegetation
5		. 2 - Dominance Test is >50%
6	$-\frac{0}{0}$	
7	$-\frac{0}{0}$	. 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
8	$-\frac{0}{0}$	5 - Wetland Non-Vascular Plants
9	$-\frac{1}{0}$	Problematic Hydrophytic Vegetation (Explain)
10 11.	0	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
· · ·	101 = Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		
1	$-\frac{0}{0}$	Hydrophytic
2		Vegetation Present?  Yes   ✓ No  ✓
% Bare Ground in Herb Stratum	= Total Cover	
Remarks:		
US Army Corps of Engineers		Western Mountains, Valleys, and Coast – Version 2.0
	B-39	

SOIL											Sampling Point: DP-3w
Profile Desc	cription: (De	escribe t	o the dep	th need	ed to docu	ment the in	dicator	or con	firm t	he absence	e of indicators.)
Depth		Matrix	•			ox Features					•
(inches)	Color (m	noist)	%	Colo	r (moist)	%	Type <sup>1</sup>	_Loc <sup>2</sup>	<u> </u>	Texture	Remarks
0-7	10YR -	4/3	100						Sa	andy Loam	
7-14	10YR (	6/2	97	10YR	4/4	3	С	M		dy Clay Loan	<u></u> -
	-		-								
<sup>1</sup> Type: C=C	oncentration,	, D=Deple	etion, RM=	Reduce	d Matrix, C	S=Covered	or Coate	d Sand	d Grai	ins. <sup>2</sup> Lo	cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:	(Applica	ble to all	LRRs, u	nless othe	erwise note	d.)			Indicate	ors for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)			Sar	idy Redox i	(S5)				2 cr	m Muck (A10)
Histic E	pipedon (A2)			Stri	pped Matrix	x (S6)					d Parent Material (TF2)
Black H	istic (A3)			Loa	my Mucky	Mineral (F1)	(except	MLRA	<b>(1</b>	Ver	y Shallow Dark Surface (TF12)
Hydroge	en Sulfide (A	4)		Loa	my Gleyed	Matrix (F2)				Oth	er (Explain in Remarks)
	d Below Dark		(A11)		oleted Matri					-	
	ark Surface (			$\equiv$	lox Dark Si	. ,					ors of hydrophytic vegetation and
_	Aucky Minera					Surface (F7	')				and hydrology must be present,
	Gleyed Matrix			∐ Rec	lox Depres	sions (F8)				unles	ss disturbed or problematic.
Restrictive	Layer (if pre	sent):									
Туре:											_
Depth (in	ches):									Hydric Soi	I Present? Yes <u>✓</u> No <u></u>
Remarks:											
HYDROLO	GY										
Wetland Hy											
	cators (minim	num of on	ie required	i; check							ndary Indicators (2 or more required)
	Water (A1)					ained Leaves	. , .	xcept		\	Vater-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (A	2)			1	. 1, 2, 4A, ar	nd 4B)				4A, and 4B)
Saturation	, ,				Salt Crus						Prainage Pattems (B10)
Water M	larks (B1)				Aquatic Ir	rvertebrates	(B13)				Ory-Season Water Table (C2)
Sedimer 👱	nt Deposits (I	B2)				Sulfide Odd					Saturation Visible on Aerial Imagery (C9)
_ <b>⊻</b> Drift De <sub>l</sub>	posits (B3)				Oxidized	Rhizosphere	es along	Living I	Roots	(C3) 🔽 🤆	Geomorphic Position (D2)
Algal Ma	at or Crust (B	4)			Presence	of Reduced	Iron (C4	1)		s	Shallow Aquitard (D3)
Iron Dep	oosits (B5)				Recent Ire	on Reductio	n in Tille	d Soils	(C6)	F	FAC-Neutral Test (D5)
✓ Surface	Soil Cracks	(B6)			Stunted o	r Stressed F	Plants (D	1) (LRF	RA)	F	Raised Ant Mounds (D6) ( <b>LRR A</b> )
Inundati	on Visible on	Aerial In	nagery (B7	7)	] Other (Ex	plain in Rem	narks)			F	Frost-Heave Hummocks (D7)
Sparsely	y Vegetated (	Concave	Surface (	38)							
Field Obser	vations:										
Surface Wat	er Present?	Ye	s I	۷٥	🛚 Depth (ir	nches):		_			
Water Table	Present?	Ye	s 1	No	Depth (ir	nches):		_			
Saturation P	resent?	Ye	s   1			nches):			Vetlar	nd Hvdrolog	ıy Present? Yes <u>✔</u> No <u>□</u>
(includes cap	pillary fringe)										
Describe Re	corded Data	(stream (	gauge, mo	nitoring	well, aerial	photos, pre-	vious ins	pection	ns), if	available:	
Remarks:											

Project/Site: Stone Creek - North	City/County: Beaverho	ead Co Sampling Date: 6/10/2013
	Section, Township, Ra	nge: S 6 T 6S R 7W
Landform (hillslope, terrace, etc.): Gulch or Gully	Local relief (concave, o	convex, none): concave Slope (%): 1.74
Subregion (LRR): LRR E	Lat: 45.348135	Long:112.500255
Soil Map Unit Name: Crago-Scravo complex		NWI classification. Upland
Are climatic / hydrologic conditions on the site typical for this		
Are Vegetation, Soil, or Hydrology sig		
Are Vegetation, Soil, or Hydrology na	•	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s		
Hydrophytic Vegetation Present? Yes V No		
Hydric Soil Present? Yes ✓ No	Is the Sampled	
Wetland Hydrology Present? Yes No	within a Wetlar	nd? Yes <u>V</u> No <u> </u>
Remarks:		
DP in gully below headgate.		
VEGETATION – Use scientific names of plant	'S.	
VEGETATION GOS CONTINUE NAMES OF PLANE	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2	<b>^</b> _	Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	= Total Cover	That Are OBL, FACW, or FAC: (A/B)
1		Prevalence Index worksheet:
2	0	Total % Cover of:         Multiply by:           OBL species         0             x 1 =         0
3		OBL species 0 x 1 = 0
4	0	FAC species 100 x 3 = 300
5		FACU species 0 x 4 = 0
Herb Stratum (Plot size: 5ft )	= Total Cover	UPL species0 x 5 =0
1 Poa pratensis	10	Column Totals:(A)(B)
Alopecurus arundinaceus	90 🔽 FAC	Prevalence Index = B/A =
3		Hydrophytic Vegetation Indicators:
4	0	1 - Rapid Test for Hydrophytic Vegetation
5	0	2 - Dominance Test is >50%
6	0	$3$ - Prevalence Index is $\leq 3.0^{1}$
7		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
8		data in Remarks or on a separate sheet)  5 - Wetland Non-Vascular Plants
9		Problematic Hydrophytic Vegetation (Explain)
10 11.		¹Indicators of hydric soil and wetland hydrology must
	100 = Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		
1	0	Hydrophytic
2	0	Vegetation Present? Yes ✓ No □
% Bare Ground in Herb Stratum	= Total Cover	100 <u> </u>
Remarks:		
US Army Corps of Engineers		Western Mountains, Valleys, and Coast – Version 2.0
	B-41	

SOIL										Sampling Point: DP-4w
Profile Desc	cription: (	Describe	to the dep	th neede	ed to docu	ment the in	dicator	or confir	m the absence	e of indicators.)
Depth		Matrix	•			ox Features				,
(inches)	Color	(moist)	%	Color	(moist)	%	Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks
0-2	10YR	3/3	100						Loam	
2-10	10YR	5/2	97	10YR	4/4	3	С	М	Clay Loam	
10-16	10YR	6/2	95	10YR	4/6	5	С	М	Clay	
<sup>1</sup> Type: C=C								ed Sand (		cation: PL=Pore Lining, M=Matrix.
Hydric Soil		s: (Applic	able to all				d.)			ors for Problematic Hydric Soils <sup>3</sup> :
Histosol	, ,				dy Redox (				_	m Muck (A10)
	pipedon (A	(2)			oped Matrix				_	d Parent Material (TF2)
	istic (A3)	(A 4)				Mineral (F1)		I WLRA 1	_	ry Shallow Dark Surface (TF12)
	en Sulfide d Below D		o (A11)		my Gleyed leted Matri	Matrix (F2)			Otn	ner (Explain in Remarks)
	ark Surfac		e (ATT)		lox Dark Si	. ,			3Indicate	ors of hydrophytic vegetation and
	Mucky Min			$\overline{}$		Surface (F7	<b>'</b> )			and hydrology must be present,
_	Gleyed Ma				lox Depres		′			ss disturbed or problematic.
Restrictive						. ,				,
Туре:										
Depth (in	ches):								Hydric Soi	l Present? Yes <u>✓</u> No □
Remarks:										
IVDDOLO	· C V									
HYDROLO		. dia = 4 = v= .								
Wetland Hy Primary India				d check	all that ann	lv)			Seco	ndary Indicators (2 or more required)
-	Water (A1		nie reguire	u, check		ined Leaves	c /PQ\ /o	voont		Water-Stained Leaves (B9) (MLRA 1, 2,
	ater Table					. 1, 2, 4A, ar		xcept	v	4A, and 4B)
Saturati		(MZ)			Salt Crust		iu 46)		<b>V</b> -	Orainage Pattems (B10)
	Marks (B1)					vertebrates	(B13)			Dry-Season Water Table (C2)
✓ Sedime		(B2)				Sulfide Odd				Saturation Visible on Aerial Imagery (C9)
✓ Drift De	-			十		Rhizosphere		Living Pr		Geomorphic Position (D2)
	at or Crust				-	of Reduced	-	-		Shallow Aquitard (D3)
	posits (B5)			一		on Reduction		-		FAC-Neutral Test (D5)
	Soil Crack			一		r Stressed F		•	_	Raised Ant Mounds (D6) (LRR A)
			magery (B	7)	-	plain in Rem		i) (LIXIX		Frost-Heave Hummocks (D7)
			e Surface (I		) Other (EX	piaiii iii ixeii	iai ks)			Tost-Heave Hummocks (D1)
Field Obser		u Concave	o Suriace (i	50)						
Surface Wat		2 V	es 🗆	No 🔽	Denth (in	nches):				
Water Table						iches):				
Saturation P						iches):			tland Hudrolog	y Present? Yes 🔽 No 🔲
(includes cap	pillary fring	je)								gy Fresent: Tes <u> </u>
Describe Re	corded Da	ta (stream	gauge, mo	nitoring	well, aerial	photos, pre-	vious ins	pections	), if available:	
Down										
Remarks: Gully dry du	ırina inve	stigation								
Cully dry de	aning inve	stigation.								

Project/Site: Stone Creek - North	(	City/County	Madison	Co		Sam	npling Date:	6/11/	/2013
Applicant/Owner: MDT				State	e: MT	—— Sam	ipling Point:	DP-5w	
		Section, To	wnship, Rar	nge: S	22	<b>T</b> 5S	R 7W	!	
									0
	Lat:								
Soil Map Unit Name: Havre loam						ssification:			
Are climatic / hydrologic conditions on the site typic	cal for this time of yea								
Are Vegetation, Soil, or Hydrology	_							no.	, $\Box$
Are Vegetation, Soil, or Hydrology	·			eded, expla		·			
					-		•		4-
SUMMARY OF FINDINGS – Attach sit		Sampiin	g point ic	ocations,	transe	ecis, imp	portant ie	atures	s, etc.
	<ul> <li>✓ No □</li> <li>✓ No □</li> </ul>	ls th	e Sampled	Area					
Wetland Hydrology Present? Yes		with	iin a Wetlan	d?	Yes	<b>✓</b>	No 🔲	_	
Remarks:									
DP in shallow depression, historically maint	ained as wetland b	y irrigatio	n ditch, no	longer act	ive. Occ	casional f	looding du	ring hig	h
flows.	- F - 1 4 -								
VEGETATION – Use scientific names		D'.		Di.	T1				
Tree Stratum (Plot size:)	Absolute _% Cover_		t Indicator Status			workshee ant Specie			
1	0					CW, or FA		2	(A)
2	•		<u> </u>	Total Nur	mber of F	Cominant			
3				Species				2	(B)
4				Percent of	of Domina	ant Specie	!S	4	
Sapling/Shrub Stratum (Plot size:	0	= Total Co	over	That Are	OBL, FA	.CW, or FA	чC:	1	(A/B)
1				Prevalen	ce Index	workshe	et:		
2	^					r of:		ply by:	_
3.	^			OBL spec			_ x 1 =	10	=
4.	0					5 83		10	=
5	0			FAC spec			- ^3-=	249 8	=
5ft	0	= Total Co	over	FACU sp		0	x 4 = x 5 =	0	=
Herb Stratum (Plot size: 5ft Juncus arcticus	5		FACW	Column 1		100	(A)	277	(B)
2. Alopecurus arundinaceus	45	<u> </u>	FAC					2.77	_ (5)
3 Bromus inermis	35	<u> </u>	FAC			ndex = Bar etation In			
Schoenoplectus acutus			OBL				ophytic Vege	etation	
Rumex crispus	3		FAC			e Test is >		station	
6. Chenopodium album	2		FACU			e Index is			
7	0			4 - N	lorpholog	jical Adapi	tations¹ (Pro	vide sup	porting
8	0						on a separat	e sheet)	
9						Ion-Vascul			
10	^		<del>-</del>				c Vegetation		,
11							d wetland hyd d or problem		nust
Woody Vine Stratum (Plot size:		= Total Co	ver	-			·		
1	0			Hydroph	vtic				
2.	0			Vegetation	on	[			
0	0	= Total Co	ver	Present?	•	Yes	No_		
% Bare Ground in Herb Stratum									
Remarks:									
US Army Corps of Engineers				Western	Mountai	ns, Valley	s, and Coas	it – Versio	on 2.0

SOIL										Sampling Point: DP-5w
Profile Des	cription: (E	Describe	to the dep	th neede	d to docu	ment the in	dicator	or confir	m the absence	e of indicators.)
Depth		Matrix			Red	ox Features			_	
(inches)	Color (		%	Color	(moist)	%	Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks
0-5	10YR	3/2	100						Clay Loam	
5-14	10YR	5/2	95	10YR	4/6	5	С	M	Silty Clay	
	-							-		
									<u> </u>	
										· ———
1T 0-0	·	- D-D		Dadua	d Madain O				21.5	anting Di-Day Lining M-Matrix
	Concentration I Indicators:							a Sana G		ocation: PL=Pore Lining, M=Matrix. ors for Problematic Hydric Soils <sup>3</sup> :
Histoso		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			dy Redox		,			m Muck (A10)
	pipedon (A2	2)		$\equiv$	oped Matri					d Parent Material (TF2)
	listic (A3)	,				Mineral (F1)	) (except	MLRA 1	_	ry Shallow Dark Surface (TF12)
_	en Sulfide (A	44)				Matrix (F2)				ner (Explain in Remarks)
Deplete	ed Below Da	rk Surface	e (A11)	✓ Dep	leted Matr	ix (F3)				
	ark Surface			Red	ox Dark S	urface (F6)				ors of hydrophytic vegetation and
	Mucky Mine					Surface (F7	7)			and hydrology must be present,
	Gleyed Matr			<u></u> Red	ox Depres	sions (F8)			unle	ss disturbed or problematic.
Restrictive	Layer (if pr	esent):								
Туре:										
Depth (in	nches):								Hydric Soi	I Present? Yes <u></u> ✓ No _
Remarks: Soil gleyed										
HYDROLC	OGY									
Wetland Hy	drology Ind	dicators:								
Primary Indi	icators (mini	mum of o	ne require	d; check	all that app	oly)			Seco	ndary Indicators (2 or more required)
Surface	Water (A1)				Water-Sta	ained Leave	s (B9) (e:	xcept		Water-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (A					1, 2, 4A, ar		•		4A, and 4B)
✓ Saturati		,			Salt Crus	t (B11)	•			Orainage Patterns (B10)
Water N	Marks (B1)				Aquatic Ir	nvertebrates	(B13)		[	Dry-Season Water Table (C2)
Sedime	nt Deposits	(B2)			Hydroger	Sulfide Ode	or (C1)		<u> </u>	Saturation Visible on Aerial Imagery (C9)
Drift De	posits (B3)				Oxidized	Rhizosphere	es along	Living Ro	ots (C3) 🔽 (	Geomorphic Position (D2)
Algal M	at or Crust (	B4)			] Presence	of Reduced	i Iron (C4	ł)	\$	Shallow Aquitard (D3)
Iron De	posits (B5)				Recent Ir	on Reductio	n in Tilled	d Soils (C	(6) F	FAC-Neutral Test (D5)
Surface	Soil Cracks	(B6)			Stunted o	r Stressed F	Plants (D	1) (LRR /	<b>A</b> ) F	Raised Ant Mounds (D6) (LRR A)
Inundat	tion Visible o	n Aerial II	magery (B	7)	Other (Ex	plain in Ren	narks)		F	Frost-Heave Hummocks (D7)
Sparsel	ly Vegetated	l Concave	Surface (	B8)						
Field Obser	rvations:				_					
Surface Wa	ter Present?	Υ.	es	No	Depth (ir	nches):		_		
Water Table	e Present?	Y	es 🔲	No 🔽	Depth (ir	nches):		_		
Saturation F	Present? apillary fringe		es <b>_</b>	No	Depth (ir	nches):	12	_ Wet	tland Hydrolog	gy Present? Yes <u>V</u> No
			gauge, mo	nitoring	well, aerial	photos, pre	vious ins	pections)	, if available:	
Remarks: No surface	hydro oro	a with a	allow ara	undwat	or					
INO SUITACE	riyulo, ale	a will Si	ianow gro	unuwal	<b>51.</b>					

Project/Site: Stone Creek - North	City/County: Madisc	on Co	Sampling Date:6/11/2013
Applicant/Owner: MDT			Sampling Point: DP-6u
	Section, Township, F		
Landform (hillslope, terrace, etc.): Lowland	Local relief (concave	convex none) flat	Slope (%):0
Subregion (LRR): LRR E	Lat: 45.379646666666	67 Long:	-112.454215 DatumWGS84
Soil Map Unit Name: Havre loam		Long NWI cla	
Are climatic / hydrologic conditions on the site typical for		(If no, explain	
Are Vegetation, Soil, or Hydrology	-		ces" present? Yes 🔽 No 🗌
Are Vegetation, Soil, or Hydrology	_ naturally problematic? (If	needed, explain any a	nswers in Remarks.)
SUMMARY OF FINDINGS - Attach site ma	p showing sampling point	locations, trans	ects, important features, etc.
	No Is the Sample		□ No ☑
Wetland Hydrology Present? Yes	No within a vvet	allur les	
Remarks: DP on slight rise above adjacent wetland.			
DF on slight lise above adjacent wettand.			
VEGETATION - Use scientific names of pl	ants.		
	Absolute Dominant Indicato	or Dominance Test	t worksheet:
Tree Stratum (Plot size:)	% Cover Species? Status	—   Number of Domin	
1	^ _	That Are OBL, FA	ACW, or FAC: (A)
2		Total Number of	
34.		Species Across A	All Strata: (B)
<sup>7</sup> ·	0 = Total Cover	Percent of Domin	
Sapling/Shrub Stratum (Plot size:)		Prevalence Inde	
1	$ \frac{0}{2}$ $\frac{\Box}{\Box}$ $-$		er of: Multiply by:
2		OBL species	
3		FACW species	
4	$ \frac{0}{0}$ $\frac{\Box}{\Box}$ $-$	FAC species	00
5	0	FACU species	0 x 4 = 0
Herb Stratum (Plot size: 5ft )	= Total Cover	UPL species	5 x 5 = 25
1. Bromus inermis	65	Column Totals:	95 (A) 295 (B)
2. Poa pratensis	25 FAC	Prevalence	Index = B/A =3.10526
3. Vicia sativa			getation Indicators:
4	$ 0$ $\Box$ $\Box$		st for Hydrophytic Vegetation
5	$ \frac{0}{0}$ $\frac{\Box}{\Box}$ $-$	_   👱 2 - Dominano	
6	$ {0}$ ${\Box}$ $-$		ce Index is ≤3.0 <sup>1</sup>
7	$ {0}$ ${\Box}$ $-$		gical Adaptations <sup>1</sup> (Provide supporting emarks or on a separate sheet)
8. 9.	0	_   _	Non-Vascular Plants <sup>1</sup>
10	$\overline{}$	-1-	Hydrophytic Vegetation <sup>1</sup> (Explain)
11.			fric soil and wetland hydrology must
	95 = Total Cover	be present, unles	s disturbed or problematic.
Woody Vine Stratum (Plot size:)	ο Π		
1	$ 0$ $\Box$ $\Box$	Hydrophytic	
2		Vegetation Present?	Yes 🗹 No 🗌
% Bare Ground in Herb Stratum	= Total Cover		
Remarks:			
<u>L</u>			
US Army Corps of Engineers		Western Mounta	ains, Valleys, and Coast – Version 2.0
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SOIL									Sa	ampling Point:	DP-6u
Profile Desc	ription:	(Describe	to the dept	h needed to docur	nent the ind	icator o	r confirm	n the absence			
Depth		Matrix		Redo	x Features						
(inches)		(moist)	%	Color (maist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-2	10YR	3/3	100					Silty Clay			
2-8	10YR	3/2	100					Clay			
8-14	10YR	4/2	100								
								·			
				Reduced Matrix, CS			Sand Gr			Pore Lining, M	
		s: (Applica	able to all L	RRs, unless other		)				lematic Hydri	c Solls :
Histosol	(AT) pipedon (A	73)	-	Sandy Redox (€ Stripped Matrix					n Muck (A10 Parent Mat		
Black Hi		12)	-	Loamy Mucky N		except i	VILRA 1)			ark Surface (TI	F12)
	n Sulfide	(A4)	-	Loamy Gleyed			,			n Remarks)	,
		ark Surface	e (A11)	Depleted Matrix	. ,						
	ark Surfac		-	Redox Dark Su						phytic vegetation	
_	lucky Min		-	Depleted Dark						y must be pres	
Restrictive I	ileyed Ma		-	Redox Depress	ions (F8)			unies	s aisturbea	or problematic	i.
Type:	_ayer (ii p	oresentj.									
Depth (inc	ches)							Hydric Soil	Present?	Yes	No 🗸
Remarks:								Tiyano dan			
Redox belo	W 14III, I	ione with	12111 01 801	i suriace.							
HYDROLO	GY										
Wetland Hyd	drology Ir	ndicators:									
Primary Indic	ators (mir	nimum of o	ne required	check all that apply	y)			Secon	idary Indica	tors (2 or more	e required)
Surface	Water (A1	1)		Water-Stai	ned Leaves	(B9) ( <b>ex</b>	cept	w	/ater-Staine	d Leaves (B9)	(MLRA 1, 2,
	ter Table	(A2)			1, 2, 4A, and	l 4B)			4A, and 4	•	
Saturation	, ,			Salt Crust	. ,				rainage Pat		
	arks (B1)				vertebrates (I					Water Table (C	
	it Deposit				Sulfide Odor					sible on Aerial	Imagery (C9)
	osits (B3) it or Crust				Rhizospheres of Reduced I	-	-		eomorpnic hallow Aqui	Position (D2)	
	icor Crusi iosits (B5)				n Reduction				AC-Neutral		
	Soil Crack				Stressed Pla					lounds (D6) ( <b>L</b>	RR A)
Inundation			magery (B7		lain in Rema					Hummocks (D	
Sparsely	Vegetate	ed Concave	Surface (B	8)		ŕ				·	•
Field Observ	vations:										
Surface Wate	er Presen	t? Ye	es 🔲 N	lo <u> </u>	ches):		_				
Water Table	Present?	Ye	es 🔲 N	lo <u> </u>	ches):		_				
Saturation Pr			es N	lo <u> </u>	ches):		Wetla	and Hydrology	y Present?	Yes	No 🔽
(includes cap Describe Red			gauge, mor	nitoring well, aerial p	ohotos, previ	ous insp	ections),	if available:			
Remarks:	dro os		wotor told	0.00000#15.5	ound Eff L -	low s	food ba	and on adias -	nt tons	nhia avider -	20
ino direct ny	นเบ รอนด	e, ground	water tabl	e appear to be ar	ed IIc bribo	iow suf	iace das	seu on adjace	an topogra	ibilic evidend	e.

Project/Site: Stone Creek - North	City/County: Madisor	n Co Sampling Date: 6/11/2013
Applicant/Owner: MDT		State: MT Sampling Point: DP-7u
Investigator(s): B Sandefur	Section, Township, R	ange: S 22 T 5S R 7W
Landform (hillslope, terrace, etc.): Shoreline		convex, none): flat Slope (%): C
		7 Long: -112.453713333333 Datum WGS84
Soil Map Unit Name: Havre loam		NWI classification:Upland
Are climatic / hydrologic conditions on the site typical		
Are Vegetation, Soil, or Hydrology _		"Normal Circumstances" present? Yes   No
Are Vegetation, Soil, or Hydrology	·	needed, explain any answers in Remarks.)
		locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes   Hydric Soil Present? Yes   ☐	le the Consule	d Area
-	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	and? Yes ☐ No 🔽
Remarks:		
DP at edge of bluegrass/brome hay field.		
VEGETATION – Use scientific names of	f nlante	
VEGETATION - Ose scientific flames of	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Species? Status	
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: 1 (B)
4		Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:	=   Otal Oovel	That Are OBL, FACW, or FAC: (A/B)
1		Prevalence Index worksheet:
2.	<b>^</b> $\Box$	Total % Cover of: Multiply by:  ORL species 0 v.1 = 0
3		OBL species
4		FAC species 90 x 3 = 270
5		FACU species 0 x 4 = 0
Herb Stratum (Plot size: 5ft )	= Total Cover	UPL species 0 x 5 = 0
1 Bromus inermis	70 🗹 FAC	Column Totals: 103 (A) 296 (B)
Poa pratensis		2.87379
3 Equisetum hyemale	3	Prevalence Index = B/A =
4. Juncus arcticus	10 FACW	_
5	0	2 - Dominance Test is >50%
6		_ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
7		$_{\perp}$ $\Box$ 4 - Morphological Adaptations $^{1}$ (Provide supporting
8		data in Remarks or on a separate sheet)
9		5 - Wetland Non-Vascular Plants Problematic Hydrophytic Vegetation (Explain)
10		Problematic Hydrophytic Vegetation (Explain)   Indicators of hydric soil and wetland hydrology must
11		be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		
1		_ Hydrophytic
2		Vegetation Present? Yes ✔ No
0 9/ Para Cround in Harb Stratum	= Total Cover	Present? Yes Vo No No
% Bare Ground in Herb Stratum		
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SOIL										Sampling Point: DP-7u
Profile Des	cription: ([	Describe t	o the dep	th neede	ed to docur	nent the ir	ndicator	or confirm	n the absence	of indicators.)
Depth		Matrix				x Features				
(inches)	Color (		%		(moist)	%	_Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR	2/2	95	7.5YR	5/1	5			Clay Loam	
6-14	10YR	4/2	95	10YR	5/1	5	D	M	Sandy Clay	
14-18	10YR	3/2	97	10YR	4/6	3	C		Sand ———	
<sup>1</sup> Type: C=C	oncentratio	n, D=Depl	etion, RM:	-Reduce	d Matrix, CS	S=Covered	or Coate	ed Sand G	rains. <sup>2</sup> Lo	cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators	(Applica	ble to all	LRRs, u	nless othe	rwise note	d.)		Indicato	ors for Problematic Hydric Soils <sup>3</sup> :
Histoso	l (A1)			San	dy Redox (	S5)			2 cr	m Muck (A10)
	pipedon (A2	2)			oped Matrix					d Parent Material (TF2)
	listic (A3)				my Mucky N	,		t MLRA 1)	_	y Shallow Dark Surface (TF12)
	en Sulfide (/				my Gleyed				Oth	er (Explain in Remarks)
	ed Below Da		(A11)	_ :	leted Matrix				3	
	ark Surface				lox Dark Su		71			ors of hydrophytic vegetation and
	Mucky Mine Gleyed Matr				leted Dark : lox Depress		()			and hydrology must be present, ss disturbed or problematic.
Restrictive					lox Depless	10113 (1 0)			unies	as disturbed of problematic.
Type:	Layer (ii pi	cociity.								
Depth (in	iches).								Hydric Soil	I Present? Yes No
Remarks:	iches)								Tryunc 3011	resent: res No _E
Redox belo	ow 14in in	sand lave	r calciu	n denos	its light co	lor in darl	ker mati	riy		
Trodox boile		oarra ray c	i, calcial	чорос	no ngin oo	nor iii daii	noi man			
HYDROLO	NCV									
Wetland Hy		dioatore								
Primary Indi			a raquiro	t chock	all that appl	· · ·			Saga	ndary Indicators (2 or more required)
	•		ie reguire	a, check a	,		- (DD) /-	4		•
	· Water (A1)				Water-Stai			except		Vater-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (/	A2)				1, 2, 4A, aı	na 4B)			4A, and 4B)
Saturati	` '			<u> </u>	Salt Crust	. ,	(D40)			Orainage Patterns (B10)
	Marks (B1)	(50)		<u> </u>	Aquatic In					Ory-Season Water Table (C2)
	nt Deposits	(B2)		<u> </u>	Hydrogen				_	Saturation Visible on Aerial Imagery (C9)
	posits (B3)	(D.4)		<u>+</u>	Oxidized F		_	_		Geomorphic Position (D2)
	at or Crust (	B4)		+	Presence			•		Shallow Aquitard (D3)
	posits (B5)	(DC)		<u></u>	Recent Iro			-		FAC-Neutral Test (D5)
	Soil Cracks		(D	7)	Stunted or			T) (LKK A		Raised Ant Mounds (D6) (LRR A)
	ion Visible o				Other (Exp	olain in Rer	narks)		F	rost-Heave Hummocks (D7)
	y Vegetated	Concave	Sunace (	36)						
Field Obser			. $\square$	<b></b>	D	-1 >				
Surface Wat	ter Present?	′ Y €	s	No	_ ' '	ches):				
				No 🗸	Depth (in	ches):		I .		
I Saturation P	Present?									
	Present?	Υe			Depth (in	ches):			land Hydrolog	y Present? Yes 🔲 No 🔽
(includes ca Describe Re	Present? pillary fringe	Υ <b>є</b>	es 🔲	No <u></u>				Wetl		y Present? Yes No
(includes ca	Present? pillary fringe	Υ <b>є</b>	es 🔲	No <u></u>				Wetl		y Present? Yes No _ V
(includes ca Describe Re Remarks:	Present? pillary fringe ecorded Dat	Ye a (stream	gauge, mo	No	well, aerìal <sub>l</sub>			Wetl		y Present? Yes 🔲 No 🔽
(includes ca Describe Re	Present? pillary fringe ecorded Dat	Ye a (stream	gauge, mo	No	well, aerìal <sub>l</sub>			Wetl		y Present? Yes No <u>V</u>
(includes ca Describe Re Remarks:	Present? pillary fringe ecorded Dat	Ye a (stream	gauge, mo	No	well, aerìal <sub>l</sub>			Wetl		y Present? Yes No <u>V</u>
(includes ca Describe Re Remarks:	Present? pillary fringe ecorded Dat	Ye a (stream	gauge, mo	No	well, aerìal <sub>l</sub>			Wetl		y Present? Yes 🔲 No 🗹

Project/Site: Stone Creek - North	C	ity/County	, Madison	Co		Samp	ling Date:	6/13/	/2013
Applicant/Owner: MDT							ling Point:		
		Section, To	wnship, Rar	nge: S	22	<b>T</b> 5S	<b>R</b> 7W		
	[								0
Subregion (LRR): LRR E									
Soil Map Unit Name: Havre loam				1					
Are climatic / hydrologic conditions on the site typical fo									
Are Vegetation, Soil, or Hydrology								·] Nc	, $\Box$
Are Vegetation, Soil, or Hydrology				eded, explair					·
					-		•		4-
SUMMARY OF FINDINGS – Attach site m		Sampiii	ig point i	ocations,	transec	is, imp	ortant ie	atures	s, etc.
Hydrophytic Vegetation Present? Yes ✓ Hydric Soil Present? Yes ✓		ls th	ne Sampled	Area					
Wetland Hydrology Present?		with	nin a Wetlan	ıd?	Yes _	<u> </u>	lo <u> </u>	_	
Remarks:									
DP in depression with shallow seasonal ground	water, along lo	w gradie	nt of adjace	ent hay field	d.				
VEGETATION – Use scientific names of p	alanta								
VEGETATION - Ose scientific flames of p	Absolute	Dominan	t Indicator	Dominano	n Toet u	orkeboot			
Tree Stratum (Plot size:)	% Cover			Number of					
1				That Are C					(A)
2				Total Num	ber of Do	minant		4	
3				Species A				4	(B)
4	•			Percent of	Dominar	nt Species		0.5	
Sapling/Shrub Stratum (Plot size: )		= Total C	over	That Are C	DBL, FAC	W, or FAC	::		(A/B)
1	0			Prevalenc	e Index	workshee	t:		
2.	0					of:		oly by: 0	
3.	0			OBL speci			x 1 =	6	=
4	0			FACW speci		^	x 2 =	0	=
5	0			FAC speci			x 3 =	20	=
Herb Stratum (Plot size: 5ft )	0	= Total C	over	UPL speci		3	x 5 =	15	=
Chenopodium album	5	<b>✓</b>	FACU	Column To		11	(A)	41	(B)
Equisetum hyemale	3		FACW					3	_ ` '
3 Descurainia sophia	3	<b>~</b>	UPL	Hydrophy		dex = B/A			
4. Bromus inermis	5	<b>✓</b>	FAC	1 - Ra	_			etation	
5.	0				•	Test is >5			
6	0			3 - Pre	evalence	Index is ≤	3.0 <sup>1</sup>		
7				4 - Mo	rphologic	cal Adapta	tions¹ (Pro	vide sup	porting
8							a separat	e sheet)	
9				5 - We				1 /=1-	
10.				1 Indicators			Vegetation		
11				be present					Tiust
Woody Vine Stratum (Plot size:)		= Total Co	over						
1	0			Hydrophy	rtic				
2	0			Vegetatio		Yes 🗸	l		
85	0	= Total Co	over	Present?		Yes <del>_</del>	NO _		
% Bare Ground in Herb Stratum									
ixoniung.									
US Army Corps of Engineers				Western	Mountain	s, Valleys,	and Coas	t – Versi	on 2.0

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SOIL										Sampling Point: DP-8w
Profile Desc	cription: (	Describe	to the dep	th neede	ed to docu	ment the in	dicator	or confir	m the absence o	
Depth		Matrix			Rede	ox Features			_	
(inches)		(moist)	%	Color	(moist)	_ %	Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks
0-5	10YR	3/2	100						Silty Clay	
5-8	10YR	4/1	95	10YR	4/4	5	С	M	Clay	
8-14	10YR	5/2	95	10YR	4/6	5	С	М	Sandy Clay	
	-									
	-									
1 <sub>T</sub>		D-D			al Martaire O		0		- <u>- 21</u>	stine DI - Deer Linius M-Matrix
<sup>1</sup> Type: C=C Hydric Soil								a Sana (		ation: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :
Histosol					dy Redox					Muck (A10)
	pipedon (A	.2)		$\overline{}$	oped Matrix					Parent Material (TF2)
	istic (A3)	,				Mineral (F1)	(except	MLRA 1	=	Shallow Dark Surface (TF12)
Hydroge	en Sulfide (	(A4)				Matrix (F2)	•			(Explain in Remarks)
		ark Surfac	e (A11)	Dep	leted Matri	ix (F3)				
	ark Surface			Red	lox Dark Sı	urface (F6)			<sup>3</sup> Indicator	s of hydrophytic vegetation and
$\overline{}$	Aucky Mine					Surface (F7	')			d hydrology must be present,
	Sleyed Mat			<u> </u>	lox Depres	sions (F8)			unless	disturbed or problematic.
Restrictive	Layer (if p	resent):								
Type:	-l \								Uhadaia Gail E	>
Depth (in Remarks:	cnes):								Hydric Soil F	Present? Yes <u>V</u> No
HYDROLO										
Wetland Hy					-11.014				0	11
Primary India			ne required	i; check a			(5.5) (			dary Indicators (2 or more required)
	Water (A1	,				ained Leaves	. , ,	xcept		ater-Stained Leaves (B9) (MLRA 1, 2,
	ater Table	(A2)				. 1, 2, 4A, ar	1a 4B)			4A, and 4B)
Saturati	` '				Salt Crus		(D40)			ainage Pattems (B10)
	larks (B1)	(70)		-	,	nvertebrates				y-Season Water Table (C2)
	nt Deposits			<b>+</b>		Sulfide Odd		libria a Da		turation Visible on Aerial Imagery (C9)
	posits (B3)			<u></u>		Rhizosphere	_	_		omorphic Position (D2)
	at or Crust	` '		+		of Reduced on Reduction		-		allow Aquitard (D3)
	oosits (B5) Soil Crack			+	,	on Reduction or Stressed F				C-Neutral Test (D5) ised Ant Mounds (D6) ( <b>LRR A</b> )
			magery (B7	,		plain in Rem		I) (LKK		ost-Heave Hummocks (D7)
✓ Sparsely					) Other (⊏x	piairi in Reii	iaiks)			st-neave nummocks (D7)
Field Obser	vations:									
Surface Wat	er Present	? Y	es 1	۷o <u> </u>	Depth (ir	nches):		_		
Water Table	Present?	Υ	es 1	No 🔽	Depth (ir	nches):		_		
Saturation P (includes cap			es 1	Vo	Depth (ir	nches):		_ We	tland Hydrology	Present? Yes V No No
Describe Re	corded Da	ta (stream	gauge, mo	nitoring	well, aerial	photos, pre-	vious ins	pections	), if available:	
Remarks:										
Nemaiks.										

Project/Site: Stone Creek - North	Citv/C	ounty Madison	Со	Samp	oling Date:	6/11/2013
Applicant/Owner: MDT				T Samp		
	Section	ın Townshin Rar				
	Local					ne (%)· 0
Subregion (LRR): LRR E						
Soil Map Unit Name: Havre loam	Lat			I classification:		II
	- F f 0 V		_			
Are climatic / hydrologic conditions on the site typical for thi	_					
Are Vegetation, Soil, or Hydrology s	-		Normal Circums			No _L_
Are Vegetation, Soil, or Hydrology ı	naturally problema	itic? (If ne	eded, explain ar	ıy answers in R	emarks.)	
SUMMARY OF FINDINGS - Attach site map	showing sam	pling point lo	ocations, tra	nsects, imp	ortant fea	atures, etc.
Hydrophytic Vegetation Present? Yes N	lo					
	lo	Is the Sampled		res <u> </u>		
	lo	within a Wetlan	a? Y	es	VO	
Remarks:	- dt					
DP in small depression with seasonal shallow groun	nd water.					
VEGETATION – Use scientific names of plan	nts.					
разования направления		ninant Indicator	Dominance 1	Test worksheet	::	
Tree Stratum (Plot size:)	% Cover Spe			minant Species		0
1				, FACW, or FAC		(A)
2			Total Number	of Dominant		2
3			Species Acros	ss All Strata:		(B)
4			Percent of Do	minant Species	k	1
Sapling/Shrub Stratum (Plot size: )	= To	tal Cover	That Are OBL	, FACW, or FAC	<b>)</b> :	(A/B)
1	0 [			ndex workshee		
2.				Cover of:		_
3.	0 [		OBL species		x 1 =	0
4.	^ -		FACW specie		x 2 =	40
5	0 [		FAC species		x 3 =	0
E4.	= To	tal Cover	FACU species	s	x 4 =	0
Herb Stratum (Plot size: 5ft Juncus arcticus	20	<b>✓</b> FACW	UPL species Column Totals		x 5 =	400
Alopecurus arundinaceus		FAC	Column Total	5	(A)	(D)
Agrostis gigantea	_ <u></u>	FAC		nce Index = B/A		2.6
	$-\frac{3}{0}$			Vegetation Ind		
4	$-\frac{0}{0}$		I — .	Test for Hydron		ation
5		<del>-</del>		nance Test is >5		
6 7		<u> </u>		lence Index is ≤ nological Adapta		
8				n Remarks or or		
9.	0 [		5 - Wetla	nd Non-Vascula	ır Plants <sup>1</sup>	
10.	0 [		Problema	atic Hydrophytic	Vegetation <sup>1</sup>	(Explain)
11.	0 [			hydric soil and		
	50= Tot	al Cover	be present, ur	nless disturbed	or problema	itic.
Woody Vine Stratum (Plot size:)	0 [	$\neg$				
1	$-\frac{0}{0}$		Hydrophytic			
2			Vegetation Present?	Yes 🗸	No [	
% Bare Ground in Herb Stratum	=   of	al Cover				<del></del>
Remarks:			1			
US Army Corps of Engineers			Western Mou	untains, Valleys,	, and Coast	- Version 2.0
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SOIL										Sampling Point: DP-9w
Profile Des	cription:	(Describe	to the dep	th neede	ed to docur	nent the ir	ndicator	or confir	m the absenc	e of indicators.)
Depth		Matrix			Redo	x Features	,			
(inches)		(moist)	%	Color	(moist)	%	_Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks
0-2	10YR	4/3	100						Silt Loam	
2-5	10YR	3/2	95	10YR	2/1	5	D	M	Clay Loam	
5-12	10YR	4/1	95	10YR	4/6	5	С	М	Clay	
	-							-	-	_
	· ———									
<sup>1</sup> Type: C=C								ed Sand G		ocation: PL=Pore Lining, M=Matrix.
Hydric Soil		s: (Applic	able to all				:a.)			tors for Problematic Hydric Soils <sup>3</sup> :
Histoso	n (A1) Epipedon (/	Δ2)			idy Redox ( oped Matrix					om Muck (A10) ed Parent Material (TF2)
$\overline{}$	istic (A3)	72)			my Mucky M		) (excen	t MLRΔ 1		ery Shallow Dark Surface (TF12)
	en Sulfide	(A4)			my Gleyed			· III.E. C. T.		ther (Explain in Remarks)
		Dark Surfac	e (A11)	<b>✓</b> Dep	leted Matrix	k (F3)				• •
_	ark Surfac			Rec	lox Dark Su	rface (F6)				tors of hydrophytic vegetation and
_	Mucky Min				leted Dark		7)			land hydrology must be present,
	Gleyed Ma			<u></u> Rec	lox Depress	sions (F8)			unle	ess disturbed or problematic.
Restrictive	Layer (If	present):								
Туре:	- I X									" D
Remarks:	nches):								Hydric So	oil Present? Yes <u> </u>
HYDROLC										
Wetland Hy										
Primary Indi	-		ne require	d; check						ondary Indicators (2 or more required)
	Water (A				Water-Sta			except		Water-Stained Leaves (B9) (MLRA 1, 2,
_	ater Table	(A2)			1	1, 2, 4A, a	nd 4B)			4A, and 4B)
	ion (A3)			<u> </u>	Salt Crust		(D40)			Drainage Patterns (B10)
	Marks (B1)			<u> </u>	Aquatic In				_	Dry-Season Water Table (C2)
	nt Deposit			<u></u>	Hydrogen			Livina Da		Saturation Visible on Aerial Imagery (C9
	posits (B3 at or Crus			-	Oxidized F		_	_		Geomorphic Position (D2)
	posits (B5			-	Recent Iro		,	•		Shallow Aquitard (D3) FAC-Neutral Test (D5)
	Soil Crac			+	Stunted or			-		Raised Ant Mounds (D6) (LRR A)
_		on Aerial I	magery (B	7)	Other (Exp		•	/	_	Frost-Heave Hummocks (D7)
		ed Concave			, other (EX	Jiam III Itol	narks)			Trost-ricave riaminous (B7)
Field Obser										
Surface Wa		it? Y	es $\square$	No 🔽	Depth (in	ches):				
Water Table					Depth (in					
Saturation F				_	Depth (in				land Hydrolo	gy Present? Yes 🔽 No 🔲
(includes ca										
Describe Re	ecorded Da	ata (stream	gauge, m	onitoring '	well, aenat	pnotos, pre	vious ins	spections)	, if available:	
Remarks:										

Stone Creek – North STPP49-1(25)9 CN 7931000

## **Appendix C**

Photographs of Wetlands and Relevant Sites

MDT Wetland Mitigation Monitoring Stone Creek – North Beaverhead and Madison Counties, Montana



Photo 1

Desc: Stone Creek crossing at Highway 41.



Photo 2
Desc: Grade control and eroding bank downstream of Hwy 41.



Photo 3

Desc: Narrow riparian zone along Stone Creek upstream of Hwy 41.



Photo 4

Desc: Short reach with willow cover on Stone Creek.



Photo 5
Desc: Culvert on Stone Creek upstream of Hwy 41.



Photo 6
Desc: Check structure, pump, and culvert on Stone Creek.



Photo 7
Desc: Unnamed spring creek culvert beneath Hwy 41.



Photo 8
Desc: Impoundments on unnamed spring creek upstream of Hwy 41.



Photo 9
Desc: Impoundment #2 on unnamed spring creek.



Photo 10

Desc: Unnamed spring riparian corridor downstream of Hwy 41.



Photo 11

Desc: Narrow riparian corridor and channelized reach downstream of Hwy 41.



Photo 12
Desc: Hwy 41 bridge over Beaverhead River.



Photo 13

Desc: Concrete and steel abutments and piers from former river crossing.



Photo 15

Desc: Vegetated riparian corridor adjacent to Hwy 41 Bridge.



Photo 17

Desc: Riparian vegetation clearing downstream of Hwy 41.



Photo 14

Desc: Drain ditch entering Beaverhead River.



Photo 16
Desc: Riprap along left bank of Beaverhead River.



Photo 18

Desc: Bank sloughing on Beaverhead River downstream of Hwy 41.



Photo 19 Bearing: E Location: ~RM 14.8 Desc: Wetland determination data point BH-1w.



Photo 20 Bearing: SW Location: ~RM 14.8 Desc: Wetland determination data point BH-1u.



Photo 21 Bearing: W Location: ~RM 15.0 Desc: Wetland determination data point BH-2w.



Photo 22 Bearing: SE Location: ~RM 15.0 Desc: Wetland determination data point BH-2u.



Photo 23 Bearing: W Location: ~RM 15.1 Desc: Wetland determination data point BH-3w.



Photo 24 Bearing: SE Location: ~RM 15.9 Desc: Wetland determination data point BH-4w.



Photo 25 Bearing: N Location: ~RM 15.7 Desc: Wetland determination data point BH-5w.



Photo 26 Bearing: SE Location: ~RM 15.6 Desc: Wetland determination data point BH-6w.



Photo 27 Bearing: E Location: ~RM 15.5 Desc: Wetland determination data point BH-7w.



**Photo 28 Bearing:** NE **Location:** ~RP 15.4 **Desc:** Wetland determination data point BH-7u.

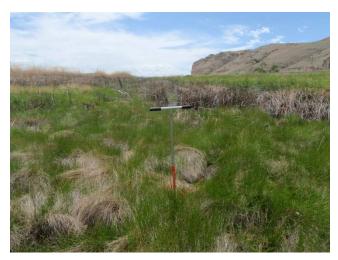


Photo 29 Bearing: SW Location: ~RM 15.2 Desc: Wetland determination data point BH-8w.



Photo 30 Bearing: NW Location: ~RM 14.8 Desc: Wetland determination data point BH-9w.



Photo 31 Bearing: W Location: ~RM 14.7 Desc: Wetland determination data point BH-10w.



Photo 32 Bearing: E Location: ~RM 14.5 Desc: Wetland determination data point BH-11w.



Photo 33 Bearing: S Location: ~RM 14.5 Desc: Wetland determination data point BH-11u.



Photo 34 Bearing: SW Location: ~RM 14.4 Desc: Wetland determination data point BH-12w.



Photo 35 Bearing: S Location: ~RM 14.4 Desc: Wetland determination data point BH-12u.



Photo 36 Bearing: E Location: ~RM 14.6 Desc: Wetland determination data point BH-13w.



Photo 37 Bearing: NE Location: ~RM 14.6 Desc: Wetland determination data point BH-13u.



Photo 38 Bearing: SE Location: ~RM 14.6 Desc: Wetland determination data point BH-14w.



Photo 39 Bearing: N Location: ~RM 14.6 Desc: Wetland determination data point BH-14u.



Photo 40 Bearing: N Location: ~RM 14.5 Desc: Wetland determination data point BH-15w.



Photo 41 Bearing: SE Location: ~RM 10.2 Desc: Wetland determination data point UT-1w.



Photo 42 Bearing: SE Location: ~RM 11.2 Desc: Wetland determination data point UT-2w.



Photo 43 Bearing: SW Location: ~RM 9.0 Desc: Wetland determination data point ST-1w.



Photo 44 Bearing: SW Location: ~RM 9.0 Desc: Wetland determination data point ST-1u.



Photo 45 Bearing: SW Location: RM 13.7

Desc: High wildlife-vehicle collision area deemed unsuitable for potential wildlife underpass based on topography.



Photo 46 Bearing: S Location: ~RM 15.5 Desc: High wildlife-vehicle collision area deemed unsuitable for potential wildlife underpass based on hydrology.



Photo 47 Bearing: N Location: RM 11.2 Desc: Most suitable location for a potential wildlife underpass identified at UT-2.



Photo 48 Bearing: N Location: RM 10.2 Desc: Potential wildlife underpass location at UT-1.



Photo 49 Bearing: W Location: RM 9.02

Desc: Potential location for wildlife underpass, could be incorporated into Stone Creek Bridge design.



Photo 50 Bearing: W Location: ~RM 15.2 Desc: Beaked spikerush population identified along study area boundary in irrigation canal.



Photo 51 Bearing: S Location: ~RM 15.2 Desc: Beaked spikerush population identified along study area boundary in irrigation canal.

Biological Resources	Report/Biological	Assessment
October 2013		

Stone Creek – North STPP49-1(25)9 CN 7931000

# **Appendix D**

2008 MDT Montana Wetland Assessment Forms

MDT Biological Resources Report Stone Creek – North Beaverhead and Madison Counties, Montana

### **MDT Montana Wetland Assessment Form (revised March 2008)**

1. Project name	Stone Creek	- North		2. MDT	project#	ST	PP49-1(25)9		Contr	ol#	7931000
3. Evaluation Date	6/13/2013	4. Evaluators	B Sar	ndefur	5.	Wet	land/Site# (s)	WL-13			
6. Wetland Location(	s): T	5S R	7W	Sec1	22	Т	R		Sec2		
Approx Stationing or	Mileposts	RP 14.72									
Watershed 1002	0002	W	atersl	ned/Coun	ty Beave	rheac	River, Madiso	n Co. Upp	er Missour	i	
7. Evaluating Agency	Confl	uence for MDT					8. Wetland	size acres	3		0.65
Purpose of Evaluation	on						How assesse	ed:	Measured	d e.g. l	by GPS
✓ Wetlands potent	ially affected	by MDT project					9. Assesssn				0.65
☐ Mitigation Wetla	nds: pre-con	struction					(AA) size (ac		Measured	e.a. k	ov GPS
☐ Mitigation Wetla	nds: post coi	nstruction									, , , ,
Other											
10. Classification of	Wetland and	l Aquatic Habitat	s in A	Α							
HGM Class (Brinson	) Cla	ss (Cowardin)		Modifie	er (Coward	in)	Water Re	egime	9	% of A	A
Depressional	Eme	rgent Wetland					Seasonal/Int	termittant			50
Depressional	Scrul	b-Shrub Wetland					Seasonal/Int	termittant			50
<ol> <li>Estimated Relativ</li> <li>General Condition</li> <li>Disturbance: (use aquatic nuisance veç</li> </ol>	on of AA matrix below to	o determine [circle] a		riate respon	se – see ins	tructio	ns for Montana-li	sted noxiou	us weed and		
			Mari			1	conditions adjacent	•	<u> </u>		h a suith a mana at
Con	ditions within AA		natu haye conv road	aged in predo ral state; is no ed, logged, or rerted; does n s or buildings d or ANVS con	ot grazed, otherwise ot contain ; and noxious	mod sele subj few	d not cultivated, but lerately grazed or ha ctively logged; or ha ect to minor clearing roads or buildings; r d or ANVS cover is	ayed or as been g; contains noxious	or logged; placement hydrologic	subject , grading al altera ensity; o	heavily grazed to substantial fill g, clearing, or tion; high road or r noxious weed >=30%.
AA occurs and is managed in grazed, hayed, logged, or oth roads or occupied buildings; <=15%.	nerwise converted;	does not contain	le	ow distur	bance		low disturba	nce	model	rate d	listurbance
AA not cultivated, but may be selectively logged; or has be placement, or hydrological al noxious weed or ANVS cover	en subject to relati teration; contains f	vely minor clearing, fill		modera disturba		m	oderate distu	rbance	high	n dist	urbance
AA cultivated or heavily graze substantial fill placement, grahigh road or building density >=30%.	iding, clearing, or l	nydrological alteration;	hi	igh distur	bance		high disturba	nce	high	n disti	urbance
Comments: (types of Adjacent to highway, A				)							
ii. Prominent noxious	, aquatic nui	sance, other exo	tic sp	ecies:							
iii. Provide brief desc AA in historic ox bow w							corridor and aç	g.			

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Modified Initial Is current management preventing (passive) Existing # of "Cowardin" Vegetated Classes in AA Rating existence of additional vegetated classes? R ating >=3 (or 2 if 1 is forested) classes NA NΑ NA Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture Μ <NO YES> L 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA L Comments: Scrub-shrub, emergent 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S ✓ S No usable habitat ii. Rating (use the condusions 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 1H .9H .8H .7M .3L .1L 0L Rating USFWS T&E list by county Sources for documented use 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 D S Secondary habitat (list Species)  $\bigcirc$  D  $\bigcirc$  S Incidental habitat (list species) S **~** No usable habitat 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 .7M .8H .6M 0L 1H .2L .1L Rating S2 and S3 Species: Functional Points and .9H .7M .6M .5M .2L .1L 0L Rating MTNHP SOC report Sources for documented use

																			Mod	erate	9	
ıbstantial (base	d on an	y of the	following	g [che	ck]):						Minir	<b>nal</b> (b	ased or	any of	the foll	owing	[check])	:				
observations	of abun	dant wil	dlife #s	or high	n specie	es diver	sity (dur	ing an	y period	1)	fe	w or n	o wildlif	e obser	vations	during	peak u	se perio	ods			
abundant wild	dlife sigr	n such a	s scat, t	racks,	, nest st	ructure	s, game	trails,	etc.		lit	tle to n	o wildli	e sign								
presence of e	extremel	y limitin	g habita	t featu	ires not	availat	ole in the	surro	unding	area	sp	arse a	adjacen	tupland	d food s	ources						
interviews wit	h local l	biologist	s with k	nowle	dge of t	he AA					in	terviev	vs with	ocal bid	ologists	with kı	nowledg	e of the	AA			
derate (based	on any o	of the fol	llowing [	check	]):																	
observations	of scatte	ered wile	dlife gro	ups or	rindivid	uals or	relativel	y few s	species	during	peak pe	riods										
common occu	urrence	of wildli	fe sign s	such a	s scat, t	tracks,	nest stru	uctures	s, game	trails, e	etc.											
adequate adja	acent up	oland fo	od sour	ces																		
interviews wit	h local t	biologist	s with k	nowle	dge of t	he AA																
. Wildlife hab om #13. For ther in terms of ermanent/pero erms])	class of their	cover to percer	be cont	nside positi	ered ev	enly d he AA	istribute (see #	ed, th	e mos Abbrev	t and I	east pr s for su	evale ırface	nt <b>veç</b> water	<b>etate</b> durati	d class ons are	es mo	ust be v	within : P/P =	20% c	f eacl		
tructural versity (see				Hi	gh							Mode	erate					Lo	w			
(13) Class cover																						
listribution (all egetated		Even Uneven								Eve	en			Une	ven			Eve	en			
lasses) Duration of urface water in ≥ 0% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	Α	P/P	S/I	T/E	А	P/P	S/I	T/E	А		
ow disturbance t AA (see #12i)	Е	Е	E	н	Е	Е	Н	Н	Е	Н	н	М	Е	Н	м	м	Е	Н	М	М		
														_								
sturbance at AA	Н	н	н	н	Н	н	Н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L		
isturbance at AA see #12i) igh disturbance	. М	М	М	H	М	М	H L	L	H M	М	M L	M L	М	M	M L	L	L	L	L	L		
sturbance at AA ee #12i) gh disturbance AA (see #12i)	M use th	M e cond	M	L	M	M	L	L	М	M atrix b	L	L arri	M ve at	L [chec	L k] the	funct	L	L	L	L	)	
isturbance at AA see #12i) igh disturbance t AA (see #12i) ii. Rating (t Evidence of v	M use th	M e cond	M	L L	M	м nd ii a	L	L	М	M atrix b	elow to	L arri	M ve at	L [chec	L k] the	funct	L	L	L	L	) Low	
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Moderate disturbance at AA see #12i) digh disturbance at AA (see #12i) dight disturbance at	M use th	M e cond	M	L L	om i a	nd ii a	L	L	М	M Atrix b V High	elow to	L arri	M ve at	L [chec	k] the	funct g (ii) derat	L	L	L	L	Low .7M	
disturbance at AA see #12i) diligh disturbance at AA (see #12i) diligh disturbance at AA (see #12i) diligh disturbance at AA (see #12i) dilight and the see #12ii dilight and	wise the wildlife	Habitan [i.e., pitat co	t Ratii	ns fro	M Exception 1 a 1 Exception 1	nd ii a	above a	and t	the A culve	M High .91 .71 .41	L L L L L L L L L L L L L L L L L L L	o arrie	M vve at feather than or the or the r, etc.	L   Chec   Che	k] the srating Mo	funct g (ii) derat 8H .5M .2L	e on is "ot used	points  correctly by fish	and table sh, fis	rating" such	Low .7M .3L .1L	AA AA
isturbance at AA see #12i) iii. Rating ( Evidence of v  Substantial  Moderate  Minimal  Demments  D. General I uld be used  I NA here  Habitat Qu	wse the wildlife	Habitan [i.e., poitat coroceed	t Ratiusion transition and to 14	ng: (see is ints, E.)	M = Except 1E .9H .6N .6N	m m m m m m m m m m m m m m m m m m m	above a	and t	the Ma	M High 19 .91 .41 A is u	elow to Wildlife on H	o arriver habit	or the	checicles atures	k) the strating sine AA as fis	funct g (ii) derat 8H .5M .2L tuation is no	e e e e e e e e e e e e e e e e e e e	points  correct  I by fis  d in a	and table sh, fis	rating" such	Low .7M .3L .1L	AA AA
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i. Habitat Quality and	Known	/Suspec	ted Fish	Specie	s in A	A (use m	natrix to	arrive a	t [c he ck	the funct	ional po	ints and	rating)					_
Duration of surface water in AA		Pei	rmanent / I	Perennial				Se	asonal / I	Intermitten	t			Tem	porary/	Epheme	ral	
Aquatic hiding / resting / escape cover	Op	timal	Adeq	uate	Po	oor	Opti	mal	Ade	quate	Po	or	Opti	mal	Adeo	quate	Po	oor
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	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	.6М	.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	urces used for identifying fish sp. potentially found in AA:													
a) Is fish use of the current final MDE fishery or aquatic	ing (NOTE: Modified the AA significantly rec EQ list of waterbodies If if	duced by a cl in need of Tl luatic nuisan	ulvert, d MDL de ce plan	dike, or othe evelopment	er m with	nan-made s n listed "Pro	obable Imp	aired	Úses"	includin	g cold or w	varm water		
,	ontain a documented ative fish or introduced		_	ther critical			e (i.e., sand add 0.1 to a <b>Modife</b> d	he ad	ljusted				n	
iii. Final Score a	and Rating: 0 NA		Comme	ents:										
14E. Flood Attr	enuation: (Applies or bank flow, click	nly to wetland NA here a				via in-chani	nel or over	bank f	flow. If	f wetland	ls in AA ar	e not flood	ed from in-	
	ing from top to bottom alculated Entrenchmer			ow to arrive			functiona Moderat				Entrenc	hed-A, F, (	3 stream	
1994, 1996)		.,,		stream t					n type		2.11.0110	types	000	
% of flooded we and/or scrub/sh	etland classified as for rub	estea	75%	25-75	5%	<25%	75%	25-	-75%	<25%	75%	25-75%	<25%	
AA contains no	outlet or restricted of	outlet	1H	.91	+	.6M	.8H	.7	7M	.5M	.4M	.3L	.2L	
AA contains un	restricted outlet		.9H	.81	1	.5M	.7M	.6	6M	.4M	.3L	.2L	.1L	
	Slightly Entrenched				•	Entrenched					ntrenched			
C stream type	ER = >2.2 D stream type	E stream typ	oe .			<b>11 – 2.2</b> n type	A	stream	type		tream typ		stream type	
	<b>****</b>	<del>-</del>		~						}			₩	
	2 x Bases of wetland in the AA ownstream of the AA (		/ Bar wid	Bankfu nkfull th	ll Do	epth	res which i	may b	Banki	full Wid	chment	y floods lo	cated	
upland surface 14G.)  i. Rating (W. water duration further definition and the surface of the sur	nd Long Term Sur e flow, or groundwa forking from top to b as are as follows: P/ ons of these terms] m acre feet of water conte acre feet of water conte	oottom, use (P = permai.)  anined in eriodic	no we	tlands in t atrix belov	he / v to S/I =	AA are su arrive at	bject to fl [check] th	oodin ne fur ent; a	ng or p	onding, al points	dick [ and ratir	NA hei	re and proc	surface
			- 1	1				1					3/1	1
Wetlands in AA flo	od or pond ≥ 5 out of 10	years	1H	.9H	H	.8H	.8	H		6M	.5M	.4M	.3L	.2L
Madanda in AA ()			.9H	.8H		.7M	.7	M		5M	.4M	.3L	.2L	.1L

Comments:	

	gh influ											vith poter subject						ortoxic and proc	
	• •	working	from to	p to bot	ttom, us	se the r	natrix be	elow to	arrive a	at [chec	k] the f	unctiona	ıl points	s and ra	ating [H	= high,	M = mo	oderate,	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  Evidence of flooding / ponding in AA					≥ 70%		< 70%				≥ 70%				< 70%			
ΛΛ					Yes No			Ye	S	No	_	Yes	s No		)	Yes		No	
	AA contains no or restricted outlet  AA contains unrestricted outlet				11	٠ .	8H	.71	1	.5M	Ц	.5N	1	.4	M	.3L	4	.2L	Щ
AA 001	A COLICIEN GUITESCITCLEG OUTER				.9H	1 .	7M	.6N	/	.4M		.4N	1	.3	L	.2L		.1L	
Comi	ments	:																	
draina procee i. Rat	ge, or or ed to 14l ting (wo	n the sho	oreline o	f a stand	ling wate	er body v	which is	subject arrive a	to wave : t [check]	action. the fund	f 14H d	river, stre oes not a oints and rooted veg	pply, cli		tural or i		de T		
shorelin	ne by spe	cies with s			Porr	nanent / I	Parannial	Baration		asonal / Ir	•	ì		amnorary	/ Enhame	ırəl			
of ≥6 (s ≥ <b>65</b> %	of ≥6 (see Appendix F). > 65%					1H	1		.9H				ent Temporary / Ephemeral						
	35-64%					.7M			.6M			.5M							
< 35%					.3L				.2L						1L		t		
i. L Ger	Produ	Biologic sh Habit	cal Activ		thesis of	wildlife			ratings [d										
	E/H H				1 н 1				м										
	M H				M				М										
	L M				М				L										
	N/A H				М				L										
wetlan subsur	nting (W d comportace out	orking fronent in tlet; the for fur	the AA; final thre rther def	Factor B e rows p initions c	s = level pertain to of these	of biologo duratio	gical activ	vity ratir ace wat	ng from a	bove (14 AA, whe	4I.i.); Fa ere P/P,	points and ctor C = v S/I, and T	whether	or not thas previo	ne AA co ously de	ntains a	surface d A = "a	or	
B C	B High Moderate					ow No	Hi Yes	gh No		erate No		ow No	Hi Yes	igh No		erate No		ow 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	.4M	.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	
plant corcontrol).  a) Is the to the so	ver, ≤ 15	5% noxic	ous weed	d or ANV	/S cover	, and the	at is not	subjecte	ed to per	iodic me	chanica	Upland E Il mowing			ess for v		.1		

i. Discharge Indicators ii. Recharge Indicators Permeable substrate present without underlying impeding layer The AA is a slope wetland Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: 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: 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 None Groundwater Discharge or Recharge .4M .1L 1H .7M 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) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations wetland or plant association listed and structural diversity (#13) is plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative commo abundant abundant common abundant rare rare common rare abundance (#11) n Low disturbance at AA .9H 1H .8H .8H .6M .5M .5M .4M .3L (#12i) Moderate disturbance at .9H .8H .7M .2L .7M .5M .4M .4M .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .4M .3L .3L .2L .1L (#12i) 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 **V** NA here and proceed to the overall summary and rating page) 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 Potential Known 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: **General Site Notes** 

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

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	0	1	0	
C. General Wildlife Habitat	М	.5	1	0.325	
D. General Fish Habitat	NA	0	0	0	
E. Flood Attenuation	NA	0	0	0	
F. Short and Long Term Surface Water Storage	L	.3	1	0.195	
G. Sediment/Nutrient/Toxicant Removal	Н	1	1	0.65	
H. Sediment/Shoreline Stabilization	NA	0	0	0	
Production Export/Food Chain Support	L	.3	1	0.195	
J. Groundwater Discharge/Recharge	Н	1	1	0.65	
K. Uniqueness	L	.3	1	0.195	
L. Recreation/Education Potential (bonus points)	NA	0	NA	0	
Totals:		3.4	8	2.21	
Percent of Possible Score		42.5 %		e e e e e e e e e e e e e e e e e e e	

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)



1. Project name	Stone Cree	k - North		2. MD	Tpro	oject#	ST	PP49-1(25	5)9		Cor	ntrol#	7931000
3. Evaluation Date	6/11/2013	4. Evaluate	ors BS	andefur		5.	Wet	land/Site#	(s)	WL-14			
6. Wetland Location(s	s): T	5S I	R 7W	Sec	1 2	2	Т		R		Sec2		
Approx Stationing or	Mileposts	RP 14.90											
Watershed 10020	0002		Water	shed/Cou	nty	Beave	rhead	River, Ma	diso	n Co. Upp	er Misso	uri	
7. Evaluating Agency	Con	fluence for MD	T					8. Wetla	nd s	size acres	s		0.13
Purpose of Evaluation	on							How ass	ess	ed:	Measu	ed e.g	by GPS
✓ Wetlands potenti	ally affecte	d by MDT pro	ject					9. Asses		nent area			0.13
Mitigation Wetlar	nds: pre-co	nstruction						How ass	•	,	Measur	ed e.g.	by GPS
☐ Mitigation Wetlar	nds: post co	onstruction											
Other													
10. Classification of	Wetland an	nd Aquatic Hal	bitats in	AA									
HGM Class (Brinson)	) CI	lass (Cowardi	n)	Modif	fier (	Coward	in)	Wate	r Re	gime		% of	AA
Depressional	Em	ergent Wetland	b					Seasona	al/Int	termittant			50
Depressional	Scr	ub-Shrub Wetl	and					Seasona	al/Int	termittant			50
								] [					
General Conditio     i. Disturbance: (use aquatic nuisance veg	matrix below			priate respons		Predo	ominant	ns for Monta	acent	to (within 50	0 feet of) A	1	or heavily grazed
Cond	litions within AA		na ha coi roa	tural state; is yed, logged, nverted; does ads or building ed or ANVS o	not gra or other not co gs; and	azed, erwise ontain d noxious	mod sele subj few	erately grazed ctively logged; ect to minor cle roads or buildi d or ANVS cov	or ha or ha earing ngs; r	ayed or as been g; contains noxious	or logge placement hydrolo building	ed; subjed ent, gradi gical alte	ct to substantial fill ng, clearing, or ration; high road or or noxious weed
AA occurs and is managed in grazed, hayed, logged, or otheroads or occupied buildings; a <=15%.	erwise converte	d; does not contain		low distu	urbai	nce		low distu	ırba	nce	mod	lerate	disturbance
AA not cultivated, but may be selectively logged; or has bee placement, or hydrological alt noxious weed or ANVS cover		mode disturb		e	m	oderate d	istu	rbance	hi	gh dis	turbance		
AA cultivated or heavily graze substantial fill placement, grachigh road or building density; >=30%.	ation;	high distu	urba	nce		high distu	urba	ince	hi	gh dis	turbance		
Comments: (types of o		e, intensity, se	eason, et	c)									
ii. Prominent noxious,	aquatic nu	isance, other	exotic s	pecies:									
Cirsium arvense	rintina	many of AA	ad c	unding in	n el	00/b55'	tot.						
iii. Provide brief desc AA in historic ox bow in					na u	se/nabli	ldt						

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Initial Is current management preventing (passive) Modified Existing # of "Cowardin" Vegetated Classes in AA Rating existence of additional vegetated classes? R ating >=3 (or 2 if 1 is forested) classes NA NΑ Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture Μ <NO YES> L 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA L Comments: Both emergent and shrub habitats present 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S ✓ S No usable habitat ii. Rating (use the condusions from i above and the matrix below to arrive at [check] the functional points and rating) doc/secondary Highest Habitat Level doc/primary sus/primary sus/secondary doc/incidental sus/incidental None Functional Points and 1H .9H .8H .7M .3L .1L 0L Rating USFWS T&E list by county Sources for documented use 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 D S Secondary habitat (list Species) Incidental habitat (list species) O D S Golden Eagle S No usable habitat 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 .7M .6M 0L 1H .8H .2L .1L Rating S2 and S3 Species: Functional Points and .9H .7M .6M .5M .2L 0L .1L Rating MTNHP SOC report Sources for documented use

																			Mod	erate	)	
<b>bstantial</b> (base	d on any	y of the f	following	g [che	ck]):						Minir	<b>nal</b> (b	ased or	any of	the foll	owing	[check])					
observations	of abund	dant wild	dlife #s	or high	n specie	es diver	sity (dur	ring an	y period	)	fe	w or n	o wildlif	e obser	vations	during	peak u	se perio	ds			
abundant wild	llife sign	such a	is scat, t	racks,	, nest st	ructure	s, game	trails,	etc.		lit	le to r	o wildlif	e sign								
presence of e	xtremel	y limiting	g habita	t featu	ıres not	availab	ole in the	e surro	unding a	area	sp	arse a	adjacent	tupland	food s	ources	i					
interviews wit	h local b	oiologist	s with k	nowled	dge of t	he AA					in	terviev	vs with I	ocal bi	ologists	with kı	nowledg	e of the	AA			
observations observations common occu adequate adji interviews wit wildlife hab	of scatte urrence acent up th local b	ered wild of wildlif bland foo biologist	dlife gro ife sign s od sourc ts with k	oups or such as ces nowled	r individing s scat, to dge of the m top	tracks, he AA to bott	nest stru	uctures	s, game	trails, e	etc. A attrib	outes										
ther in terms																			20% 0	n eaci	1	
permanent/per																			tions (	of thes	se	
erms])								1													1	
Structural diversity (see				Hiç	gh							Mode	erate					Lov	W			
#13) Class cover																						
distribution (all		Eve	en			Une	ven			Eve	en			Une	ven			Eve	n			
regetated classes)														ı						1		
Ouration of curface water in ≥	P/P	S/I	T/E	Α	P/P	S/I	T/E	А	P/P	S/I	T/E	Α	P/P	S/I	T/E	A	P/P	S/I	T/E	А		
0% of AA .ow disturbance		$\vdash$																				
t AA (see #12i)	Е	E	Е	н	Е	Е	Н	н	Е	Н	н	М	Е	Н	М	м	Е	Н	М	М		
Moderate																						
disturbance at AA see #12i)	Н .	Н	Н	Н	Н	Н	Н	M	Н	Н	. M	M	Н	М	М	L	Н	M	L	L		
High disturbance at AA (see #12i)	М	М	М	L	М	м	L	L	М	М	l ,	L	М	1	L				L			
<b>iii. Rating</b> ( Evidence of v				ns fro	om ia	nd ii a	above a	and t	he ma				ive at				tional j	points	and	rating	)	
		(	7	F	Except	tional				High						derat	е				Low	
Substantial					1E					.91						.8H					.7M	1
						- 1				.71	И					.5M					.3L	
Moderate	.9П					-		$\vdash$		.41												-
					.61/	1					VI II					.21						
Moderate Minimal					.6N	1				.41	VI					.2L					.1L	н
Minimal																						
Minimal  comments  4D. General  could be used estorable due  NA here	by fish to hat and pr	n [i.e., oitat co roceed	fish us onstrai d to 14	se is ints, IE.)	(Asses preclu or is r	ss this	by per sired f	ched from	culve a man	A is u rt or c	sed by ther b	arrie erspe	r, etc.] ective	. If th [such	ting sine AA	tuatio is no h ent	t used rappe	l by fis d in a	h, fis	h use	n that the	e AA
D. General luld be used storable due NA here	by fish to hab and pr	n [i.e., pitat co	fish us onstrai d to 14	se is ints, IE.)	(Asses preclu or is r	ss this	by per sired f	ched from	culve a man	A is u rt or c	sed by ther b	arrie erspe	r, etc.] ective	. If th [such	ting sine AA	tuatio is no h ent	t used rappe	l by fis d in a	h, fis	h use	n that the	e AA
Minimal  omments  4D. General  ould be used estorable due  NA here	by fish to hab and pr	n [i.e., pitat co	fish us onstrai d to 14	se is ints, IE.)	(Asses preclu or is r	ss this uded I not de	by perosired f	ched from	culve a man	A is u rt or c	sed by ther b	arrie erspe	r, etc.] ective	l. If the such	ting sine AA as fis	tuatio is no h ent	t used rappe	l by fis d in a	sh, fis cana	h use	n that the	

i. Habitat Quality and	Known	Suspec	tea Fish	Specie	25 III A	a (use n	iallix lo	ariive a	t [Check	the lunct	ionai po	ints and	a raung)					
Duration of surface water in AA		Pe	rmanent /	Perennial	ļ.			Se	asonal /	ntermitten	t			Tem	porary/	Epheme	eral	
Aquatic hiding / resting / escape cover	Opt	imal	Adeq	uate	Po	oor	Opti	mal	Ade	quate	Po	or	Opti	mal	Adeo	quate	Po	oor
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	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	.8Н	.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 habilat? Y 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?  $\bigcirc$  Y  $\bigcirc$  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-NA here and proceed to 14F.) channel or overbank flow, click Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) Slightly entrenched - C, D, E Estimated or Calculated Entrenchment (Rosgen Moderately entrenched - B Entrenched-A, F, G stream 1994, 1996) stream types stream type types % of flooded wetland classified as forested 75% 25-75% <25% 75% 25-75% <25% 75% 25-75% <25% and/or scrub/shrub 1H AA contains no outlet or restricted outlet .9H .6M .8H .7M .5M .4M .3L .2L AA contains unrestricted outlet .6M .4M .3L .2L .1L .9H .8H .5M .7M Slightly Entrenched Moderately Entrenched Entrenched ER = >2.2 ER = 1.41 - 2.2 ER = 1.0 - 1.4G stream type C stream type D stream type E stream type B stream type A stream type F stream type 2 x Bankfull Depth Flood-prone Width Bankfull Width Bankfull Depth Floodrpone Bankfull Entrenchment width ratio width 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, dick 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 >5 acre feet 1.1 to 5 acre feet ≤1 acre foot flooding or ponding Duration of surface water at wetlands within the AA P/P T/E P/P T/E P/P S/I T/E S/I S/I 1H .9H .8H .8H .6M .5M .4M .2L .3L Wetlands in AA flood or pond ≥ 5 out of 10 years .9H .8H .7M .7M .5M .4M .3L .2L .1L

Comments:	

Wetlands in AA flood or pond < 5 out of 10 years

	gh influ			<b>/Toxican</b> r ground														ortoxic and proc	
i. Ra	. • `	vorking	from t	op to bot	tom, us	e the n	natrix be	elow to	arrive a	at [chec	k] the f	unctiona	l points	s and ra	ating [H	= high,	M = m	oderate,	or L
Sedim	<i>'</i>	ient, and A	toxica	ntinput	com not	o delive pounds substar	·levels o at levels tially imp	f sedime such tha aired. M ts or tox	ents, nutr at otherfollinorsed icants, o	vith poter rients, or unctions imentation r signs of	are n,	deve nutrients with pot compoun	lopment s, or toxi ential to ds such	for "pro cants <b>or</b> deliver that oth tion, sou	bable cau AA rece high leve er functio	uses" relatives or solids of sed on sare solutrients	ated to surround iments, ubstantia	d of TMDL ediment, ing land u nutrients, ally impair nts, or sig	se or red.
		tland veg oding / p				≥ 70%			< 70	)%			≥ 70	%			< 70	%	
					Yes		No .	Ye	s	No		Yes	.	No	)	Yes	_	No	
AA COI	ntains <b>n</b> o	o or rest	rictea	outlet	1H	1 .	8H	.7N	1	.5M		.5N	1	.4	М	.3L	.	.2L	
AA coı	ntains <b>u</b> i	nrestrict	ed out	et	.91	1 .	7М	.6N	Л	.4M		.4N		.3	L	.2L		.1L	
Comi	ments	:																	
drainag proces i. Rat	ge, or or ed to 14l t <b>ing</b> (wo	n the sho	oreline m top t	abilization of a stand	ing wate	er body v	which is	subject arrive a	to wave t [check]	action. I	f 14H d	oes not a	pply, cli rating)		tural or n		le I		
shorelir	e by spe	cies with s			Pern	nanent / l	Perennial	Duration		asonal / In		<del></del> i		emnorary	/ Epheme	ral			
	ee Appe	ndix F).			r em		1						- 10			ıaı			
≥ 65% 35-64%	·					1H .7N	_			.9l .6l	-				7M 5M				
< 35%						.3L				.21					.1L				
			•	ood Chaii	• • •		and fish	habitat	ratings [	check])									
		sh Habit 14D.iii.)	at	G/E/H	eneral V	Vildlife	Habitat M	Rating	(14C.iii.)	) L	_								
	E/I	•		Н	1		н			м									
	N			Н			М			М									
	L			М			М			L									
	N/	Α		Н			М			L									
wetlan subsur	d compo face ou	onent in the f	the AA inal thi	to bottom; Factor B ee rows p	= level ertain to	of biolog duratio	ical activ	itv ratir	na from a	above (14	II.i.): Fa	ctor C = v	vhether	or not th	ne AA co	ntains a	surface	or	
A B	Н	Vege igh		mponent >5 a oderate	Lo	ow	Hi			ponent 1-5 a lerate		ow	Н	Veg gh	etated com Mode			DW DW	
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
P/P	1E	.7H	.8H		.6M	.4M	.9H	.6M	.7H	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L	
S/I	.9H .8H	.6M	.7H .6M	.4M	.5M .4M	.3L .2L	.8H .7H	.5M	.6M	.3L	.4M .3L	.2L .1L	.7H	.5M	.5M	.3L .2L	.3L	.2L .1L	
lant co	lified Ra ver, ≤ 15	ating (No.	NOTE:	Modified ed or ANV t-wide veg ljust rating	score ca	annot ex	ceed 1 c	or be lessubjecte	es than 0 ed to per	.1.) Veg	etated chanica	Upland B	Suffer (\	/UB): A	rea with	≥ 30%			
Comm																			

i. Discharge Indicators ii. Recharge Indicators The AA is a slope wetland Permeable substrate present without underlying impeding layer Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: 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: 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 None Groundwater Discharge or Recharge 1H .4M .1L .7M Insufficient Data/Information Comments: 14K. Uniqueness: i. Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations and structural diversity (#13) is wetland or plant association listed plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative commo abundant abundant common abundant rare rare common rare abundance (#11) n Low disturbance at AA .9H 1H .8H .8H .6M .5M .5M .4M .3L (#12i) Moderate disturbance at .9H .8H .7M .2L .7M .5M .4M .4M .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .4M .3L .3L .2L .1L (#12i) 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 **V** NA here and proceed to the overall summary and rating page) 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 Potential Known 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: **General Site Notes** 

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

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0	1	0	
B. MT Natural Heritage Program Species Habitat	L	.1	1	0.013	
C. General Wildlife Habitat	М	.5	1	0.065	<b>✓</b>
D. General Fish Habitat	NA	0	0	0	
E. Flood Attenuation	NA	0	0	0	
F. Short and Long Term Surface Water Storage	L	.3	1	0.039	
G. Sediment/Nutrient/Toxicant Removal	Н	1	1	0.13	<b>✓</b>
H. Sediment/Shoreline Stabilization	NA	0	0	0	
Production Export/Food Chain Support	М	.6	1	0.078	<b>✓</b>
J. Groundwater Discharge/Recharge	М	.7	1	0.091	<b>✓</b>
K. Uniqueness	L	.3	1	0.039	
L. Recreation/Education Potential (bonus points)	NA	0	NA	0	
Totals:		3.5	8	0.455	
Percent of Possible Score			43.75 %		

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 #).



1. Project name	Stone Cree	ek - North		2. MDT	project#	S	ΓPP49-1(25	5)9		Co	ntrol#	793100	00
3. Evaluation Date	6/11/2013	4. Evaluators	B Sar	ndefur	5	. Wet	land/Site#	(s)	WL-15				
6. Wetland Location(s	s): T	5S R 7	W	Sec1	22	Т		R		Sec2			
Approx Stationing or	Mileposts	RP 15.0											
Watershed 10020	0002	Wa	itersh	ned/Coun	ty Beav	erhead	d River, Ma	disor	n Co. Upp	er Misso	ouri		
7. Evaluating Agency	Cor	nfluence for MDT					8. Wetla	nd s	size acres	,		C	0.86
Purpose of Evaluation	on						How ass	esse	ed:	Measu	red e.g.	by GPS	
✓ Wetlands potenti	ially affecte	ed by MDT project							nent area			(	0.86
☐ Mitigation Wetla	nds: pre-co	onstruction					(AA) size	•	•	Measu	red e a	by GPS	
☐ Mitigation Wetlar	nds: post c	onstruction							, u.	Moded		2, 0. 0	
Other													
10. Classification of	Wetland a	nd Aquatic Habitats	in A	A									
HGM Class (Brinson	) C	lass (Cowardin)		Modifie	er (Coward	lin)	Wate	r Re	gime		% of .	AA	
Depressional	Em	nergent Wetland					Perman	ent/F	Perennial			20	]
Depressional	Em	nergent Wetland					Seasona	al/Int	ermittant			80	
11. Estimated Relativ	e Ahundan	ce Common											1
12. General Condition	n of AA	to determine [circle] ap	propr	iate respon	ise – see in	structio	ons for Monta	ına-lis	sted noxiou	ıs weed a	and		
aquatic nuisance veg	getation speci	ies (ANVS) lists)	эр. ор.	.ato roopon									
				aged in predo	minantly	Lan	t conditions adj d not cultivated	d, but ı	may be	Land o	ultivated o	or heavily gr	
Con	ditions within AA	4	haye	ral state; is no d, logged, or	otherwise	sele	derately grazed ectively logged;	or ha	s been	placen	nent, gradi	t to substar	j, or
			roads		; and noxious	few	ject to minor cle roads or buildi	ngs; n	oxious	buildin	g density;	ration; high or noxious v	
			weed	or anvs co	ver is <=15%.	wee	ed or ANVS cov	er is <	=30%.	or ANV	S cover is	s >=30%.	
AA occurs and is managed in grazed, hayed, logged, or oth roads or occupied buildings;	erwise converte	ed; does not contain	l	ow distur	bance		low distu	ırbar	nce	mo	derate	disturba	ance
<=15%.			_			_							
AA not cultivated, but may be selectively logged; or has be placement, or hydrological all noxious weed or ANVS cover	en subject to rel teration; contair	atively minor clearing, fill		modera disturba		m	oderate d	istur	bance	h	igh dis	turbanc	e
AA cultivated or heavily graze substantial fill placement, gra high road or building density	ding, clearing, d	or hydrological alteration;	hi	gh distur	bance		high distu	urba	nce	h	igh dis	turbanc	е
>=30%.													
Comments: (types of AA located within highw		•	, etc)	)									
, o chooded within highly	ay ngiti or	,											
ii. Prominent noxious	, aquatic nı	uisance, other exoti	c spe	ecies:									
	-												
iii. Provide brief desc Undisturbed wetland ve					d use/hab	tat							
Chalciand wottand ve	,g5tation 60	army adjacent to	. ngii	ay =Ti									

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Initial Is current management preventing (passive) Modified Existing # of "Cowardin" Vegetated Classes in AA Rating existence of additional vegetated classes? R ating >=3 (or 2 if 1 is forested) classes NA NΑ Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture Μ <NO YES> L 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA L 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S ✓ S No usable habitat ii. Rating (use the condusions 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 1H .9H .8H .7M .3L .1L 0L Rating USFWS T&E list by county Sources for documented use 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 D S Secondary habitat (list Species) Incidental habitat (list species) O D S Golden Eagle S No usable habitat 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 .7M .8H .6M 0L 1H .2L .1L Rating S2 and S3 Species: Functional Points and .9H .7M .6M .5M .2L 0L .1L Rating

MTNHP SOC report

Sources for documented use

observations of abundant wildlif presence of ext interviews with	f abund ife sign	of the																	Mod	erate	)
abundant wildlid	ife sign		following	g [che	ck]):						Minir	<b>nal</b> (b	ased or	any of	the foll	owing	[check])	:			
presence of ext	Ü	dant wild	dlife #s	or high	n specie	es diver	sity (dur	ing an	y period	)	fe	w or n	o wildlife	e obser	vations	during	peak u	se perio	ods		
interviews with	tromol	such a	s scat, t	racks	, nest st	ructure	s, game	trails,	etc.		lit	tle to n	o wildlif	e sign							
	illelile!	y limiting	g habita	t featu	ıres not	availab	ole in the	surro	unding a	area	sp	arse a	adjacent	upland	d food s	ources					
derate (based on	local b	oiologist	s with k	nowle	dge of t	he AA					in	terviev	vs with I	ocal bid	ologists	with kı	nowledg	e of the	e AA		
observations of								•				riods									
common occuri			-		s scat, t	tracks,	nest stru	uctures	s, game	trails, e	etc.										
adequate adjac																					
interviews with	local	ologist	S WITH K	nowie	age or ti	ne AA															
. Wildlife habita om #13. For cl ther in terms of ermanent/perer erms])	lass c f their	over to percer	be cont	nside positi	ered ev ion of tl	enly d he AA	istribut (see #	ed, th	e most Abbrev	and I	east pr s for su	evale ırface	nt <b>veg</b> water	<b>etate</b> durati	d class	es mo	ust be ollows:	within 2 P/P =	20% o	of each	
diversity (see #13)				Hi	gh							Mode	erate					Lo	w		
Class cover distribution (all vegetated classes)		High  Even Uneven								Eve	en			Une	ven			Eve	en		
Duration of surface water in ≥ 10% of AA							P/P	S/I	T/E	Α	P/P	S/I	T/E	А	P/P	S/I	T/E	А			
ow disturbance at AA (see #12i)	Е	Е	Е	Н	Е	Е	Н	Н	E	Н	Н	М	Е	Н	М	М	Е	Н	М	М	
oderate sturbance at AA ee #12i)	н	н	Н	Н	Н	Н	Н	М	Н	Н	М	М	Н	М	М	٦	I	М	L	_	
ligh disturbance at AA (see #12i)	М	м	м	L	м	м	L	L	м	М	L		М	L	L	L	L	L	L		
<b>ii. Rating</b> (us Evidence of wi					om ia Except		above a	and t	he ma		Vildlife				ratin			points	and	rating	) Low
ubstantial					1E					.91	4 T					.8H	T				.7M
Moderate					.91					.71						5M					.3L
Minimal				_	.6N	. 1				.41						.2L					.1L

. Habitat Quality and	Known	Suspec	teu risii	Specie	3 III A	n (use ii	IAIIIX IO	ariive a	t [CTICCK	the lunct	ισιται ρυ	iiits and	rating)					
Duration of surface water in AA		Pei	manent /	Perennia	ļ.			Se	easonal /	ntermitten	t			Tem	porary/	Epheme	eral	
Aquatic hiding / resting / escape cover	Opt	imal	Adeq	uate	Po	oor	Opti	mal	Ade	quate	Po	or	Opti	mal	Adeo	quate	Po	oor
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S
FWP Tier I fish species	1E	.9Н	.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 habilat? Y 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?  $\bigcirc$  Y  $\bigcirc$  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-NA here and proceed to 14F.) channel or overbank flow, click Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) Slightly entrenched - C, D, E Estimated or Calculated Entrenchment (Rosgen Moderately entrenched - B Entrenched-A, F, G stream 1994, 1996) stream types stream type types % of flooded wetland classified as forested 75% 25-75% <25% 75% 25-75% <25% 75% 25-75% <25% and/or scrub/shrub 1H AA contains no outlet or restricted outlet .9H .6M .8H .7M .5M .4M .3L .2L AA contains unrestricted outlet .6M .4M .3L .2L .1L .9H .8H .5M .7M Slightly Entrenched Moderately Entrenched Entrenched ER = >2.2 ER = 1.41 - 2.2 ER = 1.0 - 1.4G stream type C stream type D stream type E stream type B stream type A stream type F stream type 2 x Bankfull Depth Flood-prone Width Bankfull Width Bankfull Depth Floodrpone Bankfull Entrenchment width width 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, dick 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 >5 acre feet 1.1 to 5 acre feet ≤1 acre foot flooding or ponding Duration of surface water at wetlands within the AA P/P T/E P/P T/E P/P S/I S/I S/I T/E 1H .9H .8H .8H .6M .3L .2L .5M .4M Wetlands in AA flood or pond ≥ 5 out of 10 years .9H .8H .7M .7M .5M .4M .3L .2L .1L

Comments:	

Wetlands in AA flood or pond < 5 out of 10 years

	h influ								(Applies wetlands									and prod	
i. Ra = low]	. •	working	from to	p to bott	tom, us	e the r	natrix b	elow to	arrive a	at [chec	k] the f	unctiona	ıl points	s and ra	iting [H	= high,	M = m	noderate,	or L
Sedim levels	ent, nutr within A	ient, and A land veg		·	com not	o delive pounds substar	r levels of at levels ntially imp of nutrien	of sedim such th paired. I	and use vents, nutrat other five Minor sed xicants, or present.	rients, or unctions imentation r signs of	are on,	deve nutrient with por compour	lopment s, or toxi tential to ids such	t for "prol icants <b>or</b> deliver l that othe at ion, sou of eutr	bable ca AA rece high leve er function rces of r	uses" relatives or solutions of sed on sare s	ated to surround iments, ubstant or toxic	ed of TMDI s ediment, ding land u nutrients, ially impai ants, or si	ise or red.
Eviden	ce of flo	oding / p	onding i	n AA	Yes		No	Υe	es	No		Yes		No	)	Yes		No	
AA cor	ntains <b>no</b>	or rest	ricted ou	ıtlet	11-	1 _	8H	.71	и	.5M		.5N	1	.41	М	.3L		.2L	
AA cor	ntains <b>ur</b>	nrestrict	ed outle	t	.9⊦	1 .	7M	.61	И	.4M		.4N	1	.3	L	.2L		.1L	
Comr	nents	:																	
drainaç procee i. Rat	ge, or or d to 14l ing (wo	n the sho .) rking fro	oreline of	a standi	ing wate	er body '	which is	subject arrive a	or within to wave	action. I	If 14H de	oes not a	pply, cli		tural or r		de		
shorelin	% Cover of <u>wetland</u> streambank or Shoreline by species with stability ratings of ≥6 (see Appendix F).  Duration of surface water adjacent to rooted vegetation  Temporary / Ephemeral																		
≥ 65%	ee Appel	idix i ).				1H	1			.91	4			.7	<u>т</u>				
35-64%						.7N	1			.61	И				5M				
< 35%						.3L				.21					1L				
<u>i. L</u>	Produce		al Activ		hesis of	wildlife			ratings [d										
	ating (1		aı	E/H	eneral v	Viluille	M	Rating		_									
	E/I	Н		Н			Н			м									
	М			Н			М			м									
	L			М	Щ		М		_	L									
wetland subsur	d compo face out	orking fronce or	the AA; I inal thre	Factor B	= level of ertain to	of biolog duratio	gical acti	vity rati	at [checking from a ter in the	bove (14	4I.i.); Fa	ctor C = v	whether	or not th	ne AA co	ntains a	surface	e or	
A B		Vege gh		oonent >5 a erate		ow	Н	Veç igh	getated comp Mod	oonent 1-5 erate		ow	H	Veg igh		nponent <1		_OW	
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No I	
P/P	1E	.7H	.8H	.5M	.6M	.4M	.9H	.6M	.7H	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L	
S/I T/E/A	.9H .8H	.6M	.7H	.4M .3L	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L .1L	.7H	.5M	.5M	.3L	.3L	.2L .1L	
plant cov control).	ver, ≤ 15 re an av core in <b>i</b>	5% noxic	ous weed	or ANV	S cover	, and th	at is not	subject	ss than 0. red to per 75% of th	iodic me	chanica	l mowing			ess for v		.1	"	

The AA is a slope we Springs or seeps are Vegetation growing of Wetland occurs at the Seeps are present at AA permanently flood Wetland contains an Shallow water table a Other:	i. Discharge Indicators  The AX is a slope wetland  Syrings or seps are known or discerved.  Wetland contains intell un counter!  Wetland cours at the toe of a natural slope  Seps are present without underlying impeding kyer  Wetland cours at the toe of a natural slope  Seps are present at the vetland edge  AA permanenty flooded during diought periods  Wetland cours at the toe of a natural slope  Other:  Shallow water table and the site is saurated to the surface  Other:  Rating (use the information from i and ii above and the table below to arrive at [check] the functional points and rating)  Pursition of sauration at AA Wetlands FROM GROUNDWATER SYSTEM  Pursition of sauration at AA Wetlands FROM GROUNDWATER SYSTEM  Pursition of sauration at AA Wetlands FROM GROUNDWATER SYSTEM  Pursition of sauration at AA Wetlands FROM GROUNDWATER SYSTEM  Pursition of sauration at AA Wetlands FROM GROUNDWATER SYSTEM  Pursition of sauration at AA Wetlands FROM GROUNDWATER SYSTEM  Pursition of sauration at AA Wetlands FROM GROUNDWATER SYSTEM  Pursition of sauration at AA Wetlands FROM GROUNDWATER SYSTEM  Pursition of sauration at AA Wetlands FROM GROUNDWATER SYSTEM  Pursition of sauration at AA Wetlands FROM GROUNDWATER SYSTEM  Pursition of sauration at AA A secretarion of sauration at AA does not contain previously cled rate types and structural cled rate ty							
i. Discharge Indicators  The AA is a slope wetland  Springs or seaps are known or observed  Vegetation growing during domant season/dought  Wetland course if the too of a ratural slope  Seeps are greent at the wetland slope  AA permanthy flooded during drought periods  Wetland course if the too of a ratural slope  Seeps are greent at the wetland slope  AA permanthy flooded during drought periods  Wetland course if the too of a ratural slope  Seeps are greent at the wetland slope  AA permanthy flooded during drought periods  Wetland course if the slope is a sturrated to the surface  Other:    Duration of saturation at AA Wetlands FROM GROUNDWATER DISCHARGE ON WITH WATER  THAT IS RECHARGING THE ROYUNDWATER SYSTEM  Duration of saturation at AA Wetlands FROM GROUNDWATER SYSTEM  THAT IS RECHARGING THE ROYUNDWATER SYSTEM  Pp. St. T. None  THAT IS RECHARGING THE ROYUNDWATER SYSTEM  THAT IS RECHARGING THE ROYUNDWATER SYSTEM  AA contains fen, bog, warm springs or mature (-880 y-cidy) forested wetland or plant association is sted as "22" by a string found from top to bottom, use the matrix below to arrive at [check] the functional points and rating)  AA contains fen, bog, warm springs or mature (-880 y-cidy) forested wetland or plant association is sted as "22" by and structural diversity (#13) is high or contains previously clied rate bytes or associations is plant association is sted as "22" by and structural diversity (#13) is high or contains previously clied rate bytes or associations is plant association is sted as "22" by and structural diversity (#13) is high or contains previously clied rate bytes and structural diversity (#13) is high or contains previously clied rate bytes or associations is plant association is sted as "22" by and structural diversity (#13) is high or contains previously clied rate bytes or associations and rating)  **Rotting of the functional points and rating page is the AA a known or potential race fed, site: (check) Y \ No (fig. 1986) contains with the evaluation; if No' then click \ No h								
ii. Recharge Indicators  The AA is a slope wetland Springs or seape as howen or observed Vegetation growing during domant seasonal coupli Westand cours at the toe of a natural slope Sorps are present at the vetland edge AA permanently fooded during double periods Westand corrains are outlet, but no intet Shallow water table and the site is saturated to the surface Other:    Permatik substrate present without underlying impeding byte Westand corrains are outlet, but no intet Shallow water table and the site is saturated to the surface Other:								
ii. Recharge Indicators  The AA is a slope wetland Springs or seaps are known or observed Wetland courts are the tood a natural slope Wetland courts are the tood of a natural slope Seeps are present at the wetland slope AA permanethy flooded during dought periods Wetland courts are the tood of a natural slope Seeps are present at the wetland slope AA permanethy flooded during dought periods Wetland courts are to test of a natural slope Seeps are present at the wetland slope AA permanethy flooded during dought periods Wetland courts are not take, but no inlet Shallow water table and the site is advarated to the surface Other:    Distriction of saturation at AA Wetlands FROM SROUNDWATER SYSTEM   Distriction of saturation at AA Wetlands FROM SROUNDWATER SYSTEM   That IS SRCHABBING THE ROUNDWATER SYSTEM								
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K. Uniqueness:	op to bottom, ı	use the mat	rix below to ar	rive at [chec	k] the functio	nal points an	d rating)	
ii. Recharge Indicators  The AA is a slope wetland Springs or separa we know nor chosened Vagetation growing during domain season/drought Wetland courtain singlet but no router Vagetation growing during domain season/drought Wetland courtain singlet but no router Vagetation growing during domain season/drought Wetland courtain singlet but no router Vagetation growing during domain season/drought Wetland courtain singlet wetland edge AA permanefully fooded during doubust periods Wetland courtain singlet footh for season Vetland courtain singlet footh for season Vetland courtain singlet footh for season Vetland courtain singlet footh fo								
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ii. Recharge Indicators  The AX is a slope wetland  Wetland cours are the total or and the slope wetland or beared  Wetgad and growing during domain season/drought  Wetland cours are the too of a routing special provision of the state of t								
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Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0	1	0	
B. MT Natural Heritage Program Species Habitat	L	.1	1	0.086	
C. General Wildlife Habitat	Н	.9	1	0.774	<b>~</b>
D. General Fish Habitat	NA	0	0	0	
E. Flood Attenuation	NA	0	0	0	
F. Short and Long Term Surface Water Storage	М	.4	1	0.344	<b>~</b>
G. Sediment/Nutrient/Toxicant Removal	Н	1	1	0.86	<b>~</b>
H. Sediment/Shoreline Stabilization	NA	0	0	0	
Production Export/Food Chain Support	М	.6	1	0.516	<b>✓</b>
J. Groundwater Discharge/Recharge	Н	1	1	0.86	
K. Uniqueness	L	.3	1	0.258	
L. Recreation/Education Potential (bonus points)	NA	0	NA	0	
Totals:		4.3	8	3.698	
Percent of Possible Score			53.75 %		e .

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 #).



1. Project name	Stone Cree	k - North			2. MDT	pro	ject#	ST	PP49-1(25)	)9		Co	ntrol#	7931000
3. Evaluation Date	6/11/2013	4. Evaluate	ors E	3 San	defur		5.	Wet	and/Site# (	(s)	WL-16, I	R-1		
6. Wetland Location(s	): T	5S	R 7\	N	Sec1	22	2	Т	58	R	7W	Sec	2 15	
Approx Stationing or I	Mileposts	RP 15.20												
Watershed 10020	002		Wa	tersh	ed/Cour	nty	Beave	rhead	River, Mac	liso	n Co. Upp	er Miss	ouri	
7. Evaluating Agency	Con	fluence for MD	Т						8. Wetlai	nd :	size acres	s		1.22
Purpose of Evaluatio	n								How asse	ess	ed:	Measu	ıred e.g	. by GPS
✓ Wetlands potentia	ally affected	d by MDT pro	ject						9. Asses (AA) size		nent area			1.22
☐ Mitigation Wetlan	ds: pre-coi	nstruction							How asse	•	•	Measu	red e.a.	by GPS
☐ Mitigation Wetlan	ds: post co	onstruction												
Other														
10. Classification of \	Netland an	d Aquatic Ha	bitats	in AA										
HGM Class (Brinson)	CI	ass (Cowardi	n)		Modifi	er (0	Coward	in)	Water	Re	egime		% of	AA
Riverine	Unc	consolidated B	ottom						Permane	nt/l	Perennial			20
Depressional	Eme	ergent Wetland	b						Seasona	l/In	termittant			40
Depressional	Scru	ub-Shrub Wetl	and						Seasona	l/In	termittant			40
11. Estimated Relative	Abundand	ce Com	mon											
<ol> <li>General Condition</li> <li>i. Disturbance: (use raquatic nuisance vege</li> </ol>	matrix below		rcle] ap	propria	ate respoi	nse -	– see ins	tructio	ns for Montar	na-li	sted noxiou	ıs weed	and	
				Monor	and in prod	lomine		_	conditions adja					or boovily grazed
				natura	ged in pred Il state; is n , logged, o	ot gra	azed,	mod	a not cultivated; erately grazed ctively logged;	or ha	ayed or	or log	ged; subje	or heavily grazed of to substantial fill ing, clearing, or
Cond	itions within AA			conve	rted; does i or building:	not co	ntain	subj	ect to minor cle roads or buildin	aring	g; contains	hydrol	ogical alte	ration; high road or or noxious weed
					or ANVS co				d or ANVS cove				VS cover i	
AA occurs and is managed in p grazed, hayed, logged, or othe														
roads or occupied buildings; at <=15%.				lo	w distu	rbar	nce	_	low distu	rba	nce	mo	derate	disturbance
AA not cultivated, but may be r selectively logged; or has beer placement, or hydrological alte noxious weed or ANVS cover i	n subject to rela eration; contains	itively minor clearin			moder disturba		e	m	oderate di	stu	rbance		high dis	sturbance
AA cultivated or heavily grazed substantial fill placement, grad high road or building density; >=30%.	ing, clearing, or	r hydrological altera		hig	gh distu	rbar	nce		high distu	rba	ance	h	nigh dis	turbance
Comments: (types of d				• •	ıy 41									
ii. Prominent noxious,	aquatic nu	isance, other	exoti	c spe	cies:									
Cirsium arvense														
iii. Provide brief descr Hydrology from irrigation									s, agricultur	e (v	vheat field	s) adjad	cent to c	litch

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Modified Initial Is current management preventing (passive) Existing # of "Cowardin" Vegetated Classes in AA Rating existence of additional vegetated classes? R ating >=3 (or 2 if 1 is forested) classes NA NΑ Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture Μ <NO YES> L 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA L 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S ✓ S No usable habitat ii. Rating (use the condusions from i above and the matrix below to arrive at [check] the functional points and rating) doc/secondary Highest Habitat Level doc/primary sus/primary sus/secondary doc/incidental sus/incidental None Functional Points and 1H .9H .8H .7M .3L .1L 0L Rating USFWS T&E list by county Sources for documented use 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S S **~** No usable habitat 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 .7M .6M 0L 1H .8H .2L .1L Rating S2 and S3 Species: Functional Points and .9H .7M .6M .5M .2L .1L 0L Rating MTNHP SOC report Sources for documented use

				_															Mod	erate	)	
<i>ıbstantial</i> (based ¬	•			• •									ased or			-						
observations of							• •	•		d)	$\equiv$		o wildlif		vations	during	peak u	se per	iods			
abundant wild													no wildli	-								
presence of e	xtremely	limitin	g habita	at featu	ires not	availab	ole in the	e surro	unding	area	sp	oarse	adjacen	tupland	d food s	ources						
interviews with	n local b	ologist	ts with k	nowle	dge of t	he AA					in	tervie	ws with	ocal bi	ologists	with k	nowledg	ge of th	ie AA			
oderate (based o	n any of	the fo	llowing	[check	]):																	
observations of	of scatte	red wil	dlife gro	ups or	individ	uals or	relative	ly few s	species	during	oeak pe	eriods										
common occu	rrence c	f wildli	fe sign s	such a	s scat,	tracks,	nest str	uctures	s, game	trails, e	etc.											
adequate adja	cent upl	and fo	od sour	ces																		
interviews with	n local b	ologist	ts with k	nowle	dge of t	he AA																
i. Wildlife habi rom #13. For o other in terms o permanent/pere erms])	class co	over to perce	be con	nside positi	red ev	enly d he AA	istribut (see #	ted, th	ne mos Abbrev	t and I viations	east pr s for su	evale irface	ent <b>veç</b> water	<b>jetate</b> durati	d class ons ar	ses mi e as f	ust be ollows:	within P/P =	20% o =	f each		
iversity (see 13)				Hig	gh							Mod	erate					L	ow			
Class cover listribution (all legetated lasses)		Eve	T/E A	n	) —					Une	ven			E	ven							
Ouration of urface water in ≥ 0% of AA ow disturbance	S/I			P/P S/I		T/E M		P/P	S/I	T/E	А											
t AA (see #12i)	Е	Е	E	Н	E	Е	Н	Н	Е	Н	Н	М	Е	Н	М	М	Е	Н	М	М		
Moderate listurbance at AA see #12i)	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	М	Н	М	М	L	Ξ	М	L	L		
ligh disturbance t AA (see #12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L	L	L	L	L	L		
<b>ii. Rating</b> (u Evidence of v					om i a		above	and t	the ma		Vildlife		ive at itat fe		ratin			point	s and	rating	) Low	
Substantial			1					t									Ĭ					1
Moderate					1E	- 1		$\vdash$		.91						.8H					.7M	
			┸		.9⊦	1		lacksquare		.7	M _					.5M					.3L	
Viinimal					.6N	1				.41	И					.2L				_	.1L	
FD. General Fould be used	oy fish to hab	[i.e., itat co	fish u onstra	se is ints,	preclu or is r	uded I not de	by per sired	ched	culve	ert or c	ther b	arrie	r, etc.	. If th	ne ÅA	is no	t used	by f	ish, fis	h use	is not	
│ <b>NA</b> here a						d Wa ish Sp		in AA	(user	natrix t	o arrive	e at [c	heck tl	ne fund	ctional	points	and ra	ating)				
Duration of surfac	e water					at / Da	annie!					Se = -	ono! / ! :	tom: 4	nt .				T	nors	/ Enk	rol
<u>n AA</u> Aquatic hiding / re	stina /				emanei							Seas	onal / Ir		nt						/ Epheme	
	esting / Optimal Adequate Poo										otimal		Adeq	uale		Poor		Opti	ıııdı	Ade	equate	Po
escape cover Thermal cover opt					-	1				0,		-			-							

i. Habitat Quality and													J/					
Duration of surface water in AA		Pei	manent /	Perennia	ļ			Se	easonal / I	Intermitten	t			Tem	porary/	Epheme	ral	
Aquatic hiding / resting / escape cover	Opt	imal	Adeq	uate	Po	oor	Opti	mal	Ade	quate	Po	or	Opti	mal	Aded	quate	Po	or
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S
FWP Tier I fish species	1E	.9Н	.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

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 .6M

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:

Modified Rating .6M

**14E. Flood Attenuation:** (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from inchannel or overbank flow, click 

NA here and proceed to 14F.)

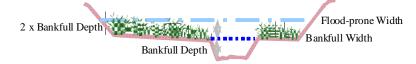
i. Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating)

Comments:

iii. Final Score and Rating:

Estimated or Calculated Entrenchment (Rosgen		entrenched -		ì	elv entrench	- 0/	Entrenched-A, F, G stream			
1994, 1996)		tream types			stream type			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 Entrench	ed	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		1	Bankfull width	=	Entrenchment ratio	
	res of wetland in the AA subject to f downstream of the AA (check)?			signi	ficantly damaged by	floods located
Comments:	Flow controlled by headgate					

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, dick 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	.9Н	.8H	.7M	.7M	.5M	.4M	.3L	.2L	.1L

Comments:	
Comments.	

	h influx			t/Toxicar or ground														ortoxicand proc	
i. Ran = low]	. • `	orking	from	top to bo	ttom, us	se the r	natrix be	elow to	arrive a	at [chec	k] the f	unctiona	ıl points	s and ra	ating [H	= high,	M = m	oderate,	or L
Sedime	_		toxica	antinput	com not	to delive pounds substar	r levels o at levels atially imp of nutrien	f sedime such tha aired. M	ents, nutr at otherfo linorsed icants, o	vith poter ients, or unctions imentations r signs of	are n,	deve nutrients with pot compoun	lopment s, or toxi tential to tds such	t for "pro icants <b>or</b> deliver that oth ttion, sou	bable car AA rece high leve er function	uses"relatives or solid library and solid librar	ated to surround iments, ubstantia	d of TMDL ediment, ing land u nutrients, ally impair	se or red.
		land veg oding / p				≥ 70%			< 70	%			≥ 70	%			< 70	%	
					Yes	Ļ	No	Yes	S	No		Yes		No	)	Yes	_	No	_
		or rest			11	1 .	8H	.7N	1	.5M		.5N	1	.4	М	.3L		.2L	
AA con	tains <b>un</b>	restrict	ed out	tl et	.91	1 .	7M	.6N	1	.4M		.4N	1	.3	L	.2L		.1L	
Comn	nents																		
drainag proceed i. Rati	ge, or on d to 141. ing (wo	n the sho .) rking fro	reline m top	tabilizatio of a stand	ding wate	er body v	which is	subject t arrive a	to wave t [check]	action. I	f 14H de	oes not a	pply, cli		tural or r		le		
		and strear cies with s						Duration				rooted veg							
of ≥6 (se	ee Apper	ndix F).			Perr	nanent / I	Perennial		Sea	asonal / In	termitten	t	Te	emporary	/ Epheme	ral	 		
≥ 65%						1⊦				.91	1				7M				
35-64%						.71	_			.61					5M		ł		
< 35%						.3L				.2l					.1L		l		
i. Le	Production of Internal	Biologic sh Habit	al Ac		• • •	wildlife	Habitat												
R	ating (1	4D.iii.)		E/H	1		M			. 1									
	E/H	1		Н			н			M									
	<u>M</u>			H M		_	м			M									
	L N/A	Α		н			М			L									
wetland subsurf	d compo face out	onent in talet; the f	the AA inal th ther d	p to botton A; Factor E aree rows p efinitions o	B = level pertain to of these	of biologo duratio	ical activ	ratin ace wate	ng from a er in the	bove (14 AA, whe	II.i.); Fa re P/P,	ctor C = v	whether	or not th	ne AA co	ntains a	surface	or	
A B		gh	M	omponent >5 loderate	L	ow		gh	Mod	onent 1-5 a	L	ow		igh		erate	Le	ow	
С	Yes	No	Yes		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
P/P	1E	.7H	.8H	+-	.6M	.4M	.9H	.6M	.7H	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L	
S/I	.9H	.6M	.7H	7=	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7H	.5M	.5M	.3L	.3L	.2L	
T/E/A	.8H	.5M	.6N	1 .3L	.4M	.2L	.7H	.4M	.5M	.2L	.3L	1L	.6M	.4M	.4M	.2L	.2L	.1L	
olant cov control).	/er, ≤ 15 re an av	5% noxic	us we	: Modified eed or AN\ ot-wide ve djust rating	/S cover	, and the	at is not	subjecte	ed to per	iodic me	chanica	l mowing			ess for w		.1		

i. Discharge Indicators ii. Recharge Indicators The AA is a slope wetland Permeable substrate present without underlying impeding layer Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: 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: 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 None Groundwater Discharge or Recharge .4M .1L 1H .7M 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) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations and structural diversity (#13) is wetland or plant association listed plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative commo abundant abundant common abundant rare rare common rare abundance (#11) n Low disturbance at AA .9H 1H .8H .8H .6M .5M .5M .4M .3L (#12i) Moderate disturbance at .9H .8H .7M .7M .2L .5M .4M .4M .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .4M .3L .3L .2L .1L (#12i) 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 **V** NA here and proceed to the overall summary and rating page) 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 Potential Known 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: **General Site Notes** 

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

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): WL-16, IR-1

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	0	1	0	
C. General Wildlife Habitat	М	.7	1	0.854	<b>✓</b>
D. General Fish Habitat	М	.6	1	0.732	<b>~</b>
E. Flood Attenuation	NA	0	0	0	
F. Short and Long Term Surface Water Storage	Н	.8	1	0.976	✓
G. Sediment/Nutrient/Toxicant Removal	Н	.9	1	1.098	<b>✓</b>
H. Sediment/Shoreline Stabilization	Н	1	1	1.22	
I. Production Export/Food Chain Support	М	.7	1	0.854	
J. Groundwater Discharge/Recharge	Н	1	1	1.22	
K. Uniqueness	L	.3	1	0.366	
L. Recreation/Education Potential (bonus points)	NA	0	NA	0	
Totals:		6	10	7.32	
Percent of Possible Score	Ī		60 %		,

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 #).

I II III IV
-------------

1. Project name	Stone Creek	- North		2. MDT	project#	ST	PP49-1(25)9		<b>Control#</b> 7931000				
3. Evaluation Date	6/11/2013	4. Evaluators	B Sar	ndefur	5	. Wetl	and/Site# (s)	WL-17,18	8, IR-2				
6. Wetland Location(s	s): T	5S <b>R</b>	7W	Sec1	15	Т	R		Sec2				
Approx Stationing or	Mileposts	RP 14.9-16.1											
Watershed 10020	0002	V	Vatersh	ed/Coun	ty Beav	erhead	River, Madiso	n Co. Upp	er Misso	uri			
7. Evaluating Agency	Confl	uence for MDT					8. Wetland	size acres	;		1.98		
Purpose of Evaluation	on						How assess	ed:	Measur	ed e.g. b	by GPS		
✓ Wetlands potenti	ally affected	by MDT project					9. Assesssr				1.98		
☐ Mitigation Wetlar	nds: pre-con	struction					(AA) size (ac		Measure	ad a a b	v GPS		
☐ Mitigation Wetlar	nds: post coi	nstruction					110W 033C33	cu.	Measure	u c.g. b	y Gr G		
Other													
10. Classification of	Wetland and	I Aquatic Habita	ts in A	A									
HGM Class (Brinson	) Cla	ss (Cowardin)		Modifie	er (Coward	lin)	Water Re	egime		% of A	A		
Riverine	Unco	nsolidated Botto	m	Artificia	I		Permanent/I	Perennial			15		
Depressional	Eme	rgent Wetland					Seasonal/In	termittant		40			
Depressional	Scrul	b-Shrub Wetland					Seasonal/In	termittant			45		
11. Estimated Relativ	o Abundanaa	e Commo											
12. General Conditio i. Disturbance: (use aquatic nuisance veg	n of AA matrix below to	o determine [circle]		iate respor	ise – see in:	struction	ns for Montana-li	sted noxiou	s weed ar	nd			
							conditions adjacen		- L				
Cond	ditions within AA		natur haye conve roads		ot grazed, otherwise	mode selec subje few r	not cultivated, but erately grazed or ha stively logged; or ha ect to minor clearing oads or buildings; i d or ANVS cover is	ayed or as been g; contains noxious	or logge placeme hydrolog building	d; subject t nt, grading jical alterat	heavily grazed to substantial fill I, clearing, or cition; high road or noxious weed =30%.		
AA occurs and is managed in grazed, hayed, logged, or oth roads or occupied buildings; a <=15%.	erwise converted;	does not contain	lc	ow distur	bance	_	low disturba	nce	mode	erate di	sturbance		
AA not cultivated, but may be selectively logged; or has bee placement, or hydrological alt noxious weed or ANVS cover	en subject to relati eration; contains t	vely minor clearing, fil		modera disturba		mo	oderate distu	rbance	hi	gh dist	urbance		
AA cultivated or heavily graze substantial fill placement, grahigh road or building density; >=30%.	ding, clearing, or I	nydrological alteration	hi	gh distur	bance		high disturba	ance	hi	gh distu	urbance		
Comments: (types of AA along Highway 41, a			on, etc)	1									
ii. Prominent noxious, Cirsium arvense, Cyno			otic spe	ecies:									
iii. Provide brief desc	•												
AA includes excavated connected outside of de								vithin proje	ect area b	out is hyd	drologically		

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Initial Is current management preventing (passive) Modified Existing # of "Cowardin" Vegetated Classes in AA Rating existence of additional vegetated classes? R ating NA NΑ >=3 (or 2 if 1 is forested) classes Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture Μ <NO YES> L 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA L 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S ✓ S No usable habitat ii. Rating (use the condusions 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 .7M 1H .9H .8H .3L .1L 0L Rating USFWS T&E list by county Sources for documented use 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 Beaked spikerush  $\bigcirc$  D  $\bigcirc$  S Secondary habitat (list Species) Incidental habitat (list species) S No usable habitat 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 .7M 0L 1H .8H .6M .2L .1L Rating S2 and S3 Species: Functional Points and .7M .6M .5M .2L .1L 0L .9H Rating MTNHP SOC report, field survey indicated presence of beaked spikerush

D-30

Sources for documented use

ubstantial (based of observations of abundant wildlif presence of ext																			Mod	derate	Э	
abundant wildlif presence of ext	on any	of the	followin	g [ched	ck]):						Minii	nal (b	ased or	any of	the foll	owing	[check])	):				
presence of ext	abund	ant wil	dlife #s	or high	ı specie	s diver	sity (dui	ring an	y period	i)	fe	w or n	o wildlife	e obser	vations	during	peak u	se peri	ods			
1	e sign	such a	ıs scat, t	tracks,	nest st	ructure	s, game	trails,	etc.		lit	tle to r	o wildlif	e sign								
1	remely	limiting	g habita	at featu	res not	availab	ole in the	e surro	unding	area	s	oarse a	adjacent	upland	d food s	ources						
interviews with I	local bi	ologist	ts with k	nowled	dge of th	he AA					in	terviev	vs with I	ocal bid	ologists	with kr	nowledg	ge of the	e AA			
					_																	
oderate (based on	-					uolo or	rolotivo	ly four	nnosion	during	oook na	riodo										
observations of common occurr										-		illous										
adequate adjac			-		3 30at, t	racks, i	11031 3111	ucture	s, game	trails, c												
interviews with I					dge of t <sup>j</sup>	he AA																
i. Wildlife habita rom #13. For cla other in terms of permanent/perenterms])	ass co	over to bercer	be con	onside positio	red ev	enly d he AA	istribut (see #	ted, th	e mos Abbrev	t and lo	east pr	evale ırface	nt <b>veg</b> water	<b>etate</b> durati	d class	es mu e as fo	ust be ollows:	within P/P =	20% (	of eacl	h	
Structural liversity (see				Hig	gh							Mode	erate					Lo	ow			
Class cover distribution (all vegetated classes)		Eve	en .			Une	ven			Eve	en			Une	ven			Ev	en	_		
Ouration of curface water in ≥ 0% of AA .ow disturbance	P/P	S/I	T/E	A	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А		
t AA (see #12i)	Е	E	E	Н	Е	Е	Н	Н	Е	Н	Н	M	Е	Н	М	М	Е	Н	M	М		
Moderate listurbance at AA see #12i)	н	н	Н	н	Н	н	Н	М	Н	Н	М	М	Н	М	М	L	Ħ	М	L	L		
ligh disturbance at AA (see #12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L	L	L	L	L	L		
<b>ii. Rating</b> (us Evidence of wi					om i aı		above_	and t	he ma		Vildlife		ive at		ratin			points	s and	rating	a) Low	
Substantial					1E					.9l						8H	Ī				.7M	1
Voderate					.9⊢	- 1				.71						_	_				.3L	
Minimal		—	+			_		Н								.5M			_			-
······································					.6M					.41	VI					.2L					.1L	
D. General Fi	/ fish habi	[i.e., tat co	fish u onstra	se is ints, o	preclu or is n	uded l	by per sired t	ched	culve	rt or o	ther b	arrie	r, etc.]	. If th	ne ÄA	is no	t used	by fi	sh, fis	sh use	e is not	
D. General Fi buld be used by storable due to NA here ar Habitat Qual	/ fish habi nd pro ity an	[i.e., itat co oceeo	fish u onstra d to 14	se is ints, ( 1E.)	preclu or is n	uded b not de d Wa	by per sired t ter	ched from	culve a man	rt or o	ther b	arrie erspe	r, etc.] ective [	. If th such	ne AA as fis	is no h ent	t used rappe	l by fi d in a	sh, fis	sh use	e is not	
D. General Fi uld be used by storable due to NA here ar	/ fish habi nd pro ity an water	[i.e., itat co oceeo	fish u onstra d to 14	se is ints, o tE.)	preclu or is n	uded bot dead was	by per sired t ter pecies	ched from	culve a man	rt or o	ther b	erspe	r, etc.] ective [	l. If the such	ne AA as fis	is no h ent	t used rappe	l by fi d in a	sh, fis cana	sh use	e is not	

. Habitat Quality and	Known	Suspec	leu risi	Specie	73 III A	n (use ii	IAIIIX IO	ariive a	LICTION	the lunct	ισιται ρυ	iiits and	i rating)								
Duration of surface water in AA		Permanent / Perennial						Seasonal / Intermittent							Temporary / Ephemeral						
Aquatic hiding / resting / escape cover	Optimal Adequate Po		Poor		Optimal		I Adequ		Po	Poor		mal	Adequate		Poor						
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S			
FWP Tier I fish species	1E	.9Н	.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:

a) Is fish use of the current final MDE fishery or aquatic	ng (NOTE: Modi ne AA significantly Q list of waterbodi life support, or do e in i above by 0.1:	reduced by a es in need of aquatic nuisa	culvert, c TMDL de	dike, d evelop at or a	or other ma pment with	an-made s listed "Pro	obable In	npaired Ús	es" includin	g cold or v	varm water		
	ontain a document tive fish or introduc				critical hab		add 0.1 to		ted score in			1	
iii. Final Score a	and Rating: .5 M		Comme	ents:					JOIN				
channel or overb	enuation: (Applies pank flow, clicking from top to bott	NA here	and proc	ceed	to 14F.)					ls in AA ar	re not floode	ed from in-	
Estimated or Ca	lculated Entrenchr		_	tly en	trenched -	C, D, E		ately entre	nched – B	Entrend	types	S stream	
1994, 1996) % of flooded we and/or scrub/shi	etland classified as	75%		ream types 25-75%	<25%	75%	25-759		75%	25-75%	<25%		
	outlet or restricte	d outlet	1H		.9H	.6M	.8H	.7M	.5M	.4M	.3L	.2L	
AA contains unr	restricted outlet	.9H	1	.8H	.5M	.7M	.6M	.4M	.3L	.2L	.1L		
C atream time	Slightly Entrenche ER = >2.2	i	- ma	M	Moderately E ER = 1.4	1 – 2.2		- stream tun	EF	intrenched R = 1.0 - 1.4		-treem time	
C stream type	D stream type	E stream			B stream	n type		A stream type		stream typ	oe G	stream type	
Floodrpone	2 x	x Bankfull De		В	ankfull De				Flood-pro				
width			wid					4 =	ratio		5		
	ownstream of the A	•	flooding A		are man-m	nade featu	res which	may be si	gnificantly o	damaged b	oy floods loo	cated	
14F. Short ar upland surface 14G.)	nd Long Term S e flow, or ground	urface Wat water flow.	er Stora If no we	i <b>ge:</b> tland	(Applies that the A	to wetlan∉ ∖A are su	ds that f bject to	lood or po flooding c	ond from o or ponding,	verbank ( dick [		nel flow, pr e and proc	
water duration	orking from top to	P/P = perm											
Estimated maximul	Ons of these term m acre feet of water co AA that are subject to	ontained in		>5	5 acre feet			1.1 to	5 acre feet			≤1 acre foo	t

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	I 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	.9Н	.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:	

14G. So through to 14H.)	influx																		ortoxic and proc	
i. Ratin	ng (w	orking	from	top to b	otton	n, use	e the n	natrix be	elow to	arrive a	at [chec	k] the f	unctiona	ıl points	s and ra	ating [H	= high,	M = mo	oderate,	or L
Sediment levels wit			toxica	antinput		comp not :	deliver ounds substan	·levels o at levels tially imp	f sedimesuch the saired. Notes to saired.	and use vents, nutrat other following seduced ticants, or or corresent.	ients, or unctions imentatio	are on,	deve nutrients with pot compour	lopment s, or toxi tential to ids such	for "pro cants <b>or</b> deliver that oth tion, sou	bable cau AA rece high leve er functio	uses" relatives or solids of sed on sare solutrients	ated to s surround iments, i ubstantia or toxica	d of TMDL ediment, ing land u nutrients, ally impail nts, or sig	se or red.
% cover of Evidence							≥ 70%			< 70	1%			≥ 70	%			< 70	%	
						Yes		No	Ye	s	No		Yes		No	)	Yes		No	
AA conta	ins <b>no</b>	or rest	ricted	outlet		1H	<u>.</u>	8H	.71	Л	.5M		.5N	1	.4	М	.3L		.2L	
AA conta	ins <b>un</b>	restrict	ed ou	ıtl et		.9H		7M	.61	Л	.4M		.4N	1	.3	L	.2L		.1L	
Comme	ents:																			
14H Sed drainage, proceed t	, or on to 14I. <b>g</b> (wor	the sho	reline m top	e of a star	nding	wate	r body v	which is	subject arrive a	to wave	action. I	f 14H d	oes not a	pply, cli		tural or n		le		
% Cover of shoreline b						Duration of surface water adjacent to rooted vegetation														
of ≥6 (see	Appen	dix F).				Perm	anent / F	Perennial		Sea	asonal / In	termitten	t	Te	emporary	/ Epheme	ral			
≥ 65%					1H .9H .7M															
35-64% < 35%					.7M .6M .5M															
					.3L .2L .1L															
i. Lev	roduc		al Ac	Food Ch	nthes	sis of	wildlife			ratings [(										
1		4D.iii.)		E/ŀ		JIGI VI	riidiiic	М	rtating	(140.III.	<u></u>									
	E/H	1		Н				Н			М									
	М			н				М			м									
	L			М	-			М			L									
	N/A	١		Н				М			L									
ii. Ratin wetland o subsurfac [see instr	compo ce outl	nent in t let; the f	the A inal th	A; Factor	B = le perta	evel o	f biolog duratio	ical activ	itv ratir	na from a	bove (14	II.i.): Fa	ctor C = \	whether	or not th	ne AA co	ntains a	surface	or	
A B	Hig			component > Moderate	5 acres	S Lo	w	Hi	Veg gh	etated comp Mod	oonent 1-5 a		ow	Hi	Veg gh	etated com Mode	ponent <1 a erate		ow	
С	Yes	No	Yes		Y									Yes	No					
P/P	1E	.7H	.81	.5M		6M	.4M .9H .6M .7H .4M .5M .3L .8H .6M .6M .4M .3L								.2L					
S/I	.9H	.6M	.71	-4M	<u> </u>	5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7H	.5M	.5M	.3L	.3L	.2L	
T/E/A	.8H	.5M	.61	.3L	<u> </u>	4M	.2L	.7H	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L	
ii. Modification of the score o	r, ≤ 15 an av	% noxio	us we	eed or AN	NVS c	over,	and tha	at is not	subject	ed to per	iodic me	chanica	l mowing			ess for w		.1		

14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below) i. Discharge Indicators ii. Recharge Indicators The AA is a slope wetland Permeable substrate present without underlying impeding layer Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: 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: 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 None Groundwater Discharge or Recharge .4M .1L 1H .7M Insufficient Data/Information NA Comments: Likely gains groundwater into canal 14K. Uniqueness: i. Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations and structural diversity (#13) is wetland or plant association listed plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative commo abundant abundant common abundant rare rare common rare abundance (#11) n Low disturbance at AA .9H 1H .8H .8H .6M .5M .5M .4M .3L (#12i) Moderate disturbance at .9H .8H .7M .2L .7M .5M .4M .4M .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .4M .3L .3L .2L .1L (#12i) 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 **V** NA here and proceed to the overall summary and rating page) 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 Potential Known 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: **General Site Notes** 

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): WL-17,18, IR-2

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	Н	.9	1	1.782	<b>V</b>
C. General Wildlife Habitat	М	.5	1	0.99	
D. General Fish Habitat	М	.5	1	0.99	
E. Flood Attenuation	Н	1	1	1.98	<b>✓</b>
F. Short and Long Term Surface Water Storage	Н	.8	1	1.584	
G. Sediment/Nutrient/Toxicant Removal	М	.5	1	0.99	
H. Sediment/Shoreline Stabilization	Н	1	1	1.98	<b>~</b>
Production Export/Food Chain Support	М	.7	1	1.386	
J. Groundwater Discharge/Recharge	Н	1	1	1.98	<b>✓</b>
K. Uniqueness	L	.2	1	0.396	
L. Recreation/Education Potential (bonus points)	NA	0	NA	0	
Totals:		7.1	11	14.058	
Percent of Possible Score	Ī		64.55 %		,

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 #).

I II III IV
-------------

1. Project name		2. MDT project# STPP49-1(25)9								ntrol#	79310	000			
3. Evaluation Date	6/10/2013	4. Evaluators	3 Sar	ndefur		5. V	Vetla	ınd/Site#	(s)	WL-2					
6. Wetland Location(s	): T	6S R 7	Ν	Sec1	6		Т		R		Sec2	!			
Approx Stationing or I	Mileposts	RP 10.21													
Watershed 10020	002	Wa	tersh	ed/Count	у Ве	averh	ead	River, Bea	verh	ead Co. l	Jpper M	lissouri			
7. Evaluating Agency	Con	fluence for MDT						8. Wetla	nd s	ize acres				0.01	
Purpose of Evaluatio	n							How asse	esse	d:	Measu	red e.g	j. by GPS	 3	
✓ Wetlands potentia	ally affecte	d by MDT project						9. Asses						0.01	
☐ Mitigation Wetlan	ds: pre-co	nstruction						(AA) size	•	•	Measu	red e n	. by GPS	<u> </u>	
☐ Mitigation Wetlan	ds: post c	onstruction						110W 433		u.	ivicasu	ica c.g	. by Or C	,	
Other															
10. Classification of \	Netland ar	nd Aquatic Habitats	in A	A											
HGM Class (Brinson)		lass (Cowardin)		Modifie	· (Cow	ardin	)	Water	Re	gime		% of	AA		
Depressional							,	Seasona					100	O	
General Condition     i. Disturbance: (use raquatic nuisance vege	matrix below	to determine [circle] apes (ANVS) lists)		iate respons		Predomi	inant c	s for Montai	acent	to (within 500	) feet of) A	Α	or heavily ç	grazed	
Condi	itions within AA		haye conve roads	al state; is not d, logged, or o erted; does no s or buildings; l or ANVS cove	therwise t contain and noxi	ous	select subje few ro	rately grazed ively logged; at to minor cle ads or buildir or ANVS cove	or has aring; igs; no	s been contains oxious	placen hydrol buildin	nent, grad ogical alte g density	ect to substa ling, clearing eration; high controls; or noxious s >=30%.	g, or road or	
AA occurs and is managed in p grazed, hayed, logged, or othe roads or occupied buildings; at <=15%.	rwise converte	d; does not contain	low disturbance					low disturbance				moderate disturba			
AA not cultivated, but may be r selectively logged; or has beer placement, or hydrological alte noxious weed or ANVS cover i	n subject to rela eration; contain	atively minor clearing, fill		moderat disturbar			mo	derate di	stur	bance	h	igh di	sturban	се	
AA cultivated or heavily grazed substantial fill placement, grad high road or building density; >=30%.	ing, clearing, o	r hydrological alteration;	hi	gh disturb	ance		ı	nigh distu	ırbaı	nce	high disturbance				
Comments: (types of d AA in highway right-of-w		e, intensity, season	, etc)	ı											
ii. Prominent noxious,	aquatic nu	isance, other exoti	c spe	ecies:											
Cirsium arvense															
iii. Provide brief descr						abitat									
AA in intermittent draina	ge surroun	ueu by agriculture ar	iu nig	niway COM	uUI										

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Modified Initial Is current management preventing (passive) Existing # of "Cowardin" Vegetated Classes in AA Rating existence of additional vegetated classes? R ating >=3 (or 2 if 1 is forested) classes NA NΑ Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture Μ <NO YES> L 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA L 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S ✓ S No usable habitat ii. Rating (use the condusions from i above and the matrix below to arrive at [check] the functional points and rating) doc/secondary Highest Habitat Level doc/primary sus/primary sus/secondary doc/incidental sus/incidental None Functional Points and 1H .9H .8H .7M .3L .1L 0L Rating USFWS T&E list by county Sources for documented use 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S S **~** No usable habitat 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 .7M .6M 0L 1H .8H .2L .1L Rating S2 and S3 Species: Functional Points and .9H .7M .6M .5M .2L .1L 0L Rating

MTNHP SOC report

Sources for documented use

bstantial (based of observations of abundant wildling)																			Mod	erate	Э	
abundant wildlit	on any	of the	followin	g [che	ck]):						Minir	<b>nal</b> (b	ased or	any of	the foll	owing	[check])	:				
	f abun	dant wile	dlife #s	or high	h specie	es diver	sity (dur	ing an	y period	)	fe	w or n	o wildlif	e obser	vations	during	peak u	se perio	ods			
	ife sign	such a	s scat,	racks,	, nest st	ructure	s, game	trails,	etc.		lit	tle to n	o wildlif	e sign								
presence of ext	tremel	y limitin	g habita	t featu	ires not	availab	ole in the	surro	unding a	area	sp	arse a	adjacent	upland	d food s	ources						
interviews with	local b	oiologist	s with k	nowle	dge of t	he AA					in	terviev	vs with I	ocal bio	ologists	with kı	nowledg	e of the	e AA			
derate (based on	n any d	f the fol	llowing	check	:]):																	
observations of	f scatte	ered wild	dlife gro	ups or	r individ	uals or	relativel	y few s	species	during	peak pe	riods										
common occur	rence	of wildlit	fe sign s	such a	s scat, 1	tracks,	nest stru	uctures	s, game	trails, e	etc.											
adequate adjac	cent up	land for	od sour	ces																		
interviews with	local b	oiologist	s with k	nowle	dge of t	he AA																
. Wildlife habits om #13. For cl ther in terms of ermanent/perer erms])	lass c f their	over to percer	be con	nside positi	ered ev	enly d he AA	istribut (see #	ed, th	e mos Abbrev	t and I	east pr s for su	evale ırface	nt <b>veg</b> water	<b>etate</b> durati	d class	es mo	ust be sollows:	within : P/P =	20% o	f eacl	h	
versity (see				Hi	gh							Mode	erate					Lo	w			
13) Class cover																					1	
listribution (all egetated		Eve	en			Une	ven			Eve	en			Une	ven			Eve	en			
lasses) Ouration of																					-	
urface water in ≥ 0% of AA	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α		
AA (see #12i)	Е	Е	E	Н	Е	Е	Н	Н	Е	Н	Н	М	Е	Н	М	М	Е	Н	М	М		
oderate sturbance at AA ee #12i)	Н	Н	н	н	Н	н	Н	М	н	Н	М	М	н	М	М	٦	Н	М	L	L	ĺ	
igh disturbance AA (see #12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L	L	L	L	L	L		
i <b>i. Rating</b> (us Evidence of wi							above a	and t	he ma		elow to						tional <sub>l</sub>	points	and	rating	a)	
				E	xcept	tional		_		High	1				Мо	derat	e				Low	
Substantial					1E					.91	1					.8H					.7M	
Moderate					.9F	1				.71	М					.5M					.3L	
/linimal					.6N	1				.41	иΙ					.2L					.1L	

i. Habitat Quality and	Known	/Suspec	ted Fish	Specie	s in A	A (use m	natrix to	arrive a	t [c he ck :	the funct	ional po	ints and	rating)							
Duration of surface water in AA		Pe	rmanent / I	Perennial	Į.			Se	asonal / I	ntermitten	t	Temporary / Ephemeral								
Aquatic hiding / resting / escape cover	Op	Optimal Adequate				oor	Optimal		Adequate		Poor		Optimal		Adequate		Poor			
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S		
FWP Tier I fish species	1E	.9Н	.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	.6М	.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 habilat? Y 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?  $\bigcirc$  Y  $\bigcirc$  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-NA here and proceed to 14F.) channel or overbank flow, click Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) Slightly entrenched - C, D, E Estimated or Calculated Entrenchment (Rosgen Moderately entrenched - B Entrenched-A, F, G stream 1994, 1996 stream types stream type types % of flooded wetland classified as forested 75% 25-75% <25% 75% 25-75% <25% 75% 25-75% <25% and/or scrub/shrub 1H AA contains no outlet or restricted outlet .9H .6M .8H .7M .5M .4M .3L .2L AA contains unrestricted outlet .6M .4M .3L .2L .1L .9H .8H .7M .5M Slightly Entrenched **Moderately Entrenched** Entrenched ER = >2.2 ER = 1.41 - 2.2 ER = 1.0 - 1.4G stream type C stream type D stream type E stream type B stream type A stream type F stream type 2 x Bankfull Depth Flood-prone Width Bankfull Width Bankfull Depth Floodrpone 10 Bankfull Entrenchment 10 width ratio width 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, dick 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 >5 acre feet 1.1 to 5 acre feet ≤1 acre foot flooding or ponding Duration of surface water at wetlands within the AA P/P T/E P/P T/E P/P S/I S/I S/I T/E 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 .1L .2L

Comments:	

Wetlands in AA flood or pond < 5 out of 10 years

		water or o	direct input					ith poter subject t						ortoxicand proc	
<ul><li>i. Rating (working from = low])</li></ul>	top to bott	om, use t	the matrix	oelow to	arrive a	at [chec	k] the f	unctiona	l points	and ra	ating [H	= high,	M = mo	oderate,	or L
Sediment, nutrient, and toxical levels within AA	antinput	to d compou not sul	eives or surro leliver levels unds at level bstantially in ces of nutrie eutrop	of sedim s such th paired. N	ents, nutr at other following Ainor sed kicants, or	rients, or unctions imentatio	are n,	nutrients with pote compoun	lopment s, or toxi ential to ds such	for "prol cants <b>or</b> deliver that oth tion, sou	bable cau AA rece high leve er functio	uses" relatives or solls of sedions are solutions are solutrients of	ated to s surround iments, i ubstantia or toxica	d of TMDL ediment, ing land untrients, ally impair nts, or sign	se or red.
% cover of wetland vegetation  Evidence of flooding / ponding		≥	70%		< 70	)%			≥ 70	%			< 70	%	
		Yes	No	Ye	s	No	. +	Yes		No		Yes	_	No	
AA contains no or restricted	outlet	1H	.8H	.71	и	.5M		.5M		.4	М	.3L		.2L	
AA contains unrestricted ou	ıtlet	.9H	.7M	.61	И	.4M		.4M		.3	L	.2L		.1L	
Comments:															
14H Sediment/Shoreline S drainage, or on the shoreline proceed to 14I.)  i. Rating (working from top	e of a standi	ng water b	ody which is	s subject o arrive a	to wave at [check]	action. I	f 14H do	oes not ap	oply, clic		tural or m		le		
% Cover of <u>wetland</u> streambank shoreline by species with stability							•	rooted veg			/F :				
of ≥6 (see Appendix F).		Perman	ent / Perennia	ıl .	Sea	asonal / In		t	16		/ Epheme	raı			
≥ 65%			1H			.91	_				7M				
35-64% < 35%			.7M			.6l .2l					5M 1L				
14I. Production Export/  i. Level of Biological Ac				n habitat	ratings [	check])									
General Fish Habitat Rating (14D.iii.)	Ge E/H	eneral Wil	dlife Habita M	t Rating	(14C.iii.)	) I									
	Н	1	н			м									
E/H M	Н		М			м									
L	М		М			L									
N/A	Н		М			L									
ii. Rating (Working from to wetland component in the A. subsurface outlet; the final the see instructions for further of	A; Factor B	= level of bertain to du	oiological ac uration of su	tivitv ratir	na from a	above (14	II.i.): Fa	ctor C = v	vhether	or not th	ne AA co	ntains a	surface	or	
B High N	component >5 a Moderate	Low		High		lerate		ow		gh	etated com Mode	erate		ow	
C Yes No Yes		Yes	No Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
P/P 1E .7H .8I	5M	.6M .	4M .9H	.6M	.7H	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L	
S/I .9H .6M .7I			3L .8H	.5M	.6M	.3L	.4M	.2L	.7H	.5M	.5M	.3L	.3L	.2L	
T/E/A .8H .5M .6f	И <u>.3L</u>	.4M	.7H	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L	
				or be les											

i. Discharge Indicators ii. Recharge Indicators Permeable substrate present without underlying impeding layer The AA is a slope wetland Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: 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: 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 None Groundwater Discharge or Recharge .4M .1L 1H .7M 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) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations wetland or plant association listed and structural diversity (#13) is plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative commo abundant abundant common abundant rare rare common rare abundance (#11) n Low disturbance at AA .9H 1H .8H .8H .6M .5M .5M .4M .3L (#12i) Moderate disturbance at .9H .8H .7M .2L .7M .5M .4M .4M .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .4M .3L .3L .2L .1L (#12i) 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 **V NA** here and proceed to the overall summary and rating page) 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 Potential Known 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: **General Site Notes** 

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

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	0	1	0	
C. General Wildlife Habitat	М	.5	1	0.005	
D. General Fish Habitat	NA	0	0	0	
E. Flood Attenuation	М	.5	1	0.005	
F. Short and Long Term Surface Water Storage	L	.2	1	0.002	
G. Sediment/Nutrient/Toxicant Removal	М	.7	1	0.007	
H. Sediment/Shoreline Stabilization	М	.6	1	0.006	
Production Export/Food Chain Support	М	.5	1	0.005	
J. Groundwater Discharge/Recharge	Н	1	1	0.01	
K. Uniqueness	L	.1	1	0.001	
L. Recreation/Education Potential (bonus points)	NA	0	NA	0	
Totals:		4.1	10	0.041	
Percent of Possible Score			41 %		e e e e e e e e e e e e e e e e e e e

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 #).



1. Project name	ject name Stone Creek - North					2. MDT	pro	ject#	ST	PP49-1(25	)9		Coı	ntrol#	7931000		
3. Evaluation Date	6/10/20	13	4. Evalua	ators	B Sand	defur		5.	Wetl	and/Site#	(s)	WL-3					
6. Wetland Location(s	s): T		6S	R	7W	Sec1	6		Т		R		Sec2				
Approx Stationing or	Milepos	sts	RP 11.24														
Watershed 10020	0002			V	/atershe	ed/Cour	nty	Beave	rhead	River, Bea	verl	head Co. l	Jpper M	ssouri			
7. Evaluating Agency		Conflu	ence for N	ИDТ						8. Wetla	nd s	size acres			0.12		
Purpose of Evaluation	on									How asse	esse	ed:	Measu	ed e.g.	by GPS		
✓ Wetlands potenti	ally affe	ected b	y MDT p	roject						9. Asses (AA) size		nent area			0.12		
☐ Mitigation Wetlar	nds: pre	-cons	truction							How ass	•	•	Measur	ed e.a.	by GPS		
☐ Mitigation Wetlar	nds: pos	st con	struction														
Other																	
10. Classification of	Wetland	d and	Aquatic H	labita	ts in AA												
HGM Class (Brinson)	)	Clas	s (Cowar	din)		Modifi	er (0	Coward	in)	Water	r Re	gime		% of .	AA		
Depressional										Seasonal/Intermittant					100		
										]							
										] [							
										] [							
<ul><li>11. Estimated Relative</li><li>12. General Conditio</li><li>i. Disturbance: (use</li></ul>	n of AA			undan		ate resno	nse -	– see ins	truction	ns for Monta	na-li	sted noviou	s weed a	nd			
aquatic nuisance veg					арргорпс		1100	000 1110		io for Morita		otou noxiou					
					Manag	ged in pred	lomina			conditions adja not cultivated					r heavily grazed		
Conc	ditions with	in ΔΔ				I state; is n , logged, o	-			erately grazed ctively logged;			placem	ent, gradi	t to substantial fill ng, clearing, or		
Conc	anono wan	,,,,,,			roads	rted; does i or building:	s; and	noxious	few r	ect to minor cle oads or buildir	ngs; n	noxious	building	density;	ration; high road or or noxious weed		
					weed o	or ANVS co	over is	s <=15%.	weed	d or ANVS cove	er is •	<=30%.	or ANV	S cover is	; >=30%.		
AA occurs and is managed in grazed, hayed, logged, or other roads or occupied buildings; a	erwise con	verted; c	does not cont	ain	lo	w distu	rbar	nce		low distu	rbaı	nce	moderate disturbanc				
<=15%.  AA not cultivated, but may be	moderatel	v grazed	or haved or		_				-								
selectively logged; or has bee placement, or hydrological alt noxious weed or ANVS cover	en subject t eration; co	to relative	ely minor clea			moder disturba		e	mo	oderate di	stur	rbance	hi	gh dis	turbance		
substantial fill placement, grad	A cultivated or heavily grazed or logged; subject to relatively ubstantial fill placement, grading, clearing, or hydrological alteration igh road or building density; or noxious weed or ANVS cover is					high disturbance high disturbance						ince	high disturbance				
Comments: (types of c																	
ii. Prominent noxious,	aquatio	c nuis	ance, oth	er exc	otic spe	cies:											
Cirsium arvense  iii. Provide brief desc	rintive	summ	arv of AA	and e	urroun	dina lan	ıd ıı	se/hahit	at								
AA surrounded by active							iu ui	Janiabil	uı								

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Modified Initial Is current management preventing (passive) Existing # of "Cowardin" Vegetated Classes in AA Rating existence of additional vegetated classes? R ating >=3 (or 2 if 1 is forested) classes NA NΑ Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture Μ <NO YES> L 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA L 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S ✓ S No usable habitat ii. Rating (use the condusions from i above and the matrix below to arrive at [check] the functional points and rating) doc/secondary Highest Habitat Level doc/primary sus/primary sus/secondary doc/incidental sus/incidental None Functional Points and 1H .9H .8H .7M .3L .1L 0L Rating USFWS T&E list by county Sources for documented use 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S S **~** No usable habitat 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 .7M .6M 0L 1H .8H .2L .1L Rating S2 and S3 Species: Functional Points and .9H .7M .6M .5M .2L .1L 0L Rating MTNHP SOC report

Sources for documented use

<b>bstantial</b> (based																			Mod	erate	Э	
<b>DStatitiat</b> (Daset	d on an	y of the	following	g [che	ck]):						Minir	<b>nal</b> (b	ased or	n any of	f the foll	lowing	[check])	):				
observations of	of abun	dant wil	dlife #s	or high	n specie	s diver	sity (dur	ing an	y period	1)	fe	w or n	o wildlif	e obser	rvations	during	j peak u	ise perio	ods			
abundant wild	life sigr	n such a	s scat, t	racks,	, nest st	ructure	s, game	trails,	etc.		lit	tle to r	o wildlif	e sign								
presence of ex	xtremel	y limitin	g habita	t featu	ıres not	availab	ole in the	surro	unding a	area	sp	arse a	adjacent	tupland	d food s	ources	3					
interviews with	n local l	biologist	s with k	nowle	dge of t	he AA					in	terviev	vs with I	ocal bio	ologists	with k	nowledg	ge of the	e AA			
oderate (based o	on any c	of the fol	llowing [	check	1):																	
observations o						uals or	relativel	y few s	species	during	peak pe	riods										
common occu	ırrence	of wildli	fe sign s	such a	s scat, t	racks,	nest stru	uctures	s, game	trails, e	etc.											
adequate adja	acent up	oland fo	od sour	ces																		
interviews with	n local l	biologist	s with k	nowle	dge of t	he AA																
i. Wildlife habi rom #13. For o other in terms o permanent/pere erms])	class of of their	cover to percer	be con	nside positi	ered ev	enly d ne AA	istribut (see #	ed, th	e mos Abbrev	t and I	east pr s for su	evale ırface	nt <b>veg</b> water	<b>etate</b> durati	<b>d</b> class ons ar	ses mi e as f	ust be ollows:	within : P/P =	20% c	of eacl		
diversity (see				Hi	gh							Mode	erate					Lo	w			
#13) Class cover																					ł	
distribution (all vegetated classes)		Eve	en			Une	ven			Eve	en			Une	ven			Eve	en			
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А		
Low disturbance at AA (see #12i)	Е	Е	E	н	Е	Е	Н	н	Е	Н	Н	М	Е	Н	М	М	Е	Н	М	М		
								4											١			
disturbance at AA	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	М	Н	M	М	L	Н	М	L	L		
disturbance at AA see #12i) digh disturbance	M	М	М	H	М	М	L	L	М	М	M L	L	М	L	M	L	L	L	L	L		
listurbance at AA see #12i) #igh disturbance tt AA (see #12i)  iii. Rating (L	M use th	M e cond	м clusion	L L	м om i a	м nd ii a	L	L	M	M atrix b	elow to	L o arri	M ve at	L [chec	L k] the	func g (ii)	L	L	L	L		
disturbance at AA see #12i) High disturbance at AA (see #12i)  iii. Rating (LEvidence of W.	M use th	M e cond	м clusion	L L	М	м nd ii a	L	L	M	M atrix b V High	elow to	L o arri	M ve at	L [chec	L k] the	L	L	L	L	L	l) Low	1
disturbance at AA see #12i) digh disturbance at AA (see #12i) digh disturbance at AA (see #12i) diliii. Rating (u Evidence of w Substantial	M use th	M e cond	м clusion	L L	м om i a	nd ii a	L	L	M	M atrix b	elow to	L o arri	M ve at	L [chec	k] the	func g (ii)	L	L	L	L		
disturbance at AA see #12i) High disturbance at AA (see #12i)  iii. Rating (UEVidence of WEVIDENCE of WEVIDEN	M use th	M e cond	м clusion	L L	om i a	nd ii a	L	L	M	M atrix b V High	elow to	L o arri	M ve at	L [chec	k] the	func g (ii) derat	L	L	L	L	Low	
disturbance at AA (see #12i) High disturbance at AA (see #12i)  iii. Rating (UEVidence of WEVIDENCE of WEVIDE	M use th	M e cond	м clusion	L L	om i a	nd ii a	L	L	M	M Atrix b V High	elow to	L o arri	M ve at	L [chec	k] the	func g (ii) derat	L	L	L	L	Low .7M	
Moderate disturbance at AA (see #12i) High disturbance at AA (see #12i)  iii. Rating (u  Evidence of M  Substantial  Moderate  Minimal  Comments	M use th	M e cond	м clusion	L L	om i a	nd ii a	L	L	M	M  Atrix b  V  High  .91	elow to	L o arri	M ve at	L [chec	k] the	func g (ii) derat .8H	L	L	L	L	Low .7M .3L	
disturbance at AA (see #12i) High disturbance at AA (see #12i)  iii. Rating (u  Evidence of W  Substantial  Moderate  Minimal	M use the use	e conce use (	t Ratii	ns from E	M Exception 1 a 1 a 1 a 1 a 1 a 1 a 1 a 1 a 1 a 1	nd ii a	above a	and t	the A culve	M High .91 .71 .41	L lelow to the lel	o arri	M vive at itat feat	L [checi	k] the	func g (ii) derat .8H .5M	tional e	points  correctly by fish	s and table sh, fis	rating " such	Low .7M .3L .1L	
iii. Rating (UEvidence of Months and Moderate  Minimal  Moderate  Minimal  Moderate  Minimal  Moderate  Minimal  Moderate  Minimal	M  Juse th  Vil dlife  Fish F  Stop hat  The	Habitan [i.e., poitat corroceed	t Ration fish us on straid to 14	ng: (see is ints, E.)	M = Except 1E .9H .6N .6N	m ii a	above a	and t	the A culve a man	M High 19 .91 .41 A is u	L lelow to Wildlife in H lend to the seed by the beent per lend to the seed by	o arrive hab	M ve at itat fee	L [chec] atures	k] the	func g (ii) derat .8H .5M .2L	tional e on is "o	points  correct d by fis d in a	s and table sh, fis	rating " such	Low .7M .3L .1L	
iii. Rating (LEvidence of Managements)  iii. Rating (LEvidence of Managements)  Substantial  Moderate  Minimal  omments  D. General Fould be used by storable due to NA here a	M use the vil dlife	Habitan [i.e., poitat coroceed	t Ration fish us on straid to 14	ng: (se is ints, E.)	M = Except 1E .9H .6N .6N	nd ii a	above a	and t	the A culve a man	M High 19 .91 .41 A is u	L lelow to Wildlife in H lend to the seed by the beent per lend to the seed by	o arri e hab	M ve at itat fee	L [chec]	k) the s ratin Mo	func g (ii) derat .8H .5M .2L	tional e on is "o	points  correct d by fis d in a	s and ctable sh, fis cana	" such use	Low .7M .3L .1L	

i. Habitat Quality and	Known	Suspec	tea Fish	Specie	25 III A	a (use n	iallix lo	ariive a	t [Check	the lunct	ionai po	ints and	a raung)					
Duration of surface water in AA		Pe	rmanent /	Perennial	ļ.			Se	asonal /	ntermitten	t			Tem	porary/	Epheme	eral	
Aquatic hiding / resting / escape cover	Opt	imal	Adeq	uate	Po	oor	Opti	mal	Ade	quate	Po	or	Opti	mal	Adeo	quate	Po	oor
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	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	.8Н	.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 habilat? Y 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?  $\bigcirc$  Y  $\bigcirc$  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-NA here and proceed to 14F.) channel or overbank flow, click Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) Slightly entrenched - C, D, E Estimated or Calculated Entrenchment (Rosgen Moderately entrenched - B Entrenched-A, F, G stream 1994, 1996) stream types stream type types % of flooded wetland classified as forested 75% 25-75% <25% 75% 25-75% <25% 75% 25-75% <25% and/or scrub/shrub 1H AA contains no outlet or restricted outlet .9H .6M .8H .7M .5M .4M .3L .2L AA contains unrestricted outlet .6M .4M .3L .2L .1L .9H .8H .7M .5M Slightly Entrenched **Moderately Entrenched** Entrenched ER = >2.2 ER = 1.41 - 2.2 ER = 1.0 - 1.4G stream type C stream type D stream type E stream type B stream type A stream type F stream type 2 x Bankfull Depth Flood-prone Width Bankfull Width Bankfull Depth Floodrpone Bankfull Entrenchment width ratio width 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, dick 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 >5 acre feet 1.1 to 5 acre feet ≤1 acre foot flooding or ponding Duration of surface water at wetlands within the AA P/P T/E P/P T/E P/P S/I S/I S/I T/E 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 .1L .2L Wetlands in AA flood or pond < 5 out of 10 years

Comments:	

	gh influ			t/Toxicar or ground														ortoxic and prod	
i. Ra	. • `	working	from	top to bo	ttom, us	e the n	natrix b	elow to	arrive a	at [chec	k] the f	unctiona	l points	s and ra	ating [H	= high,	M = mo	oderate,	or L
Sedim	<i>'</i>		toxica	antinput	com not	o delive pounds substar	r levels o at levels tially imp	f sedime such tha aired. M ts or tox	ents, nutr at otherfollinorsed icants, o	vith poter ients, or unctions imentations r signs of	are on,	nutrients with pot compour	lopment s, or toxi tential to ids such	t for "pro icants <b>o</b> i deliver that oth ttion, sou	bable cau r AA rece high leve er functio	uses" relatives or solids of sed on sare solutrients	ated to s surround iments, i ubstantia or toxica	d of TMDL ediment, ing land unutrients, ally impairents, or sign	use or red.
		land veg				≥ 70%			< 70	1%			≥ 70	%			< 70	%	
					Yes	<del> </del>	No	Ye	3	No		Yes		N	0	Yes		No	<u></u>
AA COI	ntains <b>no</b>	or rest	rictea	outlet	1⊦	1 .	8H	.71	1	.5M		.5N	1	.4	М	.3L		.2L	
AA coı	ntains <b>ur</b>	nrestrict	ed ou	tl et	.9H	<u> </u>	7M	.6N	1	.4M		.4N	1	.3	L	.2L		.1L	
Comi	ments	:																	
drainag proces	ge, or or ed to 14l t <b>ing</b> (wo	n the sho .) rking fro	oreline m top	abilizatio of a stand to bottom	ding wate	er body v	which is	subject arrive a	to wave t [check]	action. I	f 14H d	oes not a	pply, cli		tural or n		le		
		<b>and</b> streal cies with s						Duration			•	rooted ve	_		/F.I				
	ee Appei	ndix F).			Pern		Perennial		Se	asonal / Ir	_	it .	16		/ Epheme	raı			
≥ 65%				$\dashv$		1H	_			.91					7M				
35-64% < 35%	1					.7N	_			.61				_	.1L				
	Produ			Food Cha	• • •		and fish	habitat	ratings [	check])									
	neral Fis Rating (1	sh Habit 14D.iii.)	at	E/H	Seneral \	Vildlife	Habitat M	Rating	(14C.iii.)	)									
		•		Н	1		н			м									
	<u>E/I</u> M			н			м			М									
	L			М			М			L									
	N/	A		Н			М			L									
wetlan subsur	d compo face out	onent in the f	the AA	p to botton A; Factor E aree rows p efinitions of	B = level pertain to	of biolog duratio	ical activ	itv ratir	na from a	bove (14	4l.i.): Fa	ctor C = \	whether	or not th	ne AA co	ntains a	surface	or	
A B		igh		omponent >5 loderate	Le	ow		gh	Mod	oonent 1-5		ow		igh	getated com Mode	erate		ow	
С	Yes	No	Yes	7	Yes	No 1	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
P/P	1E	7H	.8⊦	+-	.6M	.4M	.9H	.6M	.7H	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L	
S/I	.9H	.6M	.71	7=	.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	
olant co control).	ver, ≤ 15	5% noxid	ous we	: Modified eed or AN\ ot-wide ve djust rating	/S cover	, and the	at is not	subjecte	ed to per	iodic me	chanica	ıl mowing			ess for w		.1		
Comm	ents:																		

i. Discharge Indicators ii. Recharge Indicators Permeable substrate present without underlying impeding layer The AA is a slope wetland Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: 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: 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 None Groundwater Discharge or Recharge .4M .1L 1H .7M 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) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations wetland or plant association listed and structural diversity (#13) is plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative commo abundant abundant common abundant rare rare common rare abundance (#11) n Low disturbance at AA .9H 1H .8H .8H .6M .5M .5M .4M .3L (#12i) Moderate disturbance at .9H .8H .7M .2L .7M .5M .4M .4M .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .4M .3L .3L .2L .1L (#12i) 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 **V** NA here and proceed to the overall summary and rating page) 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 Potential Known 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: **General Site Notes** 

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

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	0	1	0	
C. General Wildlife Habitat	М	.5	1	0.06	
D. General Fish Habitat	NA	0	0	0	
E. Flood Attenuation	М	.5	1	0.06	
F. Short and Long Term Surface Water Storage	L	.2	1	0.024	
G. Sediment/Nutrient/Toxicant Removal	М	.7	1	0.084	
H. Sediment/Shoreline Stabilization	М	.6	1	0.072	
Production Export/Food Chain Support	М	.5	1	0.06	
J. Groundwater Discharge/Recharge	Н	1	1	0.12	
K. Uniqueness	L	.1	1	0.012	
L. Recreation/Education Potential (bonus points)	NA	0	NA	0	
Totals:		4.1	10	0.492	
Percent of Possible Score			41 %		e e e e e e e e e e e e e e e e e e e

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)



# MDT Montana Wetland Assessment Form (revised March 2008)

1. Project name	Stone Cree	ek - North		2. MDT	project#	ST	PP49-1(25	5)9		Coi	ntrol#	7931000	)
3. Evaluation Date	6/12/2013	4. Evaluators	B Sar	ndefur	5	Wet	land/Site#	(s)	WL-5				
6. Wetland Location(s	s): T	5S R 7	W	Sec1	22	Т		R		Sec2			
Approx Stationing or	Mileposts	RP 14.43											
Watershed 10020	0002	Wa	itersh	ned/Coun	ty Beave	erhead	River, Ma	disor	n Co. Upp	er Misso	uri		
7. Evaluating Agency	Cor	nfluence for MDT					8. Wetla	nd s	ize acres	3		0.0	)4
Purpose of Evaluation	on						How ass	esse	ed:	Measu	ed e.g.	by GPS	
✓ Wetlands potenti	ally affecte	ed by MDT project					9. Asses					0.0	04
☐ Mitigation Wetlan	nds: pre-co	onstruction					(AA) size	•	•	Measur	ed e a	by GPS	
☐ Mitigation Wetlar	nds: post c	onstruction									ou o.g.	<i>z</i> , σ. σ	
Other													
10. Classification of	Wetland a	nd Aquatic Habitats	in A	A									
HGM Class (Brinson	) С	lass (Cowardin)		Modifie	er (Coward	lin)	Wate	r Re	gime		% of A	<b>AA</b>	
Depressional	Em	ergent Wetland					Seasona	al/Int	ermittant			100	
							] [						
11. Estimated Relativ		<b>ce</b> Abundant											
12. General Conditio i. Disturbance: (use aquatic nuisance veg	matrix below	v to determine [circle] apies (ANVS) lists)	opropr	iate respon	se – see ins	tructio	ns for Monta	ına-lis	sted noxiou	ıs weed a	nd		
				aged in predo	minantly	Land	conditions adj	d, but r	may be	Land co	Iltivated o	r heavily graz	
Con	ditions within AA	4	haye conv roads		otherwise	sele subj few	erately grazed ctively logged; ect to minor cle roads or buildi d or ANVS cov	or has earing ngs; n	s been ; contains oxious	placem hydrolo building	ent, gradir gical alter	t to substantiang, clearing, of ation; high road or noxious we >=30%.	or ad or
AA occurs and is managed in grazed, hayed, logged, or oth roads or occupied buildings; a <=15%.	erwise converte	ed; does not contain	lo	ow distur	bance		low distu	ırbar	nce	mod	erate o	disturban	се
AA not cultivated, but may be selectively logged; or has bee placement, or hydrological alt noxious weed or ANVS cover	en subject to rel eration; contain	atively minor clearing, fill		modera disturba		m	oderate d	istur	bance	h	igh dis	turbance	
AA cultivated or heavily graze substantial fill placement, gra high road or building density >=30%.	ding, clearing, o	or hydrological alteration;	hi	gh distur	bance	_	high distu	urba	nce	h	gh dist	turbance	
Comments: (types of AA periodically mowed,		•	, etc)	)									
ii. Prominent noxious	, aquatic nı	uisance, other exoti	ic sp	ecies:									
iii. Provide brief desc	riptive sun	nmary of AA and su	rrour	nding land	d use/habi	tat							
Small wetland sustaine							igation net	work					

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Modified Initial Is current management preventing (passive) Existing # of "Cowardin" Vegetated Classes in AA Rating existence of additional vegetated classes? R ating >=3 (or 2 if 1 is forested) classes NA NΑ NA Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture Μ <NO YES> L 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA L 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S ✓ S No usable habitat ii. Rating (use the condusions from i above and the matrix below to arrive at [check] the functional points and rating) doc/secondary Highest Habitat Level doc/primary sus/primary sus/secondary doc/incidental sus/incidental None Functional Points and 1H .9H .8H .7M .3L .1L 0L Rating USFWS T&E list by county Sources for documented use 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S S **~** No usable habitat 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 .7M .6M 0L 1H .8H .2L .1L Rating S2 and S3 Species: Functional Points and .9H .7M .6M .5M .2L .1L 0L Rating MTNHP SOC report Sources for

documented use

																			Low			
bstantial (base	d on any	of the	followin	g [che	ck]):						Minii	nal (b	ased or	any of	the foll	owing	[check])	):				
observations					•		• •			i)	=				vations	during	j peak u	ise peri	ods			
abundant wild	·						. 0						o wildlif	·								
presence of e		•	•				ole in the	surro	unding	area	_		adjacent									
interviews with	h local t	oiologist	ts with k	nowle	dge of t	he AA					in	terviev	vs with I	ocal bi	ologists	with k	nowledg	ge of the	e AA			
derate (based o	on any c	f the fo	llowing	[check	k]):																	
observations	of scatte	ered wil	dlife gro	ups o	r individ	uals or	relativel	ly few s	species	during	peak pe	eriods										
common occu	ırrence	of wildli	ife sign :	such a	is scat,	tracks,	nest str	uctures	s, game	trails, e	etc.											
adequate adja	acent up	land fo	od sour	ces																		
interviews with	h local b	oiologist	ts with k	nowle	dge of t	he AA																
. Wildlife hab om #13. For ther in terms of ermanent/pere erms])	class of of their	over to perce	be con	nside positi	ered ever	enly d	istribut (see #	ed, th	ie mos Abbrev	t and I	east pr s for su	evale ırface	nt <b>veg</b> water	<b>jetate</b> durati	d class ons ar	es m	ust be ollows:	within P/P =	20% o	f each		
ructural versity (see 13)				Hi	gh							Mode	erate					Lo	)W			
lass cover stribution (all egetated asses)		Eve	en			Une	ven			Eve	en			Une	ven			Ev	en			
uration of urface water in ≥ 0% of AA ow disturbance	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	Α	P/P	S/I	T/E	А	P/P	S/I	T/E	А		
AA (see #12i)	Е	E	E	Н	Е	Е	Н	Н	Е	Н	Н	М	Е	Н	М	М	Е	Н	М	М		
oderate																						
sturbance at AA ee #12i)	ı,	Н	Н	Н	Н	Н	Н	M	Н	Н	M	M	Н	_ M	M	L	Н	M	L	L		
igh disturbance : AA (see #12i)	М	м	м	L	М	м	L	L	М	М	L	L	М	L	L		L		L			
i. Rating (i Evidence of v				ns fro	om i a	nd ii a	above	and t	he ma				ve at				tional	points	s and	rating	)	
					Excep	tion al				High	1 .				Мо	derat	e				Low	
Substantial					1E					.91	-l					.8H					.7M	
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omments D. General I																						e AA
uldbe used l storable due NA here :	to hat	oitat co	onstra	ints,																		
Habitat Qu		nd Kno	own / S	uspe	ctedF	ish S <sub>l</sub>	oec ie s	in AA	(usen	natrix t	o arrive	e at [c	heck th	ne fund	ctional	points	and ra	ating)				
uration of surfac AA	e water			Р	emane	nt / Per	ennial					Seas	onal / In	termitte	ent				Tem	nporarv	/ Epheme	eral
quatic hiding / re scape cover	sting/		Optim			dequat		Pod	or	Op	otimal		Adeq			Poor		Optin			equate	F
scape with						_		_			_	-			-							

. Habitat Quality and	Known	Suspec	teu risii	Specie	3 III A	n (use ii	IAIIIX IO	arrive a	t [CTICCK	the lunct	ισιται ρυ	iiits and	rating)					
Duration of surface water in AA		Pei	manent /	Perennia	ļ.			Se	easonal /	ntermitten	t			Tem	porary/	Epheme	eral	
Aquatic hiding / resting / escape cover	Opt	imal	Adeq	uate	Po	oor	Opti	mal	Ade	quate	Po	or	Opti	mal	Adeo	quate	Po	oor
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S
FWP Tier I fish species	1E	.9Н	.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 habilat? Y 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?  $\bigcirc$  Y  $\bigcirc$  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-NA here and proceed to 14F.) channel or overbank flow, click Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) Slightly entrenched - C, D, E Estimated or Calculated Entrenchment (Rosgen Moderately entrenched - B Entrenched-A, F, G stream 1994, 1996) stream types stream type types % of flooded wetland classified as forested 75% 25-75% <25% 75% 25-75% <25% 75% 25-75% <25% and/or scrub/shrub 1H AA contains no outlet or restricted outlet .9H .6M .8H .7M .5M .4M .3L .2L AA contains unrestricted outlet .6M .4M .3L .2L .1L .9H .8H .5M .7M Slightly Entrenched **Moderately Entrenched** Entrenched ER = >2.2 ER = 1.41 - 2.2 ER = 1.0 - 1.4G stream type C stream type D stream type E stream type B stream type A stream type F stream type 2 x Bankfull Depth Flood-prone Width Bankfull Width Bankfull Depth Floodrpone Bankfull Entrenchment width width 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, dick 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 >5 acre feet 1.1 to 5 acre feet ≤1 acre foot flooding or ponding Duration of surface water at wetlands within the AA P/P T/E P/P T/E P/P S/I S/I S/I T/E 1H .9H .8H .8H .6M .5M .4M .2L .3L Wetlands in AA flood or pond ≥ 5 out of 10 years .9H .8H .7M .7M .5M .4M .3L .2L .1L

Comments:	

Wetlands in AA flood or pond < 5 out of 10 years

	h influx								(Applies wetlands									, ortoxic and prod	
i. Rat = low])	. •	orking	from to	to bott	tom, us	e the r	natrix b	elow to	o arrive a	at [chec	k] the f	unctiona	ıl points	s and ra	ating [H	= high,	M = m	oderate,	or L
Sedime levels v	ent, nutri vithin AA	4	toxicant		t com not	odelive pounds substar	r levels of at levels at ally important of nutrien eutroph	of sedim such the paired. I ts or to	and use whents, nutrinat other for Minor sed xicants, or present.	rients, or unctions imentation r signs of	are on,	nutrient with por compour	lopment s, or toxi tential to ids such	for "prol cants <b>or</b> deliver l that othe tion, sou of eutr	bable ca AA recondighted Abigh	uses" relatives or solutions of sed on sare s	ated to surround iments, ubstant or toxic	d of TMDI s ediment, ding land u nutrients, ially impai ants, or si	ise or red.
Evidend	ce of floo	oding / p	onding ii	n AA	Yes		No	Ye	es	No		Yes		No	)	Yes		No	
AA con	tains <b>no</b>	or rest	ricted ou	ıtlet	1⊦		8H	.7	м	.5M		.5M	1	.41	М	.3L		.2L	
AA con	tains <b>un</b>	restrict	ed outle	t	.91	1 .	7M	.6	М	.4M		.4N	1	.3	L	.2L		.1L	
Comn	nents:																		
drainag proceed i. Rati	ie, or on d to 14l. i <b>ng</b> (wor	the sho	reline of	a standi	ing wate	r body v	which is	subject	n or withir to wave at [check]	action. I	f 14H de	oes not a	pply, cli		tural or i		le		
shoreline		ies with s	tability ra	tings	Perm	nanent / I	Perennial	Daratio		asonal / In		ì		emporary	/ Epheme	eral			
≥ 65%	e Appen	iuix F).				1H	1			.91	4			. ,	7M				
35-64%						.7N	1			.61	И				5M				
< 35%						.3L				.21					1L				
i. Le	Produc		al Activ		hesis of	wildlife			t ratings [d										
	ating (1			E/H			М			Ĺ .									
	E/H	1		Н			Н			М									
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wetland subsurf	l compo ace out	orking from the nent in the let; the for fur	the AA; I inal thre ther defi	bottom actor B	= level of ertain to f these t	of biolog duratio	below to	vity rati ace wa	at [checking from a ter in the	the fundous (14 AA, whe	II.i.); Fa ere P/P,	ctor C = v	whether	or not thas previo	ne AA co ously de	ntains a	surface d A = "a	or	
B C	Hiç Yes	- 0	Mode Yes			No No	Yes	igh No		erate No		ow No	Hi Yes	gh No		lerate No		_ow No	
P/P	1E	.7H	.8H	.5M	.6M	.4M	.9H	.6M	.7H	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L	
S/I	.9Н	.6M	.7H	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7H	.5M	.5M	.3L	.3L	.2L	
T/E/A	.8Н	.5M	.6M	.3L	.4M	.2L	.7H	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L	
plant cov control). a) Is ther to the sco	er, ≤ 15 re an av	% noxio	us weed	or ANV	S cover	and th	at is not	subject	ss than 0. ted to per 75% of the ng .2	iodic me	chanica	ıl mowing			ess for v		1		

i. Discharge Indicators ii. Recharge Indicators Permeable substrate present without underlying impeding layer The AA is a slope wetland Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: 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: 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 None Groundwater Discharge or Recharge 1H .4M .1L .7M Insufficient Data/Information Comments: 14K. Uniqueness: i. Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations wetland or plant association listed and structural diversity (#13) is plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative commo abundant abundant common abundant rare rare common rare abundance (#11) n Low disturbance at AA .9H 1H .8H .8H .6M .5M .5M .4M .3L (#12i) Moderate disturbance at .9H .8H .7M .2L .7M .5M .4M .4M .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .4M .3L .3L .2L .1L (#12i) 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 **V** NA here and proceed to the overall summary and rating page) 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 Potential Known 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: **General Site Notes** 

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

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	0	1	0	
C. General Wildlife Habitat	L	.1	1	0.004	
D. General Fish Habitat	NA	0	0	0	
E. Flood Attenuation	NA	0	0	0	
F. Short and Long Term Surface Water Storage	L	.3	1	0.012	
G. Sediment/Nutrient/Toxicant Removal	Н	.9	1	0.036	
H. Sediment/Shoreline Stabilization	NA	0	0	0	
Production Export/Food Chain Support	L	.2	1	0.008	
J. Groundwater Discharge/Recharge	М	.7	1	0.028	
K. Uniqueness	L	.1	1	0.004	
L. Recreation/Education Potential (bonus points)	NA	0	NA	0	
Totals:		2.3	8	0.092	
Percent of Possible Score	1.		28.75 %		<u>,                                      </u>

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)



# MDT Montana Wetland Assessment Form (revised March 2008)

1. Project name	Stone Cre	eek - North			2. MDT	Γpro	ject#	ST	PP49-1(25)9		Con	trol#	7931000
3. Evaluation Date	6/10/2013	3 4. Evalua	tors	B San	defur		5.	Wetl	and/Site# (s)	WW-1, V	VL-1		
6. Wetland Location(s)	): T	6S	R	3W	Sec1	1 12	2	Т	R		Sec2		
Approx Stationing or M	Mileposts	<b>s</b> RP 9.06											
Watershed 100200	002		W	atersh	ed/Cour	nty	Beave	rhead	River, Beave	rhead Co.	Upper Mi	ssouri	
7. Evaluating Agency	Co	onfluence for M	DT						8. Wetland	size acres	s -		0.06
Purpose of Evaluation	n								How assess	sed:	Measur	ed e.g.	by GPS
✓ Wetlands potentia	Illy affect	ted by MDT pro	ject						9. Assesss (AA) size (a				0.06
☐ Mitigation Wetland	ds: pre-c	construction							How asses	•	Measure	ed e.a.	bv GPS
Mitigation Wetland	ds: post	construction											
Other													
10. Classification of V	Wetland a	and Aquatic Ha	abitat	s in A/	4								
HGM Class (Brinson)		Class (Coward	in)		Modifi	ier (0	Coward	in)	Water R	egime		% of A	<b>AA</b>
Riverine	U	nconsolidated E	Botton	n					Permanent	/Perennial			85
Depressional	Е	mergent Wetlar	nd						Seasonal/I	ntermittant			15
i. Disturbance: (use r aquatic nuisance vege	etation spe	cies (ANVS) lists		Mana natura	ged in predal state; is r	domina	Predo	Land mod	conditions adjaced not cultivated, but erately grazed or ctively logged; or lottively logged; or lottively logged;	nt to (within 50 It may be nayed or	0 feet of) AA Land cu or logge	tivated o	r heavily grazed t to substantial fill ng, clearing, or
Condi	tions within i	AA		conve	erted; does or building or ANVS o	not co js; and	ontain d noxious	subj	ect to minor cleari roads or buildings d or ANVS cover is	ng; contains noxious	hydrolog building	ical alter	ation; high road or or noxious weed
AA occurs and is managed in p grazed, hayed, logged, or othe roads or occupied buildings; ar <=15%.	rwise conve	rted; does not contai	n	lo	w distu	rbar	nce		low disturba	ance	mode	erate d	disturbance
AA not cultivated, but may be n selectively logged; or has been placement, or hydrological alte noxious weed or ANVS cover is	subject to r	elatively minor cleari			moder disturb		e	me	oderate dist	urbance	hi	gh dist	urbance
AA cultivated or heavily grazed substantial fill placement, gradinigh road or building density; 0 >=30%.	ing, clearing	, or hydrological alte		hiç	gh distu	ırbaı	nce		high disturb	ance	hi	gh dis	turbance
Comments: (types of d AA surrounded by active													
ii. Prominent noxious,	aquatic ı	nuisance, othe	r exo	tic spe	cies:								
Cirsium arvense	intiva a::	Immony of AA	nd s		dine le:	.d	00/b ob !!	lot.					
iii. Provide brief descr AA occurs along Stone (									riculture and	nighway			

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Modified Initial Is current management preventing (passive) Existing # of "Cowardin" Vegetated Classes in AA Rating existence of additional vegetated classes? R ating >=3 (or 2 if 1 is forested) classes NA NΑ Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture Μ <NO YES> L 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA L 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S ✓ S No usable habitat ii. Rating (use the condusions from i above and the matrix below to arrive at [check] the functional points and rating) doc/secondary Highest Habitat Level doc/primary sus/primary sus/secondary doc/incidental sus/incidental None Functional Points and 1H .9H .8H .7M .3L .1L 0L Rating USFWS T&E list by county Sources for documented use 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S S **~** No usable habitat 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 .7M .6M 0L 1H .8H .2L .1L Rating S2 and S3 Species: Functional Points and .9H .7M .6M .5M .2L .1L 0L Rating MTNHP SOC report Sources for

documented use

14C. General W i. Evider					se in t	he AA	(chec	k suk	ostantia	al, mo	derate	, or I	ow bas	sed on	ı supp	ortinç	g evide	ence)	)I				
Substantial (based	d on any	of the	followin	g [che	ck]):							•	oased or	•					Low				
observations					•		• •			d)	$\equiv$		no wildlif		vations	during	peak u	se per	iods				
abundant wild	-						-				$\equiv$		no wildlif	•									
presence of e			-				ole in the	e surro	unding	area			adjacent										
interviews with	h local b	oiologist	s with k	nowled	lge of the	ne AA					in	tervie	ws with I	ocal bio	logists	with kr	nowledg	ge of th	іе АА				
Moderate (based of	,		٠.	•		luala ar	rolotive	ah e fasse	an a si a s	. duvina	naak na												
observations common occu										_		HOUS											
adequate adja			-		, 30at, t	.racks,	11031 3111	uoturo	s, game	i dilo, c	710.												
interviews with					dge of t	he AA																	
ii. Wildlife hab from #13. For other in terms of permanent/pere terms])	class c of their	over to perce	be con	nside positio	ered ev on of th	venly d the AA	distribut \ (see #	ited, th #10).	he mos Abbrev	st and I viations	least pr s for su	revale urface	ent <b>veg</b> e water	<b>getated</b> duration	d class ons are	es mu e as fo	ust be ollows:	within P/P =	n 20% o =	of each	h		
Structural diversity (see #13)				Hiç	gh							Mod	lerate					L	.ow				
Class cover distribution (all vegetated classes)		Eve	en			Une	ven			Eve	en			Unev	ven			Even					
Duration of surface water in ≥ 10% of AA Low disturbance	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А			
at AA (see #12i)	Е	Е	E	н	E	Е	Н	н	Е	Н	НМ	М	Е	Н	М	М	Е	Н	М	М			
Moderate disturbance at AA (see #12i)	н	Н	Н	н	Н	н	Н	М	Н	Н	M	М	Н	М	М	L	I	H M L L					
High disturbance at AA (see #12i)	M	М	М	L	М	М	L	L	M	М	L	L	М	L	L	L	L	L	L	L			
<b>iii. Rating</b> (v Evidence of v			_		om i aı Except			and f	the ma		Vildlife		rive at pitat fea		ratin			point	s and i	rating	a) Low		
Substantial					1E					.91	Н					.8H					.7M		
Moderate					.9⊢	- 1				.71	М					5M					.3L		$\exists$
Minimal					.6M	1				.41	М					.2L				_	.1L		$\neg$
4D. General I could be used lestorable due	by fish to hab and pr	i [i.e., pitat co roceed	fish u onstra d to 14	se is ints, IE.)	preclu or is n	uded I not de	by per esired	rched from	d culve a man	ert or d nagem	other b	arrie erspe	er, etc.] ective	]. If th [such	ne ÄA as fis	is no h ent	t used rappe	l by f d in a	ish, fis	h use	e is not		
Duration of surfac			own / S		ermaner			IN AA	(usen	e matrix to arrive at [check the function   Seasonal / Intermittent					points	Temporary					eral		
Aquatic hiding / re escape cover	esting/		Optim	al	А	dequate	е	Pod	or	Op	Optimal Adequate Poor						Opti	mal	Ad	lequate	F	Poor	
Thermal cover op	timal/		0	S	0	$\Box$	S	0	S	0	s	$\top$	0	s	0	- 5	3	0	S	s o s o			s

Duration of surface water in AA		Pei	manent /	Perennial	ļ				Temporary / Ephemeral									
Aquatic hiding / resting / escape cover	Opt	imal	Adeq	uate	Po	oor	Opti	Optimal		Adequate		or	Opti	mal	Adequate		Poor	
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	s	0	S	0	S	0	S	0	S
FWP Tier I fish species	1E	.9Н	.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

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 for yes, reduce score in i above by 0.1: Modified Rating 5M

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:

Modified Rating 5M

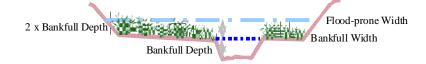
iii. Final Score and Rating: Fish data from MFISH

**14E. Flood Attenuation:** (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from inchannel 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		entrenched -			ely entrench	- 0/	Entrenched-A, F, G stream			
1994, 1996)	S	tream types	, ,	S	stream type			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	.9Н	.6M	.8H	.7M	.5M	.4M	.3L	.2L	
AA contains unrestricted outlet	.9H	.8H	.5M	.7M	.6M	.4M	.3L	.2L	.1L	

	Slightly Entrench ER = >2.2	ed	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 15 width	/ Bankfull width	5 = Entrenchment ratio	3
ii. Are ≥10 acres of wetland in the AA subject to flowithin 0.5 mile downstream of the AA (check)?		may be significantly damaged	by floods located
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, dick 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:	

	gh influ												vith pote subject						ortoxic and proc	
i. Ra	. • `	working	from	top to b	otto	om, us	e the n	natrix b	elow to	arrive a	at [chec	k] the f	unctiona	l points	s and ra	ating [H	= high,	M = m	oderate,	or L
Sedim			l toxic	cantinput		com not	o delive pounds substar	levels of at levels tially imp of nutrien	f sedimo such tha aired. N	ents, nuti at otherf Inorsed icants, o	vith poter rients, or unctions imentations r signs of	are on,	nutrients with pot compour	lopment s, or toxi tential to tds such	t for "pro icants <b>or</b> deliver that oth ttion, sou	bable ca r AA rece high leve er function	uses" relatives or sets of sed ons are sets of sed ontrients	ated to s surround liments, ubstantia or toxica	d of TMDL ediment, ing land u nutrients, ally impair	is e or red.
		land veg			-		≥ 70%			< 70	)%			≥ 70	%			< 70	%	
					4	Yes	_	No	Ye	s	No	,	Yes		No	0	Yes		No	
AA COI	ntains <b>n</b> o	or rest	ricte	a outlet		1⊦	١.	8H	.71	1	.5M		.5N	1	.4	М	.3L	-	.2L	
AA coı	ntains <b>u</b> i	s unrestricted outlet         .9H         .7M         .6M         .4M         .4M         .3L         .2L         .1L																		
Comi	ments	:																		
drainag proces i. Rat	ge, or or ed to 14l ting (wo	n the sho .) rking fro	orelin m top	e of a sta	ındin	ng wate	er body v	which is	subject arrive a	to wave	action. I	f 14H d	river, stre oes not a oints and	pply, cli		tural or r		de		
		<b>and</b> streal cies with s							Duration			•	rooted ve							
	ee Appe					Pern	nanent / I	Perennial		Se	asonal / Ir	termitter	nt	Te	emporary	/ Epheme	ral			
≥ 65%					1H .9H .7M															
35-64%	<b>.</b>				.7M .6M .5M															
< 35%		.3L .2L .1L																		
<u>i. L</u>	Produ		cal A	/Food Ch	ynth	esis of	wildlife			ratings [										
F	Rating (	14D.iii.)		E/	Н			М			L									
	E/	Н		H	1			н			М									
	N	1	_	ŀ	_			М			м									
	L		_	N H	-			M M			L									
wetlan	d compo	orking fr	the A	op to bott	om, r B =	level of	of biolog	below to	vity ratir	ng from a	k] the fur	II.i.); Fa	points and	whether	or not th	ne AA co	ntains a	surface	or	
		ns for fur	rther	definition	s of	these t		n of surf					S/I, and	Γ/E are					bsent"	
A B		igh		component : Moderate		Lo	ow		gh	Mod	ponent 1-5 lerate	L	ow		igh		erate	Le	ow	
<i>C</i> <b>P/P</b>	Yes	No TILL	Ye	$\neg$	T	Yes	No 1	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No I	
S/I	1E	7H		.5N	1	.6M	.4M	.9H	.6M	.7H	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L	
5/I T/E/A	.9H .8H	.6M	=	H .4N	#	.5M	.3L .2L	.8H .7H	.5M .4M	.6M	.3L	.4M .3L	.2L .1L	.7H	.5M	.5M	.3L	.3L .2L	.2L .1L	
i. Mod	lified Ra ver, ≤ 15	ating (No.	NOTE ous w	E: Modifi	ed so	core ca	annot ex	ceed 1 cat is not	or be lessubjecte	es than 0 ed to per	.1.) Veç iodic me	etated chanica	Upland E	Buffer (\	/UB): A	rea with	≥ 30%			
o the so	core in	ii above	and a	adjust rat	ing a	accordi	ngly: N	lodifie	d Ratir	ig .6	6M	231111010			0	ıı ye	o, ada o.			
omm	ents:																			

i. Discharge Indicators ii. Recharge Indicators Permeable substrate present without underlying impeding layer The AA is a slope wetland Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: 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: 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 None Groundwater Discharge or Recharge .4M .1L 1H .7M 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) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations wetland or plant association listed and structural diversity (#13) is plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative commo abundant abundant common abundant rare rare common rare abundance (#11) n Low disturbance at AA .9H 1H .8H .8H .6M .5M .5M .4M .3L (#12i) Moderate disturbance at .9H .8H .7M .2L .7M .5M .4M .4M .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .4M .3L .3L .2L .1L (#12i) 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 **V** NA here and proceed to the overall summary and rating page) 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 Potential Known 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: **General Site Notes** 

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

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	0	1	0	
C. General Wildlife Habitat	L	.3	1	0.018	
D. General Fish Habitat	М	.5	1	0.03	<b>✓</b>
E. Flood Attenuation	М	.5	1	0.03	
F. Short and Long Term Surface Water Storage	L	.3	1	0.018	
G. Sediment/Nutrient/Toxicant Removal	М	.7	1	0.042	
H. Sediment/Shoreline Stabilization	М	.7	1	0.042	V
Production Export/Food Chain Support	М	.6	1	0.036	<b>✓</b>
J. Groundwater Discharge/Recharge	Н	1	1	0.06	<b>✓</b>
K. Uniqueness	L	.2	1	0.012	
L. Recreation/Education Potential (bonus points)	NA	0	NA	0	
Totals:		4.8	11	0.288	
Percent of Possible Score			43.64 %		

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
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# MDT Montana Wetland Assessment Form (revised March 2008)

1. Project name Stone Creek - North					2. MDT	pro	oject#	ST	PP49-1(25)9		Con	trol#	7931000
3. Evaluation Date	6/10/2013	3 4. Evaluat	ors	B San	defur		5.	Wetl	and/Site# (s)	WW-2, V	VL-4		
6. Wetland Location(s	): T	5S	R	7W	Sec1	3	3	T	R		Sec2		
Approx Stationing or I	Mileposts	<b>s</b> RP 12.73											
Watershed 10020	002		W	atersh	ed/Cour	nty	Beave	rhead	River, Beave	rhead Co.	Upper Mi	ssouri	
7. Evaluating Agency	Co	onfluence for MI	ΣT						8. Wetland	size acres	<b>,</b>		0.1
Purpose of Evaluatio	n								How assess	sed:	Measur	ed e.g.	by GPS
✓ Wetlands potentia	ally affec	ted by MDT pro	ject						9. Assesss (AA) size (a				0.1
☐ Mitigation Wetlan	ds: pre-c	construction							How asses	•	Measure	ed e.g.	by GPS
Mitigation Wetlan	ds: post	construction											
Other													
10. Classification of \	Wetland a	and Aquatic Ha	bitat	s in A	4								
HGM Class (Brinson)		Class (Coward	in)		Modifi	ier (	Coward	in)	Water R	egime		% of A	<b>NA</b>
Riverine	Е	mergent Wetlan	d						Permanent	/Perennial			5
Depressional	pressional Emergent Wetlan								Permanent	/Perennial			95
12. General Conditior i. Disturbance: (use raquatic nuisance vege	matrix belo etation spe	ecies ( <b>ANVS</b> ) lists)		Mana natura	ate respo	domina	Predo antly azed,	Land mod	conditions adjace and not cultivated, buerately grazed or cutively logged; or l	nt to (within 500 It may be nayed or	D feet of) AA Land cu or logge	tivated or	heavily grazed to substantial fill Ig, clearing, or
Condi	itions within i	AA		conve	erted; does or building or ANVS o	not co	ontain d noxious	subj	ect to minor clearing to the control of the control	ng; contains noxious	hydrolog building	ical alter	ation; high road or or noxious weed
AA occurs and is managed in p grazed, hayed, logged, or othe roads or occupied buildings; at <=15%.	rwise conve	erted; does not contain	1	lo	w distu	rbar	nce		low disturba	ance	mod	erate c	listurbance
AA not cultivated, but may be r selectively logged; or has beer placement, or hydrological alte noxious weed or ANVS cover i	n subject to reration; conta	relatively minor clearii			moder disturb		e	m	oderate dist	urbance	hi	gh dist	urbance
AA cultivated or heavily grazed substantial fill placement, grad high road or building density; >=30%.	hi	gh distu	ırbaı	nce		high disturb	ance	hi	gh dist	turbance			
Comments: (types of d		nce, intensity, s	easo	n, etc)									
ii. Prominent noxious,			exo	tic spe	cies:								
Cirsium arvense, Cynog	•		nd s		dine le:	٠	00/b ob !!	lot.					
iii. Provide brief descr AA includes narrow drain									al groundwate	r source.			

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Initial Is current management preventing (passive) Modified Existing # of "Cowardin" Vegetated Classes in AA Rating existence of additional vegetated classes? R ating >=3 (or 2 if 1 is forested) classes NA NΑ Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture Μ <NO YES> L 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA L 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S ✓ S No usable habitat ii. Rating (use the condusions from i above and the matrix below to arrive at [check] the functional points and rating) doc/secondary Highest Habitat Level doc/primary sus/primary sus/secondary doc/incidental sus/incidental None Functional Points and 1H .9H .8H .7M .3L .1L 0L Rating USFWS T&E list by county Sources for documented use 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 D S Secondary habitat (list Species) Incidental habitat (list species) D S S **~** No usable habitat 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 .7M .6M 0L 1H .8H .2L .1L Rating S2 and S3 Species: Functional Points and .9H .7M .6M .5M .2L .1L 0L Rating

MTNHP SOC report

Sources for documented use

bstantial (base																			Mod	erate	)	
	d on any	of the	following	g [che	ck]):						Minin	nal (b	ased or	n any of	the foll	owing	[check])	L				
observations	of abun	dant wil	dlife #s	or higl	n specie	s diver	sity (dur	ing an	y period	l)	fe	w or n	o wildlif	e obser	vations	during	peak u	se perio	ds			
abundant wild	llife sigr	such a	s scat, t	racks	nest st	ructure	s, game	trails,	etc.		litt	le to r	o wildli	e sign								
presence of e	xtremel	y limitin	g habita	t featu	ires not	availab	ole in the	surro	unding a	area	sp	arse a	adjacen	tupland	I food s	ources						
] interviews with	h local t	oiologist	s with k	nowle	dge of t	he AA					in	erviev	vs with	ocal bid	ologists	with kı	nowledg	e of the	AA			
oderate (based of observations of common occular adequate adjal interviews with	of scatte urrence acent up h local t	ered wild of wildli bland for piologist	dlife gro fe sign s od sources s with k	ups or such a ces nowle	individes scat, t	racks,	nest stru	uctures	s, game	trails, e	etc.											
i. Wildlife hab rom #13. For other in terms o permanent/pere erms])	class of of their	over to percer	be cont	nside positi	red ev	enly d ne AA	istribut (see #	ed, th	e mos Abbrev	t and I	east pr s for su	evale rface	nt <b>veç</b> water	<b>etateo</b> duratio	d class	es mo	ust be vollows:	within 2 P/P =	:0% o	f each		
diversity (see #13)				Hi	gh							Mode	erate					Low	1			
Class cover distribution (all vegetated classes)		Eve	en			Une	ven			Eve	en			Une	/en			Eve	n			
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	Α	P/P	S/I	T/E	А	P/P	S/I	T/E	А		
ow disturbance at AA (see #12i)	Е	Е	E	Н	Е	Е	Н	н	Е	Н	Н	М	Е	Н	М	М	Е	н	М	М		
Moderate listurbance at AA see #12i)	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L		
High disturbance at AA (see #12i)	М	М	м	L	М	м	L	L	М							1	. 1			i . I		
11 AA (366 #121)		-	-						IVI	M	L	L	M	L	L	L		L	L	L		
<b>iii. Rating</b> (ı Evidence of v					Except	ional	above	and t	<b>'</b>	atrix b V High	Vildlife	o arri	ive at	checl	k] the rating	funct g (ii) d erat		points			Low	1
iii. Rating (i Evidence of v Substantial					Except 1E	ional	above a	and t	<b>'</b>	atrix b V High	Vildlife	o arri	ive at	checl	k] the rating	funct g (ii) derat		points			Low .7M	
iii. Rating (I Evidence of V Substantial Moderate Minimal					Except	ional	above a	and t	<b>'</b>	atrix b V High	Wildlife	o arri	ive at	checl	k] the	funct g (ii) d erat		points			Low	
iii. Rating (u Evidence of v Substantial Moderate	Fish Hoy fish to hab	labita	t Ration fish usonstra	ng: (see is ints,	1E .9F .6M	d l	s funct	ion if	he ma	A is u	Wildlife  H  M  W  sed by  sther b	o arri	or the	checle checked control	(s) the rating Moo	funct g (ii) derat .8H .5M .2L	e on is "ot t used	correct by fis	and	rating	.7M .3L .1L	÷ AA
ii. Rating (understand Noderate Minimal D. General I und be used I storable due NA here storable due Habitat Qu	vil dlife	labita i [i.e., pitat coroceed	t Ration fish us onstra	ng: (see is ints,	1E .9F .6M Asses preclu	ional	s funct by per sired f	ion if	he ma	A is untroped and a segment of the s	Wildlife  H  M  M  sed by ther being the periods and the periods are the period are the periods are the periods are the periods are the period are the periods are the period are the periods	o arri hab	or the	e exist	Modeling sine AA as fis	funct g (ii) derat 8H .5M .2L tuatic is no	e on is "d t used rapped	correct by fis d in a d	and	rating	.7M .3L .1L	: AA
Evidence of v  Substantial  Moderate  Minimal  omments  D. General I  ould be used storable due  NA here	vil dlife	labita i [i.e., pitat coroceed	t Ration fish us onstra	ng: (see is ints, -E.)	1E .9F .6M Asses preclu	ss this uded I dot de	s funct by per sired f	ion if	he ma	A is untroped and a segment of the s	Wildlife  H  M  M  sed by ther being the periods and the periods are the period are the periods are the periods are the periods are the period are the periods are the period are the periods	o arri hab	or the	e exist	Modeling sing single AA as fis	funct g (ii) derat 8H .5M .2L tuatic is no	e on is "d t used rapped	correct by fis d in a d	able'	' such	.7M .3L .1L	

i. Habitat Quality and	Known	Suspec	tea Fish	Specie	25 III A	a (use n	iallix lo	ariive a	t [Check	the lunct	ionai po	ints and	a raung)					
Duration of surface water in AA		Pe	rmanent /	Perennial	ļ.			Se	asonal /	ntermitten	t			Tem	porary/	Epheme	eral	
Aquatic hiding / resting / escape cover	Opt	imal	Adeq	uate	Po	oor	Opti	mal	Ade	quate	Po	or	Opti	mal	Adeo	quate	Po	oor
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	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	.8Н	.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 habilat? Y 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?  $\bigcirc$  Y  $\bigcirc$  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-NA here and proceed to 14F.) channel or overbank flow, click Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) Slightly entrenched - C, D, E Estimated or Calculated Entrenchment (Rosgen Moderately entrenched - B Entrenched-A, F, G stream 1994, 1996) stream types stream type types % of flooded wetland classified as forested 75% 25-75% <25% 75% 25-75% <25% 75% 25-75% <25% and/or scrub/shrub 1H AA contains no outlet or restricted outlet .9H .6M .8H .7M .5M .4M .3L .2L AA contains unrestricted outlet .6M .4M .3L .2L .1L .9H .8H .7M .5M Slightly Entrenched **Moderately Entrenched** Entrenched ER = >2.2 ER = 1.41 - 2.2 ER = 1.0 - 1.4G stream type C stream type D stream type E stream type B stream type A stream type F stream type 2 x Bankfull Depth Flood-prone Width Bankfull Width Bankfull Depth Floodrpone Bankfull Entrenchment 5 width ratio width 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, dick 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 >5 acre feet 1.1 to 5 acre feet ≤1 acre foot flooding or ponding Duration of surface water at wetlands within the AA P/P T/E P/P T/E P/P T/E S/I S/I S/I 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 .1L .2L Wetlands in AA flood or pond < 5 out of 10 years

Comments:		

	h influx			t/Toxicar or ground														ortoxic and proc	
i. Rati = low])	ing (w	orking	from	top to bot	ttom, us	e the n	natrix be	elow to	arrive a	at [chec	k] the f	unctiona	l points	s and ra	ating [H	= high,	M = mo	oderate,	or L
			toxica	ntinput	com not	o delive pounds substar	levels o at levels tially imp of nutrien	f sedime such tha aired. M	ents, nutr at otherfo linorsed icants, o	vith poter ients, or unctions imentation r signs of	are on,	deve nutrients with pot compoun	lopment s, or toxi ential to ds such	for "pro cants <b>or</b> deliver that oth tion, sou	bable car AA rece high leve er function	uses" rela eives or s els of sed ons are s nutrients	ated to s surround iments, i ubstantia or toxica	d of TMDL ediment, ing land u nutrients, ally impair	is e or red.
% cover Evidenc		andveg odina/p				≥ 70%			< 70	1%			≥ 70	%			< 70	%	
					Yes	<del> </del>	No .	Yes	3	No	.	Yes		No	)	Yes		No	
AA cont					1⊦	1 .	8H	.7N	1	.5M		.5N		.4	М	.3L		.2L	
AA cont	ains <b>un</b>	restrict	ed out	tlet	.9H	<u> </u>	7M	.6N	1	.4M		.4N		.3	L	.2L		.1L	
Comm	nents:																		
drainage proceed i. Ratir	e, or on I to 14I. ng (wor	the sho	reline m top	abilization of a stand	ding wate	er body v	which is	subject	to wave t [check]	action. I	f 14H d	oes not a	oply, cli		tural or r		le		
% Cover shoreline								Duration			•	rooted veg							
of ≥6 (see					Pern	nanent / I	Perennial		Sea	asonal / In	termitter	it	Te	emporary	/ Epheme	ral			
≥ 65%						1H				.91	1				7M				
35-64%						.71	4			.61	Л				5M				
< 35%						.3L				.21					.1L				
i. Le	Produc		al Ac	Food Chai tivity (syn G	• • •	wildlife													
Ra	ating (1	4D.iii.)		E/H	4		М												
	E/H	1		Н	$\perp$		н			М									
	М			Н			М			М									
	L			Н			М			L									
wetland subsurfa	compo ace out	orking fronce or the contract of the contract	the AA	o to botton A; Factor B	s = level pertain to	of biolog duratio	below to	vitv ratin	at [check	the fun	II.i.): Fa	ctor C = v	vhether	or not th	ne AA co	ntains a	surface	or	
Α		Vege	etated co	efinitions o	acres					onent 1-5					etated com				
B C	Yes Hi	gh No	Yes	loderate No	Yes	No No	Yes Hi	gh No	Mod Yes	erate No	Yes	ow No	Hi Yes	gh No	Mod- Yes	erate No	Yes	No No	
P/P	1E	.7H	.8⊦	.5M	.6M	.4M	.9H	.6M	.7H	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L	
S/I	.9H	.6M	.7H	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7H	.5M	.5M	.3L	.3L	.2L	
T/E/A	.8H	.5M	.6N	1 .3L	.4M	.2L	.7H	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	1L	
olant cove control).	er, ≤ 15 e an av	6% noxio	us we	: Modified ed or AN\ ot-wide veg djust rating	/S cover	, and the	at is not	subjecte	ed to per	iodic me	chanica	ıl mowing			ess for w		1		

i. Discharge Indicators ii. Recharge Indicators Permeable substrate present without underlying impeding layer The AA is a slope wetland Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: 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: 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 None Groundwater Discharge or Recharge .4M .1L 1H .7M 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) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations wetland or plant association listed and structural diversity (#13) is plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative commo abundant abundant common abundant rare rare common rare abundance (#11) n Low disturbance at AA .9H 1H .8H .8H .6M .5M .5M .4M .3L (#12i) Moderate disturbance at .9H .8H .7M .2L .7M .5M .4M .4M .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .4M .3L .3L .2L .1L (#12i) 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 **V** NA here and proceed to the overall summary and rating page) 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 Potential Known 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: **General Site Notes** 

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

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	0	1	0	
C. General Wildlife Habitat	М	.5	1	0.05	
D. General Fish Habitat	NA	0	0	0	
E. Flood Attenuation	М	.5	1	0.05	
F. Short and Long Term Surface Water Storage	L	.2	1	0.02	
G. Sediment/Nutrient/Toxicant Removal	М	.7	1	0.07	<b>~</b>
H. Sediment/Shoreline Stabilization	Н	1	1	0.1	<b>✓</b>
Production Export/Food Chain Support	М	.7	1	0.07	<b>~</b>
J. Groundwater Discharge/Recharge	Н	1	1	0.1	<b>~</b>
K. Uniqueness	L	.2	1	0.02	
L. Recreation/Education Potential (bonus points)	NA	0	NA	0	
Totals:		4.8	10	0.48	
Percent of Possible Score			48 %		,

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)

	1		
I	II	III	IV

# MDT Montana Wetland Assessment Form (revised March 2008)

1. Project name	Stone Creek	- North		2. MDT	project#	S	TPP49-1(25	)9		Control	‡ 7	7931000
3. Evaluation Date	6/12/2013	4. Evaluators	B Sar	ndefur		5. We	tland/Site#	(s) WW-3	(east	side), WL	6, 7	, 11
6. Wetland Location(s)	): T	5S R	7W	Sec1	22	Т		R	S	ec2		
Approx Stationing or M	Mileposts	RP 14.5										
Watershed 100200	002	W	atersh	ed/Coun	ty Bea	/erhea	d River, Ma	dison Co. U	pper M	lissouri		
7. Evaluating Agency	Confl	uence for MDT					8. Wetla	nd size acr	es			0.82
Purpose of Evaluation	n						How ass	essed:	Me	asured e	g. by	GPS
✓ Wetlands potentia	ally affected	by MDT project						ssment are	ea			0.82
☐ Mitigation Wetland	ds: pre-con	struction					(AA) size		N 4 -		a. la	CDC
☐ Mitigation Wetland	ds: post coi	nstruction					How ass	essea:	ivie	asured e.	g. by	GPS
Other												
10. Classification of V	Vetland and	I Aquatic Habitat	s in A	A								
HGM Class (Brinson)	Cla	ss (Cowardin)		Modifie	er (Cowai	din)	Wate	r Regime		% c	f AA	
Riverine	Unco	nsolidated Bottor	n				Perman	ent/Perennia	al			10
Depressional	Eme	rgent Wetland					Perman	ent/Perennia	al			15
Depressional	Eme	rgent Wetland					Seasona	ıl/Intermittaı	nt			45
Depressional	Scrul	b-Shrub Wetland					Seasona	ıl/Intermittaı	nt			40
11. Estimated Relative	Ahundance	e Common										
12. General Condition i. Disturbance: (use n aquatic nuisance vege	n of AA matrix below to	o determine [circle] :		iate respon	nse – see i	nstruction	ons for Monta	na-listed nox	ious we	ed and		
			Mone	and in produ		_	nt conditions adj				d or be	povily grazed
Condi	tions within AA		natur haye conve roads	aged in predo al state; is no d, logged, or erted; does n s or buildings I or ANVS co	ot grazed, otherwise ot contain s; and noxiou	mo sel sul s fev	nd not cultivated or derately grazed lectively logged; bject to minor clev roads or buildied or ANVS cov	or hayed or or has been earing; contains ngs; noxious	or pl hy bu	logged; sub acement, gra drological a	ject to ading, Iteration ty; or n	n; high road or oxious weed
AA occurs and is managed in p grazed, hayed, logged, or other roads or occupied buildings; an <=15%.	rwise converted;	does not contain	_lo	ow distur	bance		low distu	rbance	ا ا	moderate	e dis	turbance
AA not cultivated, but may be n selectively logged; or has been placement, or hydrological alter noxious weed or ANVS cover is	subject to relati ration; contains f	vely minor clearing, fill		modera disturba		_ n	noderate d	sturbance		high c	listu	bance
AA cultivated or heavily grazed substantial fill placement, gradi high road or building density; c >=30%.	ing, clearing, or l	_hi	gh distur	bance		high distu	ırbance		high d	istur	bance	
Comments: (types of d Adjacent to highway, AA			n, etc)	l								
Aujacent to nighway, AA	penodically	yıazeu										
ii. Prominent noxious,	aquatic nui	sance, other exo	tic spe	ecies:								
Cirsium arvense	intivo o	nonvot AA ==================================		dina I	d 1100/15 c	itct.						
iii. Provide brief descri AA includes emergent ar highway and active agric	nd shrub wet						rtion of the r	iver bed. S	urroun	ding land	uses	include

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Modified Initial Is current management preventing (passive) Existing # of "Cowardin" Vegetated Classes in AA Rating existence of additional vegetated classes? R ating >=3 (or 2 if 1 is forested) classes NA NΑ NA Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture Μ <NO YES> L 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA L Comments: Emergent, scrub-shrub, and aquatic habitats 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 D S Secondary habitat (list Species) Incidental habitat (list species) ○ D • S Arctic grayling S No usable habitat ii. Rating (use the condusions 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 1H .9H .8H .7M .3L 0L .1L Rating USFWS T&E list by county Sources for documented use 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 D S Secondary habitat (list Species) Incidental habitat (list species) ○ D ● S Westslope cutthroat trout, great blue heron S No usable habitat 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 .7M .8H .6M 0L 1H .2L .1L Rating S2 and S3 Species: Functional Points and .9H .7M .6M .5M .2L 0L .1L Rating MTNHP SOC report

Sources for documented use

																			Mod	derat	e		
<i>ıbstantial</i> (based on	any of th	ne follo	wing	j [ched	ck]):						Minir	<b>nal</b> (b	ased or	any of	the foll	owing	[check])	):					
observations of ab	oundant	wildlife	#s o	r high	specie	es diver	sity (dur	ring an	y period	i)			o wildlif		vations	during	peak u	se peri	ods				
abundant wildlife	sign suc	n as so	at, tra	acks,	nest st	ructure	s, game	trails,	etc.		lit	tle to r	no wildlif	e sign									
presence of extrer	nely limi	ting ha	bitat	featu	res not	availat	ole in the	e surro	unding	area	sp	arse a	adjacent	upland	food s	ources							
interviews with loc	al biolog	jists wi	th kn	nowled	dge of t	he AA					in	terviev	vs with I	ocal bio	ologists	with kr	nowledg	ge of the	e AA				
oderate (based on ar	ny of the	follow	ng [c	check	]):																		
observations of so	attered	wildlife	grou	ups or	individ	uals or	relativel	ly few s	species	during	oeak pe	riods											
common occurren	ce of wi	dlife si	gn su	uch a	s scat, t	tracks,	nest str	uctures	s, game	trails, e	tc.												
adequate adjacen	t upland	food s	ource	es																			
interviews with loc	al bioloç	jists wi	th kn	nowled	dge of t	he AA																	
i. Wildlife habitat rom #13. For clas other in terms of th permanent/perenni erms])	s cove	r to be cent c	con	nside oositid	red ev	enly d he AA	listribut (see #	ted, th	ne mos Abbrev	t and lo	east pr	evale ırface	ent <b>veg</b> water	<b>etate</b> durati	d class ons are	es mu e as fo	ust be ollows:	within P/P =	20% (	of eac	ch		
Structural liversity (see				Hiç	gh							Mode	erate					Lo	ow				
Class cover distribution (all regetated classes)	Even Uneven									Eve	n			Une	ven			Ev	ren				
Ouration of Purface water in ≥ P/ O% of AA  .ow disturbance	P S/I	I T/	E ,	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	A	P/P	S/I	T/E	А			
t AA (see #12i) E	. E		E	Н	Е	Е	Н	н	Е	Н	Н	М	Е	Н	М	М	Е	Н	М	М			
Moderate disturbance at AA F see #12i)	н		н	н	Н	н	н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L			
High disturbance at AA (see #12i)	1 M		и	L	М	М	L	L	М	М	L	L	М	L	L	L	L	L	L	L			
iii. Rating (use Evidence of wild			si on:		om i a		above :	and t	the ma		Vildlife		ive at		ratin			points	s and	ratin	g) Low		
Substantial		一				- 1				.9l							1					1	
Moderate		_			1E .9F	- 1				.71						.8H					.7M .3L	+	
Minimal				_	.91 .6N	_		Н		.41						.5M .2L	$\overline{}$		_		.3L	-	
ID. General Fish																							<u> </u>
1D. General Fishould be used by f	ish [i.e nabitat I proce	e., fish cons ed to	n us strair 14E	se is nts, ( E.)	preclu or is r Cold	uded I not de d Wa	by per sired f ter	ched from	culve a man	rt or o	ther b	arrie erspe	r, etc.] ective	. If th	ne ĀA as fis	is no h ent	t used rappe	l by fi d in a	sh, fis	sh us	e is not		₩A
I.D. General Fishould be used by fistorable due to him NA here and Habitat Quality	ish [i.enabitat I proce	e., fish cons ed to	n us strair 14E	se is nts, ( E.)	preclu or is r Cold	uded l not de d Wa ish Sp	by per sired f ter pecies	ched from	culve a man	rt or o	ther b	arrie erspe	r, etc.] ective	. If the such	ne AA as fis	is no h ent	t used rappe	l by fi d in a	sh, fis cana	sh us I], the	e is not	k	₩A
	ish [i.enabitat l proce	e., fish cons eed to	n us strair 14E	se is nts, o E.) uspe	precluor is r Cold	uded l not de d Wa ish Sp	by persired factors  becies	ched from	culve a man	rt or o	ther b	arrie erspe	r, etc.] ective   heckth	. If the such	ne AA as fis	is no h ent	t used rappe	l by fi d in a	sh, fis cana	sh us	e is not en ched	k	NA Po

. Habitat Quality and	IXIIOWII A	Ouspec	, tt tt 1311	Орсск	, 3 III A	1 (U3 C II	TO THE TO	arnvo a	t [O HO OK	the famot	ioriai po	into and	i rating)					
Duration of surface water in AA		Per	manent /	Perennial	Į.			Se	asonal / I	ntermitten	t			Tem	porary/	Epheme	eral	
Aquatic hiding / resting / escape cover	Opt	imal	Adeq	uate	Po	oor	Opti	mal	Ade	quate	Po	or	Opti	mal	Adeo	quate	Po	oor
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	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	.6М	.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 yes, reduce score in i above by 0.1: Modified Rating .9H 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?  $\bigcirc$  Y  $\bigcirc$  N If yes, add 0.1 to the adjusted score in i or iia above: Modifed Rating .9H 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-NA here and proceed to 14F.) channel or overbank flow, click Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) Slightly entrenched - C, D, E Entrenched-A, F, G stream Estimated or Calculated Entrenchment (Rosgen Moderately entrenched - B 1994, 1996) stream types stream type types % of flooded wetland classified as forested 75% 25-75% <25% 75% 25-75% <25% 75% 25-75% <25% and/or scrub/shrub 1H AA contains no outlet or restricted outlet .9H .6M .8H .7M .5M .4M .3L .2L AA contains unrestricted outlet .9H .6M .4M .3L .2L .1L .8H .5M .7M Slightly Entrenched **Moderately Entrenched** Entrenched ER = >2.2 ER = 1.41 - 2.2 ER = 1.0 - 1.4G stream type C stream type D stream type E stream type B stream type A stream type F stream type 2 x Bankfull Depth Flood-prone Width Bankfull Width Bankfull Depth Floodrpone 110 Bankfull Entrenchment 50 2.2 width width 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, dick 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	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	.9Н	.8Н	.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:		

i. Rating (working from top to bo = low]) Sediment, nutrient, and toxicant input levels within AA	AA receives of to deliver		elow to	arrive a	t [check	k] the f	unctional	l points	and ra	ting [H	= high,	M = mo	derate,	
Sediment, nutrient, and toxicant input	to deliver	or surrou												
	compounds a not substant sources o	levels of at levels s tially imp	sedime such that aired. Mits or toxid	nts, nutri t other fu in or sedi cants, or	ients, or unctions a mentatio	a re	devel nutrients with pote compound	opment , or toxi ential to ds such	for "prob cants <b>or</b> deliver h that other ion, sou	bable cau AA rece high leve er function rces of n	uses" rela ives or s ls of sedi ons are su	ated to s urroundi ments, i ubstantia or toxica	of TMDL ediment, on land us nutrients, of ally impairents, or sig	
% cover of wetland vegetation in AA  Evidence of flooding / ponding in AA	≥ 70%			< 70	%			≥ 70°	%			< 70	%	
	Yes 1	No .	Yes		No		Yes		No		Yes	_	No	
AA contains no or restricted outlet	1H .8	8H	.7M	1	.5M		.5M		.41	М	.3L		.2L	
AA contains unrestricted outlet	.9H .7	7M	.6M		.4M		.4M		.3		.2L		.1L	
Comments:														
14H Sediment/Shoreline Stabilizatio drainage, or on the shoreline of a standproceed to 14I.)  i. Rating (working from top to bottom	ding water body v	which is s	subject to	o wave a	action. If	f 14H do	oes not ap	oply, clic		ural or n <b>NA</b> hei		le		
% Cover of <u>wetland</u> streambank or shoreline by species with stability ratings	Permanent / F		Duration				rooted veg		mporony	Enhama	rol			
of ≥6 (see Appendix F). ≥ 65%	Permanent / Perennial Seasonal / Intermittent						\	Temporary / Ephemeral						
35-64%	1H .9H .6M					-	.5M							
< 35%	.3L				.2L				<u> </u>	1L				
14I. Production Export/Food Cha i. Level of Biological Activity (syr	nthesis of wildlife													
General Fish Habitat C Rating (14D.iii.) E/H	General Wildlife	Habitat I	Rating (	(14C.iii.) L	_									
	1 [	Н		1	м									
E/H H	_	м			м									
L M		М			L									
N/A H		М			L									
ii. Rating (Working from top to bottor wetland component in the AA; Factor E subsurface outlet; the final three rows [see instructions for further definitions	B = level of biolog pertain to duration	ical activ	itv ratino	a from a	bove (14	l.i.): Fa	ctor C = w	hether	or not th	e AA co	ntains a	surface	or	
A         Vegetated component >5           B         High         Moderate	Low	Hig		tated comp Mode	onent 1-5 a erate		ow	Hi		etated com Mode	ponent <1 a	acre Lo	)W	
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/I9H6M7H4M	.5M .3L	.8H	.5M	.6M	.3L	.4M	.2L	.7H	.5M	.5M	.3L	.3L	.2L	
OLUMB CAA DO	.4M .2L	7H	.4M	.5M	.2L	.3L	1L	.6M	.4M	.4M	.2L	.2L	.1L	
T/E/A .8H .5M .6M .3L														

14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below) i. Discharge Indicators ii. Recharge Indicators The AA is a slope wetland Permeable substrate present without underlying impeding layer Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: 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: 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 None Groundwater Discharge or Recharge .4M .1L 1H .7M 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) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations and structural diversity (#13) is wetland or plant association listed plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative commo abundant abundant common abundant rare rare common rare abundance (#11) n Low disturbance at AA .9H 1H .8H .8H .6M .5M .5M .4M .3L (#12i) Moderate disturbance at .9H .8H .7M .2L .7M .5M .4M .4M .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .4M .3L .3L .2L .1L (#12i) 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  $N\bigcirc$ (if 'Yes' continue with the evaluation; if 'No' then click NA here and proceed to the overall summary and rating page) 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 Potential Known 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 .05L .1M Comments: **General Site Notes** 

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	.1	1	0.082	
B. MT Natural Heritage Program Species Habitat	L	.1	1	0.082	
C. General Wildlife Habitat	М	.5	1	0.41	
D. General Fish Habitat	Н	.9	1	0.738	<b>✓</b>
E. Flood Attenuation	Н	.8	1	0.656	
F. Short and Long Term Surface Water Storage	Н	.8	1	0.656	
G. Sediment/Nutrient/Toxicant Removal	Н	.9	1	0.738	<b>✓</b>
H. Sediment/Shoreline Stabilization	М	.7	1	0.574	
Production Export/Food Chain Support	Н	.9	1	0.738	<b>✓</b>
J. Groundwater Discharge/Recharge	Н	1	1	0.82	<b>✓</b>
K. Uniqueness	L	.2	1	0.164	
L. Recreation/Education Potential (bonus points)	М	.1	NA	0.082	
Totals:		7	11	5.74	
Percent of Possible Score		D	63.64 %		

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
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# MDT Montana Wetland Assessment Form (revised March 2008)

1. Project name	Stone Creek	c - North		2. MDT	project#	S	TPP49-1(25)9		Con	trol#	7931000
3. Evaluation Date	6/13/2013	4. Evaluators	B Sar	ndefur		5. We	tland/Site# (s)	WW-3 (v	vest side)	, WL-11	
6. Wetland Location(s	): T	5S R	7W	Sec1	22	Т	R		Sec2		
Approx Stationing or I	Mileposts										
Watershed 10020	002	W	atersh	ed/Coun	ty Bea	/erhea	d River, Madiso	n Co. Upp	er Missou	ıri	
7. Evaluating Agency	Confl	uence for MDT					8. Wetland	size acres	3		0.49
Purpose of Evaluatio	n						How assess	ed:	Measure	ed e.g. I	by GPS
✓ Wetlands potentia	ally affected	by MDT project					9. Assesss				0.49
☐ Mitigation Wetlan	ds: pre-con	struction					(AA) size (ad	•	Measure	doah	w CDS
☐ Mitigation Wetlan	ds: post co	nstruction					now assess	eu.	Measure	u e.g. t	y GF3
Other											
10. Classification of \	Wetland and	d Aquatic Habitat	s in A	A							
HGM Class (Brinson)		ass (Cowardin)			er (Cowa	din)	Water R	egime		% of A	A
Riverine		onsolidated Bottor	n		`		Permanent/				10
Depressional	Eme	rgent Wetland					Permanent/	Perennial			10
Depressional	Eme	rgent Wetland					Seasonal/In	termittant			40
Depressional	Scru	b-Shrub Wetland					Seasonal/In	termittant			40
11. Estimated Relative	Abundance	e Common									
12. General Condition i. Disturbance: (use raquatic nuisance vege	n of AA matrix below to	o determine [circle] a		iate respor	ise – see i	nstructio	ons for Montana-	isted noxiou	us weed an	d	
			Many	aged in predo			nt conditions adjacer nd not cultivated, but	· '		tivated or	heavily grazed
Condi	litions within AA		natui haye conv road:	al state; is not d, logged, or erted; does not or buildings I or ANVS co	ot grazed, otherwise not contain s; and noxiou	mo sel sub s few	derately grazed or hectively logged; or hectively logged; or hoject to minor clearing roads or buildings; ed or ANVS cover is	ayed or as been g; contains noxious	or logged placement hydrolog building	d; subject nt, grading ical altera	to substantial fill g, clearing, or tion; high road or roxious weed
AA occurs and is managed in p grazed, hayed, logged, or othe roads or occupied buildings; at <=15%.	erwise converted;	; does not contain	lo	ow distur	bance		low disturba	ınce	mode	erate d	sturbance
AA not cultivated, but may be r selectively logged; or has beer placement, or hydrological alte noxious weed or ANVS cover i	n subject to relati eration; contains	ively minor clearing, fill		modera disturba			noderate distu	rbance	hi	gh dist	urbance
AA cultivated or heavily grazed substantial fill placement, grad high road or building density; >=30%.	ling, clearing, or	hydrological alteration;	hi	gh distur	bance		high disturba	ance	hig	gh distu	urbance
Comments: (types of d	disturbance,	, intensity, seaso	n, etc)	)							
AA includes farmed wetl		•									
ii. Prominent noxious,	aguatic nui	sance. other exo	tic spe	ecies:							
Cirsium arvense		, : : : : : : : : : : : : : : : : : : :	-17	-							
iii. Provide brief descr											
AA includes Beaverhead corridor	d River and a	adjacent wetlands	deline	ated within	n tioodpla	ın. Su	rrounding landu	ises includ	ie agricult	ure and	highway

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Initial Is current management preventing (passive) Modified Existing # of "Cowardin" Vegetated Classes in AA Rating existence of additional vegetated classes? R ating >=3 (or 2 if 1 is forested) classes NA NΑ Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture Μ <NO YES> L 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA L Comments: Scrub-shrub, emergent, and aquatic habitats 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 D S Secondary habitat (list Species) Incidental habitat (list species) ○ D • S Arctic grayling S No usable habitat ii. Rating (use the condusions 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 1H .9H .8H .7M .3L 0L .1L Rating USFWS T&E list by county Sources for documented use 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 D S Secondary habitat (list Species) Incidental habitat (list species) ○ D ● S Westslope cutthroat trout, great blue heron S No usable habitat 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 .7M .8H .6M 0L 1H .2L .1L Rating S2 and S3 Species: Functional Points and .9H .7M .6M .5M .2L 0L .1L Rating MTNHP SOC report

Sources for documented use

14C. General V i. Evide	lidlife				se in tl	ne AA	(che	ck sub	stanti	al, mo	derate	e, or	ow ba	sed or	ı supp	ortin	g evid	ence)	:				
																			Mod	erate	)		
Substantial (base										I)				n any o		-							
observations							• (	•	• •	1)				fe obse	rvations	during	g peak ı	ise per	iods				
abundant wild	-						-				$\equiv$		no wildl	•	d food a								
presence of e			-				bie in t	ne surro	ounding	area	$\equiv$		•	t uplan				4 41-	- 44				
interviews wit	II IUCAI L	nologis	ots with	KIIOWIEC	age or t	IIE AA					"	ileivie	ws willi	local bi	ologisis	WILLIA	ilowiedi	ge or tr	IE AA				
Moderate (based	,			•	•																		
<b>✓</b> observations								•				eriods											
common occ			_		s scat, 1	racks,	nest s	tructure	s, game	trails, e	etc.												
adequate adj																							
interviews wit	in local t	ologis	its with	knowled	dge of t	ne AA																	
ii. Wildlife hab from #13. For other in terms	class c	over t	o be c	onside	red ev	enly o	distrib	uted, th	ne mos	t and I	east p	reval	ent ve	getate	d clas	ses m	ust be	within	20% o	-	1		
permanent/per				-																of thes	se		
terms]) Structural									1														
diversity (see				Hiç	gh							Mod	lerate					L	.ow				
#13) Class cover																							
distribution (all vegetated		Ev	en			Une	even			Eve	en			Une	ven			E	ven				
classes)								_			1												
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	Α	P/P	S/I	T/E	А	P/P	S/I	T/E	А			
Low disturbance at AA (see #12i)	Е	E	E	н	Е	Е	Н	н	Е	Н	Н	М	E	Н	М	М	Е	Н	М	М			
Moderate disturbance at AA (see #12i)	н	н	Н	н	н	Н	н	м	н	н	М	М	н	М	м		Н	м	L	L			
High disturbance at AA (see #12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L	L	L	L	L	L			
iii. Rating (				ons fro	om i a	nd ii a	abo ve	e and	the ma					[chec			tional	point	s and	rating	)		
				Е	xcept	iona				High	1				Mc	derat	:e				Low		
Substantial					1E					.9	Н					.8H					.7M		
Moderate					.9⊦	1				.71	М					.5M					.3L		
Minimal					.6N					.41	М					.2L	┰				.1L		
Comments													•										
14D. General could be used restorable due NA here	by fish to hab	i [i.e., oitat c	fish u	use is aints,	preclu	uded ot de	by pe	erchec	l culve	rt or c	other b	oarrie	er, etc.	]. If th	ne ĀA	is no	t used	d by f	ish, fis	h use	is not		
Duration of surface		nd Kn	own /		cted F			s in AA	(user	natrix t	o arriv			he fun		points	and r	ating)	Tem	nporary	/ Epheme	eral	_
Aquatic hiding / re escape cover	esting/		Optin			dequat		Po	or	Ol	otimal	- Ja	Adeo		Ī	Poor		Opti			equate		Poor
Thermal cover op suboptimal	timal/		0	S	0		S	0	S	0	s	1	0	s	0		s	0	s	0	s	0	S

in AA		Per	manent /	<u>Perennia</u>	ļ			Se	easonal /	Intermitten	ıt			Tem	porary/	Epheme	eral	
Aquatic hiding / resting / escape cover	Opt	timal	Adeq	uate	Po	oor	Opti	mal	Ade	quate	Ро	or	Opti	mal	Adeo	quate	Po	oor
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S
FWP Tier I fish species	1E	.9Н	.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 habilat? Y yes, reduce score in i above by 0.1: Modified Rating .9H 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?  $\bigcirc$  Y  $\bigcirc$  N If yes, add 0.1 to the adjusted score in i or iia above: Modifed Rating .9H 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-NA here and proceed to 14F.) channel or overbank flow, click Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) Slightly entrenched - C, D, E Estimated or Calculated Entrenchment (Rosgen Moderately entrenched - B Entrenched-A, F, G stream 1994, 1996 stream types stream type types % of flooded wetland classified as forested 75% 25-75% <25% 75% 25-75% <25% 75% 25-75% <25% and/or scrub/shrub 1H AA contains no outlet or restricted outlet .9H .6M ЯH .7M .5M .4M .3L .2L AA contains unrestricted outlet .6M .4M .3L .2L .1L .9H .8H .5M .7M Slightly Entrenched **Moderately Entrenched** Entrenched ER = >2.2 ER = 1.41 - 2.2 ER = 1.0 - 1.4G stream type C stream type D stream type E stream type B stream type A stream type F stream type 2 x Bankfull Depth Flood-prone Width Bankfull Width Bankfull Depth Floodrpone 110 Bankfull Entrenchment 50 2.2 width ratio width 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, dick 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 >5 acre feet 1.1 to 5 acre feet ≤1 acre foot

flooding or ponding Duration of surface water at wetlands within the AA P/P P/P T/E T/E P/P S/I S/I S/I T/E 1H .9H .8H .6M .5M .4M .3L .2L .8H Wetlands in AA flood or pond ≥ 5 out of 10 years .9H .8H .7M .7M .5M .4M .3L .2L .1L Wetlands in AA flood or pond < 5 out of 10 years

Comments:		

C         Yes         No		gh influ			nt/Toxica or ground														ortoxic and proc	
Sectionest. Autherit. and sexican (Apput force) and the content of the content o		. • `	working	from	top to bo	ttom, us	se the r	natrix be	elow to	arrive a	at [chec	k] the f	unctiona	l points	s and ra	ating [H	= high,	M = m	oderate,	or L
AA cortains no or restricted outlet  1H	Sedim	ent, nutr		l toxic	antinput	com	to delive pounds substar	r levels o at levels atially imp of nutrien	f sedime such that aired. Mats or tox	ents, nutr at otherfoll Minorsed kicants, o	rients, or unctions imentatio	are on,	deve nutrients with pot compour	lopment s, or toxi tential to ids such	for "pro cants <b>or</b> deliver that oth tion, sou	bable cau AA rece high leve er function arces of n	uses" relatives or solids of sed on sare solutrients	ated to s surround iments, ubstantia or toxica	ediment, ing land u nutrients, ally impai	is e or red.
As contrains no or restricted outlet    1H							≥ 70%			< 70	)%			≥ 70	%			< 70	%	
AA contains unrestricted outlet    SH						Yes		No	Ye	s	No		Yes		No	)	Yes		No	
Seminary						11	1 .	8H	.71	Л	.5M		.5N	1	.4	М	.3L		.2L	
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 14L).  I. Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating.  **Schoer of wettering streamshank or shoreline of by species with stability rating of a face appendix F).  2 65%.  1H Sed Seasonal / Intermittent  Temporasy/Ephement  7M Seasonal / Intermittent  Temporasy/Ephement  Temporasy/E	AA coı	ntains <b>ur</b>	nrestrict	ed ou	ıtl et	.91	н .	7M	.6N	Л	.4M		.4N	1	.3	L	.2L		.1L	
drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, click	Comi	ments	:																	
share-line by species with stability ratings of 26 (see Appendix F).  Permanent / Perennial Seasonal / Intermittent Temporary / Ephemeral 26%  35-64%	drainag proces i. Rat	ge, or or ed to 14l t <b>ing</b> (wo	n the sho .) rking fro	oreline m top	e of a stan	ding wate	er body	which is	subject arrive a	to wave	action. I	f 14H de	oes not a	pply, cli		7		de 1		
26 56%	shorelir	ne by spe	cies with s			Dor	manant /	Doronnial	Duration			•	<del> </del>			/ Enhama	ral			
35-64%		ee Appei	ndix F).			Peri	$\overline{}$			Se			t	16			raı			
A vegetated component in the AA; Factor B = level of biological activity rating from above (14L.); 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 definations of these terms).  A vegetated component is for further definations of these terms).  A vegetated component is for further definations of these terms).  A vegetated component is defined and a "absent" (See Instructions of the AB, where P/P, S/I, and T/E are as previously defined, and A = "absent" (See Instructions for further definations of these terms).  A vegetated component is acres vegetated veg								_			_	-				_				
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.)  E/H	< 35%						_				.21					1L		İ		
Rating (14D.iii.)  E/H  H  H  M  M  L  N/A  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 (14Li.); 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  Vegetated component -1 acre  Vegetated component -1 acre  No Yes No Y				•		• •		and fish	habitat	ratings [	check])									
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 (141.1); 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 >5 acres   Vegetated component >5 acres   Vegetated component >5 acres   Vegetated component >5 acres   Vegetated component >5 acres   Vegetated component >5 acres   Vegetated component >5 acres   Vegetated component >5 acres   Vegetated component >5 acres   Vegetated component >5 acres   Vegetated component >5 acres   Vegetated component >5 acres   Vegetated component >6 acres   Vegetated Component >6 acres   Vegetated component >6 acres   Vegetated component >6 acres   Vegetated component >6 acres   Vegetated component >6 acres   Vegetated component >6 acres   Vegetated component >6 acres   Vegetate				at			Wildlife		Rating	(14C.iii.)	)									
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 (14Li.); 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 a	-		•	<b>-</b>		1					м 1									
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 (14l.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   Vegetated component >5 acres   Vegetated component <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Vegetated <1 acre   Ve																				
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   Low   High   Moderate   Low   Vegetated   Low   Veg					М			М			L									
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		N/A	A		Н			М			L									
High Moderate Low High Modera	wetlan subsur	d comportace out	onent in the f	the A final t	A; Factor E hree rows	3 = level pertain to	of biologo duration	gical action	itv ratir	na from a	above (14	ll.i.): Fa	ctor C = \	whether	or not th	ne AA co	ntains a	surface	or	
P/P 1E .7H .8H .5M .6M .4M .9H .6M .7H .4M .5M .3L .8H .5M .6M .4M .3L .2L .7H .5M .5M .3L .3L .2L .7H .5M .5M .3L .3L .2L .7H .5M .5M .3L .3L .2L .7H .5M .5M .3L .3L .2L .7H .5M .5M .3L .3L .2L .7H .5M .5M .3L .3L .2L .7H .5M .5M .3L .3L .2L .7H .5M .5M .3L .3L .2L .7H .5M .5M .5M .3L .3L .2L .7H .5M .5M .5M .3L .3L .2L .7H .5M .5M .5M .3L .3L .2L .7H .4M .5M .5M .5M .3L .3L .2L .7H .4M .5M .5M .5M .3L .3L .4M .2L .7H .4M .5M .5M .3L .3L .1L .4M .4M .4M .4M .4M .4M .4M .4M .4M .4M	_		Veg	etated o	component >5	acres							ow	Н					ow	
s/l .9H .6M .7H .4M .5M .3L .8H .5M .6M .3L .4M .2L .7H .5M .5M .3L .3L .2L .2L .7H .5M .5M .3L .3L .2L .1L .6M .4M .4M .2L .7H .5M .5M .3L .3L .2L .1L .7H .5M .5M .3L .4M .2L .7H .5M .5M .3L .3L .2L .1L .7H .5M .5M .3L .3L .3L .2L .1L .7H .5M .5M .5M .3L .3L .3L .2L .1L .7H .5M .5M .3L .3L .3L .2L .1L .7H .5M .5M .5M .3L .3L .3L .2L .1L .7H .5M .5M .5M .3L .3L .3L .3L .3L .3L .3L .3L .3L .3L																				
i. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with ≥ 30% ant cover, ≤ 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed ontrol).  Its there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference? Y N If yes, add 0.1 of the score in ii above and adjust rating accordingly: Modified Rating .9H	P/P	1E	.7H	.8	H .5M	.6M	.4M	.9Н	.6M	.7H	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L	
i. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with ≥ 30% lant cover, ≤ 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed ontrol).  of the score in ii above and adjust rating accordingly: Modified Rating  Modified Rating (NOTE: Modified Score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with ≥ 30% lant cover, ≤ 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed ontrol).  If yes, add 0.1 or the score in ii above and adjust rating accordingly: Modified Rating	S/I			-								_								
lant cover, ≤ 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed ontrol).  Is there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference?  Y  N  If yes, add 0.1 or the score in ii above and adjust rating accordingly:  Modified Rating  9H	T/E/A	.8H	.5M	.61	.3L	.4M	.2L	.7H	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L	
	elant control).  Is the control of the so	ver, ≤ 18 ere an av core in T	5% noxid	ous w	eed or AN'	VS cover	, and th	at is not	subjecte	ed to per	iodic me ne AA ciro	chanica	l mowing	or clea	ring (unl	ess for w	/eed	.1		

i. Discharge Indicators ii. Recharge Indicators Permeable substrate present without underlying impeding layer The AA is a slope wetland Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: 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: 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 None Groundwater Discharge or Recharge .4M .1L 1H .7M 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) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations wetland or plant association listed and structural diversity (#13) is plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative commo abundant abundant common abundant rare rare common rare abundance (#11) n Low disturbance at AA .9H 1H .8H .8H .6M .5M .5M .4M .3L (#12i) Moderate disturbance at .9H .8H .7M .2L .7M .5M .4M .4M .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .4M .3L .3L .2L .1L (#12i) 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  $N\bigcirc$ (if 'Yes' continue with the evaluation; if 'No' then click NA here and proceed to the overall summary and rating page) 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 Potential Known 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 .05L .1M Comments: **General Site Notes** 

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

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	.1	1	0.049	
B. MT Natural Heritage Program Species Habitat	L	.1	1	0.049	
C. General Wildlife Habitat	М	.5	1	0.245	
D. General Fish Habitat	Н	.9	1	0.441	
E. Flood Attenuation	Н	.9	1	0.441	
F. Short and Long Term Surface Water Storage	Н	.8	1	0.392	
G. Sediment/Nutrient/Toxicant Removal	Н	.9	1	0.441	
H. Sediment/Shoreline Stabilization	Н	1	1	0.49	
Production Export/Food Chain Support	Н	.9	1	0.441	
J. Groundwater Discharge/Recharge	Н	1	1	0.49	
K. Uniqueness	L	.2	1	0.098	
L. Recreation/Education Potential (bonus points)	М	.1	NA	0.049	
Totals:		7.4	11	3.626	
Percent of Possible Score			67.27 %		<u></u>

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
-------------

Stone Creek – North STPP49-1(25)9 CN 7931000

# Appendix E

Agency Consultation Letters and Phone Logs

MDT Biological Resources Report Stone Creek – North Beaverhead and Madison Counties, Montana



June 5, 2013

Mike McGrath US Fish & Wildlife 585 Shepard Way, Suite 1 Helena, MT 59601

#### Dear Mike:

On behalf of the Montana Department of Transportation (MDT), Confluence, Inc. will be preparing a Biological Resource Report for the Stone Creek – North project STPP 49-1(25)9. This project is located along MT State Hwy 41 (Route P-49) between the towns of Twin Bridges and Dillon, MT (see attached Map 1). The MDT proposes to reconstruct an approximate 7.2-mile stretch from reference post 9.0 to 16.2 and will include improvements to both horizontal and vertical alignments of existing grade. Two significant river drainages, with proposed bridge replacement at each, cross the roadway within the project limits and include the Beaverhead River and Stone Creek (see attached Map 2). The project is located within the Dry Intermontane Sagebrush Valleys Level IV ecoregion. The terrain is rolling hills from Stone Creek to the Beaverhead River then turns to flat until project end.

Our team members are currently reviewing existing information for biological resources (T&E and sensitive plant/animal species), critical habitat, aquatic and wetland resources, and wildlife resources within the study area. We will be conducting field surveys to inventory and map plant communities, weed species, wildlife usage, wetland boundaries and aquatic resources along the study area. We will be contacting several agency representatives for input on sensitive species and/or areas of concern with the project vicinity.

The purpose of this letter is to collectively inquire within the different agencies for any specific concerns or potential issues to ensure that relevant agencies are contacted and given the opportunity to provide input related to the biological surveys. We would appreciate a response from you within 30 days (July 5, 2013) by letter, fax, or e-mail with any concerns or potential issues involving biological resource with respect to the proposed highway project. If we do not hear from you or your agency within the 30 days, we will assume there are no issues. We will utilize the information you provide to evaluate potential impacts during our field surveys and reporting. Team members are anticipating conducting the field surveys in mid-June.

Please feel free to call if you have any questions related to this letter or the project.

GSA Contract Holder

406-585-9500 fax 406-582-9142

P.O. Box 1133 1115 N. 7<sup>th</sup> Ave, Suite 1 Bozeman, MT 59771-1133

www.confluenceinc.com

Sincerely,

Brian Sandefur

**Professional Wetland Scientist** 

Creative Solutions for Natural Resources

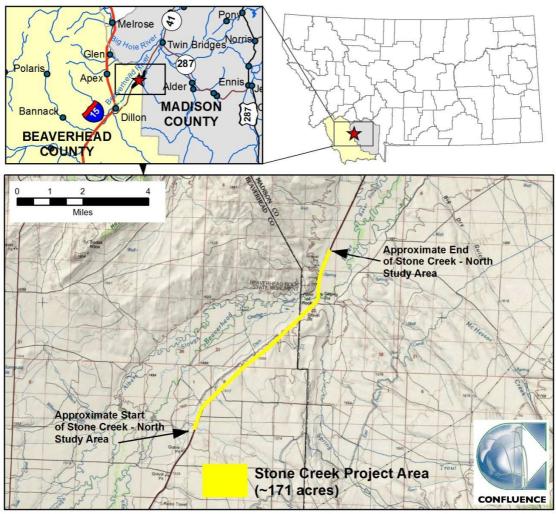
### CC:

Deb Wambach 2701 Prospect Avenue PO Box 201001 Helena, MT 59620-1001

Allan Cox Montana Natural Heritage Program 1515 East Sixth Avenue Helena, MT 59620-1800

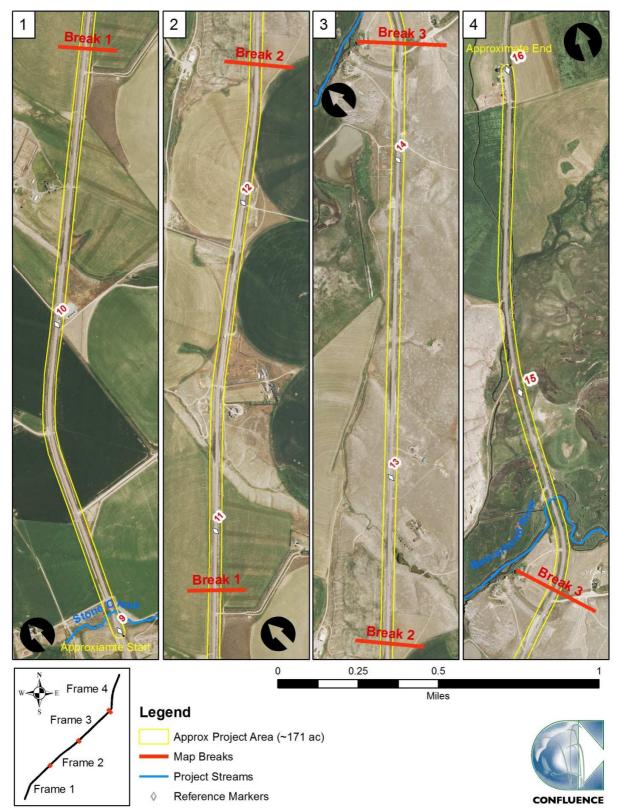
Beau Downing SPA Coordinator Montana Fish Wildlife & Parks PO Box 200701 Helena, MT 59620 Matt Jaeger Fisheries Biologist Montana Fish Wildlife & Parks PO Box 200701 Helena, MT 59620

Craig Fager Wildlife Biologist Montana Fish Wildlife & Parks PO Box 200701 Helena, MT 59620



Map 1. Location map for Stone Creek - North project STPP 49-1(25)9.

Creative Solutions for Natural Resources



Map 2. Stone Creek - North STPP 49-1(25)9 project area.

Creative Solutions for Natural Resources



# United States Department of the Interior Fish and Wildlife Service

Ecological Services
Montana Field Office
585 Shepard Way, Suite 1
Helena, Montana 59601-6287
Phone: (406) 449-5325 Fax: (406) 449-5339



06E11000-2013-SL-0159

June 12, 2013

Brian Sandefur Confluence Consulting, Inc. PO Box 1133 Bozeman, MT 59771

Dear Mr. Sandefur:

This is in response to your June 5, 2012 email regarding the Montana Department of Transportation's (Department) proposed Stone Creek – North project (STPP 49-1(25)9). The project would be located along Montana State Highway 41, from reference post 9.0 to 16.2, between the towns of Twin Bridges and Dillon, Montana, in Madison and Beaverhead Counties. The proposed project would reconstruct approximately 7.2-miles of road, with improvements to both horizontal and vertical alignments of existing grade, as well as replacing two bridge crossings along the Beaverhead River and Stone Creek. Because you have requested that the Service provide a review of potential project-related effects on threatened and endangered (T/E) species, and their critical habitats, within and in the vicinity of the project area for environmental documentation, these comments have been prepared under the authority of, and in accordance with the provisions of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.), Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703 et seq.), Bald and Golden Eagle Protection Act (BGEPA; 16 U.S.C. 668-668d, 54 Stat. 250), and the Endangered Species Act (16 U.S.C. 1531 et. seq.). We offer the following comments for your consideration.

The federally-listed T/E species that may occur in the project area are listed in the table below. Of particular note, Ute Ladies' Tresses have been document near the project area in Madison County (Natural Heritage Tracker database 2013). Golden and bald eagle nest territories have been documented within 1 to 2 miles, respectively, of the proposed project area. If eagle nests are observed in proximity of the project area, we highly recommend that you coordinate with Montana Fish, Wildlife & Parks at 1420 East Sixth Ave., P.O. Box 200701, Helena, MT 59620-0701, 406-444-2535, prior to initiating project construction. Should occupied eagle nests occur within 0.5 mile of the proposed project, we would advise that you comply with the recommended temporary seasonal and distance construction buffers stipulated in the 2010 Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plan (1994).

County/Scientific Name	Common Name	Status
BEAVERHEAD		
Spiranthes diluvialis	Ute Ladies' Tresses	Listed Threatened
Ursus arctos horribilis	Grizzly Bear	Listed Threatened
Centrocercus urophasianus	Greater Sage-Grouse	Candidate
Thymallus arcticus	Arctic Grayling (Upper Missouri River DPS)	Candidate
Gulo gulo luscus	Wolverine	Proposed
Pinus albicaulis	Whitebark Pine	Candidate
MADISON		
Spiranthes diluvialis	Ute Ladies' Tresses	Listed Threatened
Lynx canadensis	Canada Lynx	Listed Threatened
Ursus arctos horribilis	Grizzly Bear	Listed Threatened
Centrocercus urophasianus	Greater Sage-Grouse	Candidate
Anthus spragueii	Sprague's Pipit	Candidate
Thymallus arcticus	Arctic Grayling (Upper Missouri River DPS)	Candidate
Gulo gulo luscus	Wolverine	Proposed
Pinus albicaulis	Whitebark Pine	Candidate

#### Other recommendations include the following:

- If work is proposed to take place during the breeding season and may result in take of migratory birds, their eggs, or active nests, the Service recommends that the project proponent take all practicable measures to avoid and minimize take, such as maintaining adequate buffers, to protect the birds until the young have fledged. Active nests may not be removed.
- We recommend coordination (and acknowledge your proactive inclusion of the agency in your proposal) with Montana Fish, Wildlife & Parks at 1420 East Sixth Ave., P.O. Box 200701, Helena, MT 59620-0701, 406-444-2535, and the Montana Natural Heritage Program, 1515 East 6<sup>th</sup> Avenue, Box 201800, Helena, MT 59620-1800, 406-444-5354. Both of these agencies may be able to provide updated, site-specific information regarding eagle and other raptor nests, as well as all other fish, wildlife, and sensitive plant resources occurring in the proposed project areas.

Because this is a bridge replacement project, it may impact streams or wetlands. If so, Corps of Engineers (Corps) Section 404 permits may eventually be required. In that event, depending on permit type and other factors, the Service may be required to review permit applications and will recommend any protection or mitigation measures to the Corps as may appear reasonable and prudent based on the information available at that time.

The Service appreciates your efforts to incorporate fish and wildlife resource concerns into your project planning. If you have questions or comments related to this issue, please contact Mike McGrath at 406-449-5225, extension 201.

Sincerely,

Anne Vandehey For Jodi L. Bush Field Supervisor

Copy to: Deb Wambach, Montana Department of Transportation, Helena, MT

Biological Resources	Report/Biological	Assessment
October 2013		

Stone Creek – North STPP49-1(25)9 CN 7931000

# **Appendix F**

Montana Natural Heritage Program Species of Concern Data Report

MDT Biological Resources Report Stone Creek – North Beaverhead and Madison Counties, Montana



P.O. Box 201800 • 1515 East Sixth Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • tel 406.444.5354 • http://mtnhp.org

June 5, 2013

Brian Sandefur Confluence Consulting, Inc. PO Box 1133 Bozeman, Montana 59771

Dear Brian.

I am writing in response to your recent request regarding Montana Species of Concern in the vicinity of Stone Creek - North, in Section 12, T06S, R08W; Sections 5 and 6, T06S, R07W; and Sections 15, 22, 27, 28, 32 and 33, T05S, R07W. I checked our databases for information in this general area and have enclosed 11 species occurrence reports for 7 animal species of concern, 4 species occurrence reports for 4 plant species of concern, a map depicting species of concern and wetland locations, and explanatory material. Note that the maps are in Adobe GeoPDF format. With the appropriate Adobe Reader, it provides a convenient way to query and understand the information presented on the map. Documentation is included.

Please keep in mind the following when using and interpreting the enclosed information and maps:

- (1) These materials are the result of a search of our database for species of concern that occur in an area defined by the requested township, range and sections with an additional one-mile buffer surrounding the requested area. This is done to provide a more inclusive set of records and to capture records that may be immediately adjacent to the requested area. Please let us know if a buffer greater than 1 mile would be of use to your efforts. Reports are provided for the species of concern that are located in your requested area with a one-mile buffer. Species of concern outside of this buffered area may be depicted on the map due to the map extent, but are not selected for the SOC report.
- (2) On the map, polygons represent one or more source features as well as the locational uncertainty associated with the source features. A source feature is a point, line, or polygon that is the basic mapping unit of a Species Occurrence (SO) representation. The recorded location of the occurrence may vary from its true location due to many factors, including the level of expertise of the data collector, differences in survey techniques and equipment used, and the amount and type of information obtained. Therefore, this inaccuracy is characterized as locational uncertainty, and is now incorporated in the representation of an SO. If you have a question concerning a specific SO, please do not hesitate to contact us.

Visit the Montana Natural Heritage Program at http://mtnhp.org

- (3) This report may include sensitive data, and is not intended for general distribution, publication, or for use outside of your organization. In particular, public release of specific location information may jeopardize the welfare of threatened, endangered, or sensitive species or biological communities.
- (4) The accompanying map(s) display land management status, which may differ from ownership. Features shown on this map do not imply public access to any lands.
- (5) Additional biological data for the search area(s) may be available from other sources. We suggest you contact the U.S. Fish and Wildlife Service for any additional information on threatened and endangered species (406-449-5225). For additional fisheries information in your area of interest, you may wish to contact Montana Fish, Wildlife, and Park's Montana Fisheries Information System (phone: 406-444-3373, or web site: <a href="http://fwp.mt.gov/fishing/mFish/">http://fwp.mt.gov/fishing/mFish/</a>).
- (6) Additional information on species habitat, ecology and management is available on our web site in the Plant, Animal, and ecological Systems Field Guides, which we encourage you to consult for valuable information. You can access these guides at <a href="http://mtnhp.org">http://mtnhp.org</a>. General information on any species can be found by accessing the link to NatureServe Explorer.

The results of a data search by the Montana Natural Heritage Program reflect the current status of our data collection efforts. These results are not intended as a final statement on sensitive species within a given area, or as a substitute for on-site surveys, which may be required for environmental assessments. The information is intended for project screening only with respect to species of concern, and not as a determination of environmental impacts, which should be gained in consultation with appropriate agencies and authorities.

In order to help us improve our services to you, we invite you to take a simple survey. The survey is intended to gather some basic information on the value and quality of the information and services you recently received from the Montana Natural Heritage Program. The survey is short and should not take more than a few minutes to complete. All information will be kept confidential and will be used internally to improve the delivery of services and to help document the value of our services. Use this link to go to the survey: <a href="http://www.surveymonkey.com/s/RYN8Y8L">http://www.surveymonkey.com/s/RYN8Y8L</a>.

I hope the enclosed information is helpful to you. Let me know if you would prefer to receive digital PDF versions of these documents via email. Please feel free to contact me at (406) 444-3290 or via my e-mail address, below, should you have any questions or require additional information.

Sincerely,

Martin P. Miller

water & stalle

Montana Natural Heritage Program

martinm@mt.gov



# Montana Natural Heritage Program

1515 East Sixth Ave., Helena, Montana 59620-1800 (406) 444-5354 http://mtnhp.org

# **Explanation of Species of Concern Reports**

Since 1985, the Montana Natural Heritage Program (MTNHP) has been compiling and maintaining an inventory of elements of biological diversity in Montana. This inventory includes plant species, animal species, plant communities, and other biological features that are rare, endemic, disjunct, threatened, or endangered throughout their range in Montana, vulnerable to extirpation from Montana, or in need of further research.

Species Occurrences: (formerly called 'Element Occurrences') A "Species Occurrence" (SO) is an area depicting only what is known from direct observation with a defined level of certainty regarding the spatial location of the feature. If an observation can be associated with a map feature that can be tracked (e.g., a wetland) then this polygon feature is used to represent the SO. Areas that can be inferred as probable occupied habitat based on direct observation of a species location and what is known about the foraging area or home range size of the species may be incorporated into the Species Occurrence. A "Species Occurrence" generally falls into one of the following three categories:

Plants: A documented location of a specimen collection or observed plant population. In some instances, adjacent, spatially separated clusters are considered subpopulations and are grouped as one occurrence (e.g., the subpopulations occur in ecologically similar habitats, and are within approximately one air mile of one another).

**Animals:** The location of a specimen collection or of a verified sighting; known or assumed to represent a breeding population. Additional collections or sightings are often appended to the original record.

Other: Significant biological features not included in the above categories, such as bird rookeries, peatlands, or state champion trees.

Ecological Information: Areas for which we have ecological information are represented on the map as either shaded polygons (where small and/or well defined) or simply as map labels (where they are large generally-defined landscapes). Descriptive information about these areas is contained in the associated report. Such information can be useful in assessing biological values and interpreting Species of Concern data.

The quantity and quality of data contained in MTNHP reports is dependent on the research and observations of the many individuals and organizations that contribute information to the program. Please keep in mind that the absence of information for an area does not mean the absence of significant biological features, since no surveys may have been conducted there. Reports produced by the Montana Natural Heritage Program summarize information documented in our databases at the time of a request. These reports are not intended as a final statement on the species or areas being considered, nor are they a substitute for onsite surveys, which may be required for environmental assessments.

As a user of MTNHP, your contributions of data are essential to maintaining the accuracy of our databases. New or updated location information for all species of concern is always welcome.

We encourage you to visit our website at http://mtnhp.org. On-line tools include a species observation viewer: the Natural Heritage TRACKER and *The Montana Field Guide* which contains photos, illustrations, and supporting information on Montana's animals and plant species of concern. Additional data are available on most species and ecological areas identified in our reports.

If you have questions or need further assistance, please contact us either by phone at (406/444-5354), e-mail (mtnhp@mt.gov) or

Revision Date: 10/28/2008

# **Data Descriptions**

The section below lists the names and definitions for descriptions of the data fields used in the reports. Certain codes and abbreviations are used in Species Occurrence reports. Although many of these are very straightforward, the following explanations should answer most questions.

**Map Label:** The label for the species occurrence as it appears on the map.

**Element Subnational ID:** The unique code used by the state or province to identify a specific element (species).

**SO Number:** Number that identifies the particular occurrence of the element (species).

Scientific Name: Latin (scientific) name.

**Common Name:** Commonly recognized name.

**Species of Concern/Potential Concern:** This value indicates whether the species is a "Species of Concern" (Y) or of "Potential Concern" (W).

<u>Last Observation Date</u>: The date the Species Occurrence was last observed extant at the site (not necessarily the date the site was last visited).

**First Observation Date:** The date the Species Occurrence was first reported at the site.

**EO Rank:** indicates the relative value of the Species Occurrence (SO) with respect to other occurrences of the Species, based on an assessment of estimated viability (species).

#### Values:

- A Excellent estimated viability/ecological integrity
- A? Possibly excellent estimated viability/ecological integrity
- AB Excellent or good estimated viability/ecological integrity
- AC Excellent, good, or fair estimated viability/ecological integrity
- B Good estimated viability/ecological integrity
- B? Possibly good estimated viability/ecological integrity
- BC Good or fair estimated viability/ecological integrity
- BD Good, fair, or poor estimated viability/ecological integrity
- C Fair estimated viability/ecological integrity
- C? Possibly fair estimated viability/ecological integrity
- CD Fair or poor estimated viability/ecological integrity
- D Poor estimated viability/ecological integrity
- D? Possibly poor estimated viability/ecological integrity
- E Verified extant (viability/ecological integrity not assessed)
- F Failed to find
- F? Possibly failed to find
- H Historical
- H? Possibly historical
- X Extirpated
- X? Possibly extirpated
- U Unrankable
- NR Not ranked

<u>SO Data</u>: Data collected on the biology of this Species Occurrence. Specific information may include number of individuals, vigor, habitat, soils, associated species, and other characteristics.

# **Species Status Codes**

Provided below are definitions for species conservation status ranks, categories and other codes designated by MTNHP, Federal and State Agencies and non-governmental organizations.

- Montana Species of Concern
- Montana Potential Species of Concern
- Status Under Review
- Exotic Species
- Montana Species Ranking Codes
- U.S. Fish and Wildlife Service
- Forest Service
- Bureau of Land Management
- MFWP Conservation Need
- Partners In Flight (PIF)
- MNPS Threat Category

### **Species of Concern**

Species of Concern are native taxa that are at-risk due to declining population trends, threats to their habitats, restricted distribution, and/or other factors. Designation as a Montana Species of Concern or Potential Species of Concern is based on the Montana Status Rank, and is not a statutory or regulatory classification. Rather, these designations provide information that helps resource managers make proactive decisions regarding species conservation and data collection priorities. See the latest <a href="Species of Concern Reports">Species of Concern Reports</a> for more detailed explanations and assessment criteria.

### **Potential Species of Concern**

Potential Species of Concern are native taxa for which current, often limited, information suggests potential vulnerability. Also included are animal species which additional data are needed before an accurate status assessment can be made.

#### **Status Under Review**

Species designated "Status Under Review" are plant species that require additional information and currently do not have a status rank but may warrant future consideration as Species of Concern. This category also includes plant species whose status rank is questionable due to the availability of new information or the availability of conflicting or ambiguous information or data. Species listed in this category will be reviewed periodically or as new information becomes available.

#### **Exotic Species**

Exotic species are not native to Montana, but have either been reported in Montana or have established populations in Montana outside of their native range.

### **Montana Species Ranking Codes**

Montana employs a standardized ranking system to denote global (G) and state (S) status (NatureServe 2003). Species are assigned numeric ranks ranging from 1 (critically imperiled) to 5 (demonstrably secure), reflecting the relative degree to which they are "at-risk". Rank definitions are given below. A number of factors are considered in assigning ranks - the number, size and distribution of known "occurrences" or populations, population trends (if known), habitat sensitivity, life history traits and threats.

For example, Clustered lady's slipper (*Cypripedium fasciculatum*) is ranked G4 S2. Globally the species is uncommon but not vulnerable, while in Montana it is at risk because of limited and potentially declining numbers, extent and/or habitat.

#### G1 S1

At high risk because of extremely limited and potentially declining numbers, extent and/or habitat, making it highly vulnerable to global extinction or extirpation in the state.

#### **G2 S2**

At risk because of very limited and potentially declining numbers, extent and/or habitat, making it vulnerable to global extinction or extirpation in the state.

### G3 S3

Potentially at risk because of limited and potentially declining numbers, extent and/or habitat, even though it may be abundant in some areas.

# G4 S4

Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.

#### G5 S5

Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range.

# **GX SX**

Presumed Extinct or Extirpated - Species is believed to be extinct throughout its range or extirpated in Montana. Not located despite intensive searches of historical sites and other appropriate habitat, and small likelihood that it will ever be rediscovered.

GH SH

Possibly Extinct or Extirpated - Species is known only from historical records, but may nevertheless still be extant; additional surveys are needed

#### **GNR SNR**

Not yet ranked.

#### **GU SU**

Unrankable - Species currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

#### **GNA SNA**

A conservation status rank is not applicable for one of the following reasons:

The taxa is of Hybrid Origin; is Exotic or Introduced; is Accidental or is Not Confidently Present in the state. (see other codes below)

#### **Other Codes and Modifiers**

#### HYB

Hybrid-Entity not ranked because it represents an interspecific hybrid and not a species.

Т

Infraspecific Taxon (trinomial) - The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

?

Inexact Numeric Rank - Denotes inexact numeric rank.

Q

**Questionable** taxonomy that may reduce conservation priority-Distinctiveness of this entity as a taxon at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon in another taxon, with the resulting taxon having a lower-priority (numerically higher) conservation status rank.

С

Captive or Cultivated Only - Species at present is extant only in captivity or cultivation, or as a reintroduced population not yet established.

Α

**Accidental** - Species is accidental or casual in Montana, in other words, infrequent and outside usual range. Includes species (usually birds or butterflies) recorded once or only a few times at a location. A few of these species may have bred on the one or two occasions they were recorded.

SYN

**Synonym** - Species reported as occurring in Montana, but the Montana Natural Heritage Program does not recognize the taxon; therefore the species is not assigned a rank.

В

**Breeding** - Rank refers to the breeding population of the species in Montana.

N

Nonbreeding - Rank refers to the non-breeding population of the species in Montana.

М

Migratory - Species occurs in Montana on during migration.

#### U.S. Fish and Wildlife Service

LE

Listed endangered - Any species in danger of extinction throughout all or a significant portion of its range (16 U.S.C. 1532(6)).

PE

**Proposed endangered** - Any species for which a proposed rule has been published in the Federal Register to list the species as endangered.

LT

**Listed threatened** - Any species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (16 U.S.C. 1532(20)).

PT

**Proposed threatened** - Any species for which a proposed rule has been published in the Federal Register to list the species as threatened.

#### E(S/A) or T(S/A)

Any species listed endangered or threatened because of similarity of appearance.

С

**Candidate** - Those taxa for which sufficient information on biological status and threats exists to propose to list them as threatened or endangered. We encourage their consideration in environmental planning and partnerships; however, none of the substantive or procedural provisions of the Act apply to candidate species.

PDL

Proposed for delisting - Any species for which a final rule has been published in the Federal Register to delist the species.

DM

**Recovered, delisted, and being monitored** - Any previously listed species that is now recovered, has been delisted, and is being monitored.

NL

Not listed - No designation.

ΧE

**Essential experimental population** - An experimental population whose loss would be likely to appreciably reduce the likelihood of the survival of the species in the wild.

XN

**Nonessential experimental population** - An experimental population of a listed species reintroduced into a specific area that receives more flexible management under the Act.

СН

Critical Habitat - The specific areas (i) within the geographic area occupied by a species, at the time it is listed, on which are found those physical or biological features (I) essential to conserve the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by the species at the time it is listed upon determination that such areas are essential to conserve the species.

PS

**Partial status** - status in only a portion of the species' range. Typically indicated in a "full" species record where an infraspecific taxon or population, that has a record in the database has USESA status, but the entire species does not.

#### PS:value

**Partial status** - status in only a portion of the species' range. The value of that status appears in parentheses because the entity with status is not recognized as a valid taxon by Central Sciences (usually a population defined by geopolitical boundaries or defined administratively, such as experimental populations.

### **Forest Service**

The status of species on Forest Service lands as defined by the U.S. Forest Service manual (2670.22). These taxa are listed as such by the Regional Forester (Northern Region). The Forest Service lists animal species as:

#### **Endangered**

Listed as Endangered (LE) by the USFWS.

#### **Threatened**

Listed as Threatened (LT) by the USFWS.

#### Sensitive

Any species for which the Regional Forester has determined there is a concern for population viability within the state, as evidenced by a significant current or predicted downward trend in populations or habitat.

#### **Species of Concern**

USFS Species-of-Concern (FSH 1909.12, 43.22b) are species for which the Responsible Official determines management actions may be necessary to prevent listing under the Endangered Species Act (ESA). The Responsible Official, as appropriate, may identify the following plant and animal species, including macro-lichens, as species-of-concern:

- 1. Species identified as proposed and candidate species under the ESA.
- 2. Species with ranks of G-1 through G-3 on the NatureServe ranking system.
- 3. Infraspecific (subspecific) taxa with ranks of T-1 through T-3 on the NatureServe ranking system.
- 4. Species that have been petitioned for federal listing and for which a positive "90-day finding" has been made (a 90-day finding is a preliminary finding that substantive information was provided indicating that the petition listing may be warranted and a full status review will be conducted).
- 5. Species that have been recently delisted (these include species delisted within the past five years and other delisted species for which regulatory agency monitoring is still considered necessary).

#### **Species of Interest**

USFS Species-of-Interest (FSH 1909.12, 43.22c) are species for which the Responsible Official determines that management actions may be necessary or desirable to achieve ecological or other multiple-use objectives. The Responsible Official may review the following sources for potential species-of-interest:

- 1. Species with ranks of S-1, S-2, N1, or N2 on the NatureServe ranking system.
- 2. State listed threatened and endangered species that do not meet the criteria as species-of-concern.
- 3. Species identified as species of conservation concern in State Comprehensive Wildlife Strategies.
- 4. Bird species on the U.S. Fish and Wildlife Service Birds of Conservation Concern National Priority list (for the U.S. portion of the northern Rockies that occur on National Forest system lands).
- 5. Additional species that valid existing information indicates are of regional or local conservation concern (this includes all Forest Service Northern Region sensitive species) due to factors that may include:
  - a. Significant threats to populations or habitat.
  - b. Declining trends in populations or habitat.
  - c. Rarity.
  - Restricted ranges (for example, narrow endemics, disjunct populations, or species at the edge of their range).
- 6. Species that are hunted or fished and other species of public interest. Invasive species may also be considered.

#### **Bureau of Land Management**

BLM Sensitive Species are defined by the BLM 6840 Manual as those that normally occur on Bureau administered lands for which BLM has the capability to significantly affect the conservation status of the species through management. The State Director may designate additional categories of special status species as appropriate and applicable to his or her state's needs. The sensitive species designation, for species other than federally listed, proposed, or candidate species, may include such native species as those that:

- could become endangered in or extirpated from a state, or within a significant portion of its distribution in the foreseeable future.
- 2. are under status review by FWS and/or NMFS,
- 3. are undergoing significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution,

- 4. are undergoing significant current or predicted downward trends in population or density such that federally listed, proposed, candidate, or State listed status may become necessary,
- 5. have typically small and widely dispersed populations,
- 6. are inhabiting ecological refugia, specialized or unique habitats, or
- are State listed but which may be better conserved through application of BLM sensitive species status. Such
  species should be managed to the level of protection required by State laws or under the BLM policy for candidate
  species, whichever would provide better opportunity for its conservation.

#### MFWP Conservation Need

In recent years states have received federal funding to develop Comprehensive Fish and Wildlife Conservation Strategies. Montana Fish, Wildlife, and Parks completed Montana's Comprehensive Fish and Wildlife Conservation Strategy in 2005. Under this conservation strategy individual animal species were assigned levels of conservation need as follows:

#### Tier I:

**Tier I:** Greatest conservation need. Montana Fish, Wildlife & Parks has a clear obligation to use its resources to implement conservation actions that provide direct benefit to these species, communities, and focus areas.

#### Tier II:

**Tier II:** Moderate conservation need. Montana Fish, Wildlife & Parks could use its resources to implement conservation actions that provide direct benefit to these species, communities, and focus areas.

#### Tier III:

**Tier III:** Lower conservation need. Although important to Montana's wildlife diversity, these species, communities, and focus areas are either abundant and widespread or are believed to have adequate conservation already in place.

#### Tier IV:

**Tier IV:** Species that are non-native, incidental, or on the periphery of their range and are either expanding or very common in adjacent states.

# Partners In Flight (PIF)

Partners In Flight (PIF) is a partnership of federal and state agencies, industry, non-governmental organizations, and many others, with the goal of conserving North American birds. In 1991, PIF began developing a formal species assessment process that could provide consistent, scientific evaluations of conservation status across all bird species in North America, and identify areas most important to the conservation of each species. This process applies quantitative rule sets to complex biological data on the population size, distribution, population trend, threats, and regional abundance of individual bird species to generate simple numerical scores that rank each species in terms of its biological vulnerability and regional status. The process results in global and regional conservation assessments of each bird species that, among other uses, can be used to objectively assign regional and continental conservation priorities among birds. The species assessment scores and process has recently been updated! Check out the new scores and make sure to download and read the updated Handbook on Species Assessment, which contains important information on the how scores are derived and used in the assessment process. Note that currently only breeding-season regional scores are available for BCRs. We hope to have non-breeding scores available soon. For those needing access to the previous versions of the PIF Species Assessment Database, including past regional scores for physiographic areas, click here.

# Montana Native Plant Society (MNPS) Threat Category

The MNPS Threat Category process was initiated in 2006 at the Montana Plant Conservation Conference with the formation of a committee represented by federal, state and private botanists, ecologists and biologists. The objectives were to: 1) Evaluate threats impacting Montana's Plant Species of Concern and to classify species according to their level of imperilment/risk as a result of these threats. 2) Develop a ranking system based on the impacts of the identified threats to the species' viability in the state. The result of this process is a 4-tier threat ranking system for Plant Species of Concern in Montana. The threat categories are:

#### Category 1:

The viability of the species in the state is Highly Threatened by one or more activities. Associated threats have caused or are likely to cause a major reduction of the state population or its habitat that will require 50 years or more for recovery, 20% or more of the state population has been or will be affected, and the negative impact is occurring or is likely to occur within the next 5 years.

#### Category 2:

The viability of the species or a portion of the species habitat in the state is Threatened by one or more activities, though impacts to the species are expected to be less severe than those in Category 1. Associated threats exist but are not as severe, wide-ranging or immediate as for Category 1, though negative impacts are occurring or are likely to occur.

### Category 3:

The viability of the species in the state is Not Threatened or the Threats are Insignificant. Associated threats are either not known to exist, are not likely to occur in the near future or are not known to be having adverse impacts that will severely affect the species' viability in the state.

#### Category 4:

Assessment not possible due to insufficient and/or conflicting information on potential threats to the species.

Please visit the MNPS website at <a href="http://www.mtnativeplants.org">http://www.mtnativeplants.org</a> for additional information on MNPS Threat Categories or for MNPS contact information.



Visit http://mtnhp.org for additional information.

Report Date: Wednesday, June 5, 2013

Ardea herodias <u>View Species in MT Field Guide</u>

Common Name: Great Blue Heron General Habitat: Riparian forest

**Description:** Birds **Mapping Delineation:** 

Confirmed nesting area buffered by a minimum distance of 6,500 meters in order to be conservative about encompassing the areas commonly used for foraging near the breeding colony and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

Species Status Click Status for Explanations

Natural Heritage Ranks: Federal Agency Status:

State: S3
Global: G5
U.S. Fish & Wildlife Service:
U.S. Forest Service:

FWP CFWCS Tier: 3 U.S. Bureau of Land Management:

**MT PIF Code:** 

**Species Occurrences** 

Species Occurence Map Label: 10017639

First Observation Date: 1999-03-01 SO Number: 71
Last Observation Date: 1999-03-31 Acreage: 32,633

Species Occurence Map Label: 10017642

First Observation Date: 1999-03-01 SO Number: 77
Last Observation Date: 1999-03-31 Acreage: 32,633

Haliaeetus leucocephalus

<u>View Species in MT Field Guide</u>

Common Name: Bald Eagle <u>General Habitat:</u> Riparian forest

**Description:** Birds **Mapping Delineation:** 

Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding territory and area commonly used for renesting and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

Species Status Click Status for Explanations

Natural Heritage Ranks: Federal Agency Status:

State: S4
Global: G5

U.S. Fish & Wildlife Service: DM; BGEPA; MBTA; BCC

U.S. Forest Service: SENSITIVE

FWP CFWCS Tier: 1

U.S. Bureau of Land Management: SENSITIVE

MT PIF Code: 2



Visit http://mtnhp.org for additional information.

Report Date:

Wednesday, June 5, 2013

### **Species Occurrences**

Species Occurence Map Label: 10035193

First Observation Date: 1988-03-01 SO Number: 566
Last Observation Date: 1991-09-01 Acreage: 3,089

Species Occurence Map Label: 10035198

First Observation Date: 2003-03-01 SO Number: 567
Last Observation Date: 2009-09-01 Acreage: 3,089

### Aquila chrysaetos

**View Species in MT Field Guide** 

Common Name: Golden Eagle <u>General Habitat:</u> Grasslands

**Description:** Birds **Mapping Delineation:** 

Confirmed nesting area buffered by a minimum distance of 3,000 meters in order to be conservative about encompassing the entire breeding territory and area commonly used for renesting and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

Species Status Click Status for Explanations

**Natural Heritage Ranks:** 

Federal Agency Status:

State: S3 Global: G5

U.S. Fish & Wildlife Service: BGEPA; MBTA; BCC

**U.S. Forest Service:** 

FWP CFWCS Tier: 2

U.S. Bureau of Land Management: SENSITIVE

**MT PIF Code:** 

#### **Species Occurrences**

Species Occurence Map Label: 10011193

First Observation Date: 1979-02-16 SO Number: 254
Last Observation Date: 1979-12-14 Acreage: 6,951

Species Occurence Map Label: 10011195

First Observation Date: 1996-05-23 SO Number: 2
Last Observation Date: 1996-05-23 Acreage: 6,951

#### **Oreoscoptes montanus**

View Species in MT Field Guide

Common Name: Sage Thrasher General Habitat: Sagebrush

**Description:** Birds **Mapping Delineation:** 



Visit http://mtnhp.org for additional information.

Report Date:

Wednesday, June 5, 2013

Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 75 meters in order to encompass the maximum breeding territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

**Click Status for Explanations Species Status** 

**Natural Heritage Ranks:** 

State: S3B Global: G5

3 **FWP CFWCS Tier:** 

MT PIF Code:

Federal Agency Status:

U.S. Fish & Wildlife Service: **U.S. Forest Service:** 

U.S. Bureau of Land Management: SENSITIVE

Species Occurrences

Species Occurence Map Label: 10002383

3

First Observation Date: 1994-06-01 SO Number: 77,958 **Last Observation Date:** 2000-06-16 33,644 Acreage:

View Species in MT Field Guide Spizella breweri

**General Habitat: Common Name:** Brewer's Sparrow Sagebrush

**Description:** Birds Mapping Delineation:

Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the maximum territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

**Click Status for Explanations Species Status** 

Natural Heritage Ranks:

State: S3B Global: G5

**FWP CFWCS Tier:** 2

**MT PIF Code:** 2 **Federal Agency Status:** 

U.S. Fish & Wildlife Service: **U.S. Forest Service:** 

U.S. Bureau of Land Management: SENSITIVE

**Species Occurrences** 

10002894 Species Occurence Map Label:

1996-06-26 **First Observation Date:** SO Number: 60,087 **Last Observation Date:** 1996-06-26 Acreage: 33,644



Visit http://mtnhp.org for additional information.

Report Date: Wednesday, June 5, 2013

Oncorhynchus clarkii lewisi

View Species in MT Field Guide

Westslope Cutthroat Trout **General Habitat:** Common Name: Mountain streams, rivers, lakes

**Description: Mapping Delineation:** 

Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards.

**Click Status for Explanations Species Status** 

**Natural Heritage Ranks:** 

Global: G4T3

**FWP CFWCS Tier:** 1

**MT PIF Code:** 

Federal Agency Status:

U.S. Fish & Wildlife Service:

U.S. Forest Service: SENSITIVE U.S. Bureau of Land Management: SENSITIVE

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**Species Occurrences** 

Species Occurence Map Label: 10041008

First Observation Date: SO Number: **Last Observation Date:** Acreage:

10041007 Species Occurence Map Label:

First Observation Date: SO Number:

**Last Observation Date:** Acreage: 76

Thymallus arcticus

View Species in MT Field Guide

**Common Name:** Arctic Grayling **General Habitat:** Mountain rivers, lakes

**Description: Mapping Delineation:** 

Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards.

**Species Status** 

**MT PIF Code:** 

**Click Status for Explanations** 

Natural Heritage Ranks:

State: S1 Global: G5

**FWP CFWCS Tier:** 

1

**Federal Agency Status:** 

U.S. Fish & Wildlife Service: C

U.S. Forest Service: SENSITIVE

U.S. Bureau of Land Management: SENSITIVE

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Visit <a href="http://mtnhp.org">http://mtnhp.org</a> for additional information.

Report Date: Wednesday, June 5, 2013

# **Species Occurrences**

Species Occurence Map Label: 10040861

First Observation Date: SO Number:

Last Observation Date: Acreage: 3,885



Visit http://mtnhp.org for additional information.

Report Date:

Wednesday, June 5, 2013

View Species in MT Field Guide Primula incana

Mealy Primrose **General Habitat:** Common Name: Wetland/Riparian

Vascular Plants **Description:** 

**Mapping Delineation:** 

Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation.

**Click Status for Explanations Species Status** 

**Natural Heritage Ranks:** 

State: S3

Global: G4G5

Federal Agency Status:

U.S. Fish & Wildlife Service:

U.S. Forest Service: SENSITIVE U.S. Bureau of Land Management: SENSITIVE

**Species Occurrences** 

Species Occurence Map Label: 19372

> 08/16/1996 First Observation Date: SO Number: 3 Acreage: 1

**Last Observation Date:** 08/16/1996 SO Rank: C

Castilleja exilis

Annual Indian Paintbrush **General Habitat:** Wetland/Riparian

**Description:** Vascular Plants

Mapping Delineation:

**Common Name:** 

Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation.

**Click Status for Explanations Species Status** 

**Natural Heritage Ranks:** 

Federal Agency Status: State: S2 U.S. Fish & Wildlife Service: **U.S. Forest Service:** Global: G5

U.S. Bureau of Land Management: SENSITIVE

**Species Occurrences** 

Species Occurence Map Label: 19786

> First Observation Date: 08/16/1996 SO Number: 6 Acreage: 8

SO Rank: CD **Last Observation Date:** 08/16/1996

Eleocharis rostellata

**View Species in MT Field Guide** 

6/5/2013

View Species in MT Field Guide

Beaked Spikerush **General Habitat: Common Name:** Wetlands (Alkaline)

Vascular Plants **Description:** 

Mapping Delineation:

F-14



Visit http://mtnhp.org for additional information.

Report Date:

Wednesday, June 5, 2013

Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation.

**Click Status for Explanations Species Status** 

**Natural Heritage Ranks:** 

Federal Agency Status:

State: S3 Global: G5

U.S. Fish & Wildlife Service:

**U.S. Forest Service:** SENSITIVE

U.S. Bureau of Land Management: SENSITIVE

**Species Occurrences** 

Species Occurence Map Label: 19978

> First Observation Date: 08/16/1996 SO Number: 10

**Last Observation Date:** 08/16/1996 SO Rank: Α

Spiranthes diluvialis

View Species in MT Field Guide

Acreage: 8

Ute Lady's-tresses **General Habitat:** Wetland/Riparian Common Name:

Vascular Plants **Description:** 

**Mapping Delineation:** 

Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation.

**Click Status for Explanations Species Status** 

**Natural Heritage Ranks:** 

Federal Agency Status:

State: S1S2 U.S. Fish & Wildlife Service: LT Global: G2G3

**U.S. Forest Service:** 

**U.S. Bureau of Land Management:** 

**Species Occurrences** 

Species Occurence Map Label: 19462

**First Observation Date:** 08/16/1996 SO Number: 2 Acreage: 8

08/16/1996 SO Rank: D **Last Observation Date:** 

# **Directions for Using Adobe GeoPDFs**

June 2010

A GeoPDF differs from a PDF in that it contains spatial information. When a GeoPDF is created it retains the latitude and longitude information. Using the GeoSpatial Location Tool in Adobe Reader, the latitude and longitude of your cursor location is displayed.

In order to access the GeoSpatial Location Tool make sure you have the latest version of Adobe Reader. The most current version is Adobe Reader 9 Version 9.3.2. To check your version of Adobe Reader open Adobe Reader and click on "Help" at the top and then click on "About Adobe Reader".

Click on the following link to download the latest version: http://get.adobe.com/reader/

# **Using the GeoSpatial Location Tool**

- 1. Open a GeoPDF in Adobe Reader
- 2. Click on "Tools" in the top menu
- 3. Click on Analysis
- 4. Click on GeoSpatial Location Tool
- 5. A gray band with the Latitude and Longitude will not be displayed in the lower right-hand corner of the GeoPDF.
- 6. Place your cursor within the map to update the Latitude and Longitude

Latitude: 46.05867 Longitude: -112.40349

# **Displaying Map Features**

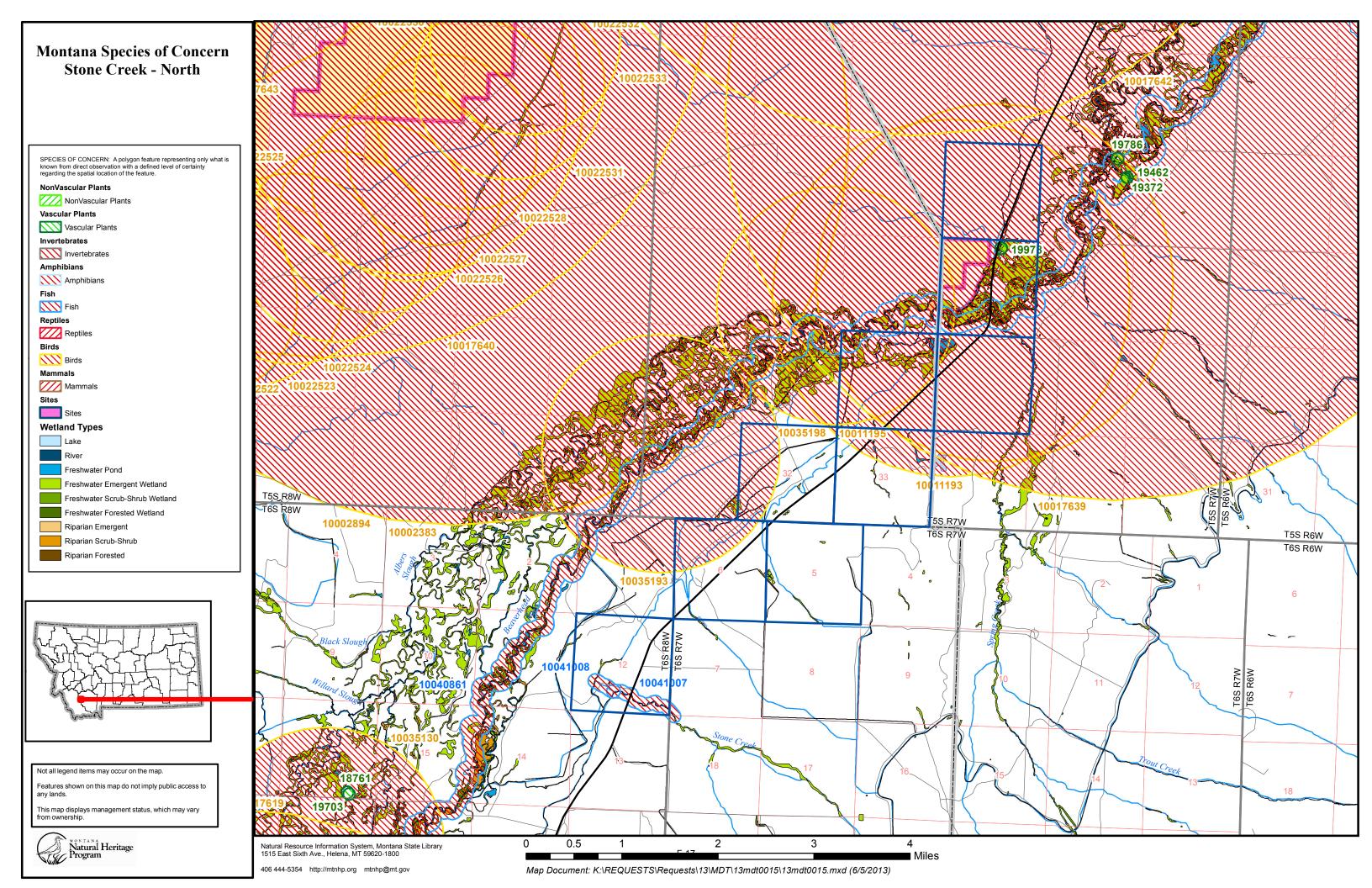
Map features including the spatial data layers, labels, and attributes may be displayed. To turn on or off map layers, click on the "Layers" button on the left side of the GeoPDF.

The "Layers" button looks like two overlapping diamonds.



If the "Layers" button is not visible then right click within the gray bar on the left side of the GeoPDF and then left click on "Layers". To turn the layers or labels off, click on the "eye" in the box. To turn the layers back on click back in the box until you see the "eye".





# A GUIDE TO WETLAND AND DEEPWATER HABITATS CLASSIFICATION USED IN THE NATIONAL WETLAND INVENTORY (NWI) MAPPING IN MONTANA



# **Purpose:**

The Montana Wetland and Riparian Mapping Center uses the Cowardin classification system (Cowardin et al. 1979) adopted by the National Wetland Inventory (NWI) for wetlands (FGDC Wetlands Subcommittee, 2009). The riparian system follows the U.S. Fish and Wildlife Service (USFWS) standard (U.S. Fish and Wildlife Services, 2009). NWI is the standard classification system for wetland mapping across the United States. For ease of display and interpretation the NWI attributes have been grouped into major wetland and riparian types.

# Wetlands

In Montana, there are three NWI wetland systems: Palustrine, Lacustrine, and Riverine.

#### **PALUSTRINE**:

- In Montana, this system includes all wetlands dominated by trees, shrubs, and emergent, herbaceous vegetation.
- Wetlands lacking vegetation are included if they are less than 8 hectares (20 acres) in size and are less than 2 meters (6.6 feet) deep in the deepest portion of the wetland.

### Freshwater pond:

- Wetlands with vegetation growing on or below the water surface for most of the growing season.

### Freshwater Emergent Wetland:

- Wetlands with erect, rooted herbaceous vegetation present during most of the growing season.

### Freshwater Shrub Wetland:

Wetlands dominated by woody vegetation less than 6 meters (20 feet) tall. Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.

# Freshwater Forested Wetland:

- Wetlands dominated by woody vegetation greater than 6 meters (20 feet) tall.

### **LACUSTRINE** (Lakes):

- This system includes any large body of water that is greater than 8 hectares (20 acres) in size OR is more than 2 meters (6.6 feet) deep.
- This system is usually found in a topographic depression. It may also be formed by damming of a river channel.

# **RIVERINE** (Rivers and streams and shore):

- This system includes all wetlands and deepwater habitats that are within natural and artificial channels.
- These systems contain either continuous (perennial) or intermittently flowing water.

### **RIPARIAN:**

The Wetland and Riparian Mapping Center uses the riparian classification system developed by the U.S. Fish and Wildlife Service to map riparian areas in Montana. The riparian classification types listed below are followed by the coding convention used for mapping purposes.

- Plant communities (trees, shrubs and/or herbaceous plants)contiguous to rivers, streams, lakes, or drainage ways.
- Riparian areas are influenced by both surface and below surface hydrology.
- The plant species present in riparian areas are distinctly different from plant species found in adjacent areas.
- Plants in riparian areas demonstrate more vigorous or robust growth forms than in adjacent areas.

# **Riparian Classes:**

#### Scrub-Shrub (SS):

- This type of riparian area is dominated by woody vegetation that is less than 6 meters (20 feet) tall.
- Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.

### Forested (FO):

- This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.

### Emergent (EM):

- Riparian areas that have erect, rooted herbaceous vegetation during most of the growing season.

# References

- Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, Washington, D.C. FWS/OBS-79/31.
- FGDC Wetlands Subcommittee. 2009. Wetlands Mapping Standard. U.S. Geological Survey, Reston, Virginia.
- U.S. Fish and Wildlife Services. 2009. A system for mapping riparian areas in the western United States. Division of Habitat and Resource Conservation, Branch of Resource and Mapping Support, Arlington, Virginia.

Biological Resources	Report/Biological	Assessment
October 2013		

Stone Creek – North STPP49-1(25)9 CN 7931000

# Appendix G

Wildlife Species List for Beaverhead and Madison Counties

MDT Biological Resources Report Stone Creek – North Beaverhead and Madison Counties, Montana

Туре	Common Name	Scientific Name	County
Amphibians	Plains Spadefoot	Spea bombifrons	Beaverhead
Amphibians	Rocky Mountain Tailed Frog	Ascaphus montanus	Beaverhead
Amphibians	Long-toed Salamander	Ambystoma macrodactylum	Beaverhead
Amphibians	Barred Tiger Salamander	Ambystoma mavortium	Beaverhead/Madison
Amphibians	Boreal Chorus Frog	Pseudacris maculata	Beaverhead/Madison
Amphibians	Columbia Spotted Frog	Rana luteiventris	Beaverhead/Madison
Amphibians	Northern Leopard Frog	Lithobates pipiens	Beaverhead/Madison
Amphibians	Western Toad	Anaxyrus boreas	Beaverhead/Madison
Birds	Chestnut-collared Longspur	Calcarius ornatus	Madison
Birds	Golden-crowned Sparrow	Zonotrichia atricapilla	Beaverhead
Birds	American Golden-Plover	Pluvialis dominica	Madison
Birds	Black Scoter	Melanitta americana	Madison
Birds	Black-billed Cuckoo	Coccyzus erythropthalmus	Madison
Birds	Black-chinned Hummingbird	Archilochus alexandri	Madison
Birds	Black-throated Green Warbler	Setophaga virens	Madison
Birds	Blackpoll Warbler	Setophaga striata	Madison
Birds	Brant	Branta bernicla	Madison
Birds	Broad-winged Hawk	Buteo platypterus	Madison
Birds	Buff-breasted Sandpiper	Tryngites subruficollis	Madison
Birds	Cape May Warbler	Setophaga tigrina	Madison
Birds	Ash-throated Flycatcher	Myiarchus cinerascens	Beaverhead
Birds	American Woodcock	Scolopax minor	Beaverhead
Birds	Black Swift	Cypseloides niger	Beaverhead
Birds	Black-and-white Warbler	Mniotilta varia	Beaverhead
Birds	Sage Sparrow	Artemisiospiza belli	Beaverhead
Birds	Pomarine Jaeger	Stercorarius pomarinus	Beaverhead
Birds	Alder Flycatcher	Empidonax alnorum	Beaverhead
Birds	Spruce Grouse	Falcipennis canadensis	Beaverhead
Birds	Summer Tanager	Piranga rubra	Beaverhead
Birds	Lesser Goldfinch	Spinus psaltria	Beaverhead
Birds	Yellow Rail	Coturnicops noveboracensis	Beaverhead
Birds	Semipalmated Sandpiper	Calidris pusilla	Madison
Birds	Pine Warbler	Setophaga pinus	Madison
Birds	Purple Finch	Haemorhous purpureus	Madison
Birds	Purple Martin	Progne subis	Madison
Birds	Red Knot	Calidris canutus	Madison
Birds	Red Phalarope	Phalaropus fulicarius	Madison
Birds	Red-headed Woodpecker	Melanerpes erythrocephalus	Madison
Birds	Red-throated Loon	Gavia stellata	Madison
Birds	Stilt Sandpiper	Calidris himantopus	Madison
Birds	Parasitic Jaeger	Stercorarius parasiticus	Madison
Birds	Yellow-rumped Warbler (Myrtle)	Setophaga coronata coronata	Madison
Birds	Ruddy Turnstone	Arenaria interpres	Madison
Birds	Sharp-tailed Grouse	Tympanuchus phasianellus	Madison
Birds	Short-billed Dowitcher	Limnodromus griseus	Madison
Birds	Sprague's Pipit	Anthus spragueii	Madison
Birds	Chestnut-sided Warbler	Setophaga pensylvanica	Madison
Birds	Yellow-billed Cuckoo	Coccyzus americanus	Madison
	Wood Stork	Mycteria americana	Madison
Birds Birds	Tennessee Warbler	Oreothlypis peregrina	Madison
Birds	Western Screech-Owl	Megascops kennicottii	Madison
Dilus	W Cotelli Ocieecii-Owi	wogascops Keririloottii	IVIAUISUIT

Туре	Common Name	Scientific Name	County
Birds	Whimbrel	Numenius phaeopus	Madison
Birds	White-throated Sparrow	Zonotrichia albicollis	Madison
Birds	White-winged Scoter	Melanitta fusca	Madison
Birds	Rusty Blackbird	Euphagus carolinus	Madison
Birds	Eastern Screech-Owl	Megascops asio	Madison
Birds	Gyrfalcon	Falco rusticolus	Madison
Birds	Greater White-fronted Goose	Anser albifrons	Madison
Birds	Pacific Loon	Gavia pacifica	Madison
Birds	Greater Scaup	Aythya marila	Madison
Birds	Glaucous Gull	Larus hyperboreus	Madison
Birds	Hoary Redpoll	Acanthis hornemanni	Madison
Birds	Lesser Black-backed Gull	Larus fuscus	Madison
Birds	Long-tailed Jaeger	Stercorarius longicaudus	Madison
Birds	Eurasian Wigeon	Anas penelope	Madison
Birds	Herring Gull	Larus argentatus	Madison
Birds	Eastern Phoebe	Sayornis phoebe	Madison
	Mountain Plover	Charadrius montanus	
Birds			Madison
Birds	Northern Flicker (Yellow-shafted)	Colaptes auratus auratus	Madison
Birds	Ovenbird (Olateration)	Seiurus aurocapilla	Madison
Birds	Dark-eyed Junco (Slate-colored)	Junco hyemalis hyemalis / cismontanus	Madison
Birds	Eastern Meadowlark	Sturnella magna	Madison
Birds	Mew Gull	Larus canus	Madison
Birds	Burrowing Owl	Athene cunicularia	Beaverhead/Madison
Birds	Brown Creeper	Certhia americana	Beaverhead/Madison
Birds	Cassin's Finch	Haemorhous cassinii	Beaverhead/Madison
Birds	Brown-headed Cowbird	Molothrus ater	Beaverhead/Madison
Birds	Bufflehead	Bucephala albeola	Beaverhead/Madison
Birds	Caspian Tern	Hydroprogne caspia	Beaverhead/Madison
Birds	Bullock's Oriole	Icterus bullockii	Beaverhead/Madison
Birds	Canvasback	Aythya valisineria	Beaverhead/Madison
Birds	Canada Goose	Branta canadensis	Beaverhead/Madison
Birds	California Gull	Larus californicus	Beaverhead/Madison
Birds	Broad-tailed Hummingbird	Selasphorus platycercus	Beaverhead/Madison
Birds	Calliope Hummingbird	Selasphorus calliope	Beaverhead/Madison
Birds	Canyon Wren	Catherpes mexicanus	Beaverhead/Madison
Birds	Black-crowned Night-Heron	Nycticorax nycticorax	Beaverhead/Madison
Birds	Black Tern	Chlidonias niger	Beaverhead/Madison
Birds	Black Rosy-Finch	Leucosticte atrata	Beaverhead/Madison
Birds	Belted Kingfisher	Megaceryle alcyon	Beaverhead/Madison
Birds	Black-backed Woodpecker	Picoides arcticus	Beaverhead/Madison
Birds	Black-bellied Plover	Pluvialis squatarola	Beaverhead/Madison
Birds	Barrow's Goldeneye	Bucephala islandica	Beaverhead/Madison
Birds	Barred Owl	Strix varia	Beaverhead/Madison
Birds	Barn Swallow	Hirundo rustica	Beaverhead/Madison
Birds	Bonaparte's Gull	Chroicocephalus philadelphia	Beaverhead/Madison
Birds	Black-capped Chickadee	Poecile atricapillus	Beaverhead/Madison
Birds	Brewer's Sparrow	Spizella breweri	Beaverhead/Madison
Birds	Black-headed Grosbeak	Pheucticus melanocephalus	Beaverhead/Madison
Birds	Black-necked Stilt	Himantopus mexicanus	Beaverhead/Madison
Birds	Blue Jay	Cyanocitta cristata	Beaverhead/Madison
Birds	Blue-winged Teal	Anas discors	Beaverhead/Madison
Birds	Bobolink	Dolichonyx oryzivorus	Beaverhead/Madison

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Type	Common Name	Scientific Name	County Decumend Medican
Birds	Bohemian Waxwing	Bombycilla garrulus	Beaverhead/Madison
Birds	Black-billed Magpie	Pica hudsonia	Beaverhead/Madison
Birds	Boreal Owl	Aegolius funereus	Beaverhead/Madison
Birds	Brewer's Blackbird	Euphagus cyanocephalus	Beaverhead/Madison
Birds	Cassin's Vireo	Vireo cassinii	Beaverhead/Madison
Birds	Flammulated Owl	Otus flammeolus	Beaverhead/Madison
Birds	Common Nighthawk	Chordeiles minor	Beaverhead/Madison
Birds	Downy Woodpecker	Picoides pubescens	Beaverhead/Madison
Birds	Dunlin	Calidris alpina	Beaverhead/Madison
Birds	Dusky Flycatcher	Empidonax oberholseri	Beaverhead/Madison
Birds	Dusky Grouse	Dendragapus obscurus	Beaverhead/Madison
Birds	Eared Grebe	Podiceps nigricollis	Beaverhead/Madison
Birds	Eastern Kingbird	Tyrannus tyrannus	Beaverhead/Madison
Birds	Barn Owl	Tyto alba	Beaverhead/Madison
Birds	European Starling	Sturnus vulgaris	Beaverhead/Madison
Birds	Dark-eyed Junco (Pink-sided)	Junco hyemalis mearnsi	Beaverhead/Madison
Birds	Ferruginous Hawk	Buteo regalis	Beaverhead/Madison
Birds	Dark-eyed Junco (Montana)	Junco hyemalis montanus	Beaverhead/Madison
Birds	Forster's Tern	Sterna forsteri	Beaverhead/Madison
Birds	Fox Sparrow	Passerella iliaca	Beaverhead/Madison
Birds	Franklin's Gull	Leucophaeus pipixcan	Beaverhead/Madison
Birds	Gadwall	Anas strepera	Beaverhead/Madison
Birds	Golden Eagle	Aquila chrysaetos	Beaverhead/Madison
Birds	Golden-crowned Kinglet	Regulus satrapa	Beaverhead/Madison
Birds	Grasshopper Sparrow	Ammodramus savannarum	Beaverhead/Madison
Birds	Gray Catbird	Dumetella carolinensis	Beaverhead/Madison
Birds	Gray Flycatcher	Empidonax wrightii	Beaverhead/Madison
Birds	Evening Grosbeak	Coccothraustes vespertinus	Beaverhead/Madison
Birds	Common Merganser	Mergus merganser	Beaverhead/Madison
Birds	Cedar Waxwing	Bombycilla cedrorum	Beaverhead/Madison
	<u> </u>		
Birds Birds	Chipping Sparrow Chukar	Spizella passerina	Beaverhead/Madison Beaverhead/Madison
		Alectoris chukar	
Birds	Cinnamon Teal	Anas cyanoptera	Beaverhead/Madison
Birds	Clark's Grebe	Aechmophorus clarkii	Beaverhead/Madison
Birds	Clark's Nutcracker	Nucifraga columbiana	Beaverhead/Madison
Birds	Clay-colored Sparrow	Spizella pallida	Beaverhead/Madison
Birds	Cliff Swallow	Petrochelidon pyrrhonota	Beaverhead/Madison
Birds	Common Goldeneye	Bucephala clangula	Beaverhead/Madison
Birds	Double-crested Cormorant	Phalacrocorax auritus	Beaverhead/Madison
Birds	Common Loon	Gavia immer	Beaverhead/Madison
Birds	Cattle Egret	Bubulcus ibis	Beaverhead/Madison
Birds	Eurasian Collared-Dove	Streptopelia decaocto	Beaverhead/Madison
Birds	Common Poorwill	Phalaenoptilus nuttallii	Beaverhead/Madison
Birds	Common Raven	Corvus corax	Beaverhead/Madison
Birds	Common Redpoll	Acanthis flammea	Beaverhead/Madison
Birds	Common Tern	Sterna hirundo	Beaverhead/Madison
Birds	Common Yellowthroat	Geothlypis trichas	Beaverhead/Madison
Birds	Cooper's Hawk	Accipiter cooperii	Beaverhead/Madison
Birds	Cordilleran Flycatcher	Empidonax occidentalis	Beaverhead/Madison
Birds	Dark-eyed Junco	Junco hyemalis	Beaverhead/Madison
Birds	Common Grackle	Quiscalus quiscula	Beaverhead/Madison
Birds	American Kestrel	Falco sparverius	Beaverhead/Madison

Tyme	Common Name	Caiantifia Nama	County
Type Birds	Common Name American Avocet	Scientific Name	County Beaverhead/Madison
		Recurvirostra americana	
Birds	American Bittern	Botaurus lentiginosus	Beaverhead/Madison
Birds	American Coot	Fulica americana	Beaverhead/Madison
Birds	American Crow	Corvus brachyrhynchos	Beaverhead/Madison
Birds	American Goldfinch	Spinus tristis	Beaverhead/Madison
Birds	American Pipit	Anthus rubescens	Beaverhead/Madison
Birds	American Redstart	Setophaga ruticilla	Beaverhead/Madison
Birds	American Robin	Turdus migratorius	Beaverhead/Madison
Birds	American Three-toed Woodpecker	Picoides dorsalis	Beaverhead/Madison
Birds	American Tree Sparrow	Spizella arborea	Beaverhead/Madison
Birds	American White Pelican	Pelecanus erythrorhynchos	Beaverhead/Madison
Birds	American Wigeon	Anas americana	Beaverhead/Madison
Birds	Baird's Sandpiper	Calidris bairdii	Beaverhead/Madison
Birds	Bald Eagle	Haliaeetus leucocephalus	Beaverhead/Madison
Birds	American Dipper	Cinclus mexicanus	Beaverhead/Madison
Birds	Bank Swallow	Riparia riparia	Beaverhead/Madison
Birds	Marbled Godwit	Limosa fedoa	Beaverhead/Madison
Birds	Gray Jay	Perisoreus canadensis	Beaverhead/Madison
Birds	Upland Sandpiper	Bartramia longicauda	Beaverhead/Madison
Birds	MacGillivray's Warbler	Geothlypis tolmiei	Beaverhead/Madison
Birds	Steller's Jay	Cyanocitta stelleri	Beaverhead/Madison
Birds	Surf Scoter	Melanitta perspicillata	Beaverhead/Madison
Birds	Swainson's Hawk	Buteo swainsoni	Beaverhead/Madison
Birds	Swainson's Thrush	Catharus ustulatus	Beaverhead/Madison
Birds	Townsend's Solitaire	Myadestes townsendi	Beaverhead/Madison
Birds	Townsend's Warbler	Setophaga townsendi	Beaverhead/Madison
Birds	Tree Swallow	Tachycineta bicolor	Beaverhead/Madison
Birds	Trumpeter Swan	Cygnus buccinator	Beaverhead/Madison
Birds	Spotted Sandpiper	Actitis macularius	Beaverhead/Madison
Birds	Turkey Vulture	Cathartes aura	Beaverhead/Madison
Birds	Sora	Porzana carolina	Beaverhead/Madison
Birds	Varied Thrush	Ixoreus naevius	Beaverhead/Madison
Birds	Veery	Catharus fuscescens	Beaverhead/Madison
Birds	Vesper Sparrow	Pooecetes gramineus	Beaverhead/Madison
Birds	Violet-green Swallow	Tachycineta thalassina	Beaverhead/Madison
Birds	Virginia Rail	Rallus limicola	Beaverhead/Madison
Birds	Warbling Vireo	Vireo gilvus	Beaverhead/Madison
Birds	Western Bluebird	Sialia mexicana	Beaverhead/Madison
Birds	Western Grebe	Aechmophorus occidentalis	Beaverhead/Madison
Birds	Western Kingbird	Tyrannus verticalis	Beaverhead/Madison
Birds	Tundra Swan	Cygnus columbianus	Beaverhead/Madison
Birds	Semipalmated Plover	Charadrius semipalmatus	Beaverhead/Madison
	Ruby-crowned Kinglet	•	
Birds		Regulus calendula	Beaverhead/Madison
Birds	Ruddy Duck	Oxyura jamaicensis	Beaverhead/Madison
Birds	Ruffed Grouse	Bonasa umbellus	Beaverhead/Madison
Birds	Rufous Hummingbird	Selasphorus rufus	Beaverhead/Madison
Birds	Sabine's Gull	Xema sabini	Beaverhead/Madison
Birds	Sage Thrasher	Oreoscoptes montanus	Beaverhead/Madison
Birds	Sanderling	Calidris alba	Beaverhead/Madison
Birds	Sandhill Crane	Grus canadensis	Beaverhead/Madison
Birds	Savannah Sparrow	Passerculus sandwichensis	Beaverhead/Madison
Birds	Spotted Towhee	Pipilo maculatus	Beaverhead/Madison
Birds	Scissor-tailed Flycatcher	Tyrannus forficatus	Beaverhead/Madison

Tyme	Common Nama	Cajantifia Nama	Country
Type Birds	Common Name	Scientific Name Piranga ludoviciana	County Beaverhead/Madison
	Western Tanager		Beaverhead/Madison
Birds	Sharp-shinned Hawk	Accipiter striatus	
Birds	Short-eared Owl	Asio flammeus	Beaverhead/Madison
Birds	Snow Bunting	Plectrophenax nivalis	Beaverhead/Madison
Birds	Snow Goose	Chen caerulescens	Beaverhead/Madison
Birds	Snowy Egret	Egretta thula	Beaverhead/Madison
Birds	Snowy Owl	Bubo scandiacus	Beaverhead/Madison
Birds	Solitary Sandpiper	Tringa solitaria	Beaverhead/Madison
Birds	Solitary Vireo	Vireo solitarius	Beaverhead/Madison
Birds	Song Sparrow	Melospiza melodia	Beaverhead/Madison
Birds	Say's Phoebe	Sayornis saya	Beaverhead/Madison
Birds	Western Meadowlark	Sturnella neglecta	Beaverhead/Madison
Birds	Willow Flycatcher	Empidonax traillii	Beaverhead/Madison
Birds	Rose-breasted Grosbeak	Pheucticus Iudovicianus	Beaverhead/Madison
Birds	Western Wood-Pewee	Contopus sordidulus	Beaverhead/Madison
Birds	White-breasted Nuthatch	Sitta carolinensis	Beaverhead/Madison
Birds	White-crowned Sparrow	Zonotrichia leucophrys	Beaverhead/Madison
Birds	White-faced Ibis	Plegadis chihi	Beaverhead/Madison
Birds	White-throated Swift	Aeronautes saxatalis	Beaverhead/Madison
Birds	White-winged Crossbill	Loxia leucoptera	Beaverhead/Madison
Birds	Whooping Crane	Grus americana	Beaverhead/Madison
Birds	Wild Turkey	Meleagris gallopavo	Beaverhead/Madison
Birds	Williamson's Sapsucker	Sphyrapicus thyroideus	Beaverhead/Madison
Birds	Wilson's Phalarope	Phalaropus tricolor	Beaverhead/Madison
Birds	Wilson's Snipe	Gallinago delicata	Beaverhead/Madison
Birds	Wilson's Warbler	Cardellina pusilla	Beaverhead/Madison
Birds	Wood Duck	Aix sponsa	Beaverhead/Madison
Birds	Yellow Warbler	Setophaga petechia	Beaverhead/Madison
Birds	Yellow-breasted Chat	Icteria virens	Beaverhead/Madison
Birds	Yellow-headed Blackbird	Xanthocephalus xanthocephalus	Beaverhead/Madison
Birds	Yellow-rumped Warbler	Setophaga coronata	Beaverhead/Madison
Birds	Yellow-rumped Warbler (Audubon's)	Setophaga coronata auduboni	Beaverhead/Madison
Birds	Western Sandpiper	Calidris mauri	Beaverhead/Madison
Birds	Willet	Tringa semipalmata	Beaverhead/Madison
Birds	Long-billed Dowitcher	Limnodromus scolopaceus	Beaverhead/Madison
Birds	Lark Sparrow	Chondestes grammacus	Beaverhead/Madison
Birds	Lazuli Bunting	Passerina amoena	Beaverhead/Madison
Birds	_		Beaverhead/Madison
	Least Flycatcher	Empidonax minimus	
Birds	Least Sandpiper	Calidris minutilla	Beaverhead/Madison
Birds	Lesser Scaup	Aythya affinis	Beaverhead/Madison
Birds	Lesser Yellowlegs	Tringa flavipes	Beaverhead/Madison
Birds	Lewis's Woodpecker	Melanerpes lewis	Beaverhead/Madison
Birds	Lincoln's Sparrow	Melospiza lincolnii	Beaverhead/Madison
Birds	Little Blue Heron	Egretta caerulea	Beaverhead/Madison
Birds	Mute Swan	Cygnus olor	Beaverhead/Madison
Birds	Long-billed Curlew	Numenius americanus	Beaverhead/Madison
Birds	Killdeer	Charadrius vociferus	Beaverhead/Madison
Birds	Long-eared Owl	Asio otus	Beaverhead/Madison
Birds	Mallard	Anas platyrhynchos	Beaverhead/Madison
Birds	Marsh Wren	Cistothorus palustris	Beaverhead/Madison
Birds	McCown's Longspur	Rhynchophanes mccownii	Beaverhead/Madison
Birds	Merlin	Falco columbarius	Beaverhead/Madison
Birds	Mountain Bluebird	Sialia currucoides	Beaverhead/Madison

Туре	Common Name	Scientific Name	County
Birds	Mountain Chickadee	Poecile gambeli	Beaverhead/Madison
Birds	Rough-legged Hawk	Buteo lagopus	Beaverhead/Madison
Birds	Loggerhead Shrike	Lanius Iudovicianus	Beaverhead/Madison
Birds	Harlequin Duck	Histrionicus histrionicus	Beaverhead/Madison
Birds	Gray-crowned Rosy-Finch	Leucosticte tephrocotis	Beaverhead/Madison
Birds	Great Blue Heron	Ardea herodias	Beaverhead/Madison
Birds	Great Egret	Ardea alba	Beaverhead/Madison
Birds	Great Gray Owl	Strix nebulosa	Beaverhead/Madison
Birds	Great Horned Owl		Beaverhead/Madison
		Bubo virginianus	
Birds	Greater Sage-Grouse	Centrocercus urophasianus	Beaverhead/Madison
Birds	Greater Yellowlegs	Tringa melanoleuca	Beaverhead/Madison
Birds	Green-tailed Towhee	Pipilo chlorurus	Beaverhead/Madison
Birds	Green-winged Teal	Anas crecca	Beaverhead/Madison
Birds	Lark Bunting	Calamospiza melanocorys	Beaverhead/Madison
Birds	Hammond's Flycatcher	Empidonax hammondii	Beaverhead/Madison
Birds	Lapland Longspur	Calcarius Iapponicus	Beaverhead/Madison
Birds	Harris's Sparrow	Zonotrichia querula	Beaverhead/Madison
Birds	Hermit Thrush	Catharus guttatus	Beaverhead/Madison
Birds	Hooded Merganser	Lophodytes cucullatus	Beaverhead/Madison
Birds	Horned Grebe	Podiceps auritus	Beaverhead/Madison
Birds	Horned Lark	Eremophila alpestris	Beaverhead/Madison
Birds	House Finch	Haemorhous mexicanus	Beaverhead/Madison
Birds	House Sparrow	Passer domesticus	Beaverhead/Madison
Birds	House Wren	Troglodytes aedon	Beaverhead/Madison
Birds	Indigo Bunting	Passerina cyanea	Beaverhead/Madison
Birds	Nashville Warbler	Oreothlypis ruficapilla	Beaverhead/Madison
Birds	Hairy Woodpecker	Picoides villosus	Beaverhead/Madison
Birds	Red-necked Phalarope	Phalaropus lobatus	Beaverhead/Madison
Birds	Pine Grosbeak	Pinicola enucleator	Beaverhead/Madison
Birds	Pine Siskin	Spinus pinus	Beaverhead/Madison
Birds	Pinyon Jay	Gymnorhinus cyanocephalus	Beaverhead/Madison
Birds	Prairie Falcon	Falco mexicanus	Beaverhead/Madison
Birds	Pygmy Nuthatch	Sitta pygmaea	Beaverhead/Madison
Birds	Red Crossbill	Loxia curvirostra	Beaverhead/Madison
Birds	Red-breasted Merganser	Mergus serrator	Beaverhead/Madison
Birds	Red-breasted Nuthatch	Sitta canadensis	Beaverhead/Madison
Birds	Red-eyed Vireo	Vireo olivaceus	Beaverhead/Madison
Birds	Mourning Dove	Zenaida macroura	Beaverhead/Madison
Birds	Red-necked Grebe	Podiceps grisegena	Beaverhead/Madison
Birds	Peregrine Falcon	Falco peregrinus	Beaverhead/Madison
Birds	Red-tailed Hawk	Buteo jamaicensis	Beaverhead/Madison
Birds	Red-winged Blackbird	Agelaius phoeniceus	Beaverhead/Madison
Birds	Redhead	Aythya americana	Beaverhead/Madison
Birds	Ring-billed Gull	Larus delawarensis	Beaverhead/Madison
Birds	Ring-necked Duck	Aythya collaris	Beaverhead/Madison
Birds	Ring-necked Pheasant	Phasianus colchicus	Beaverhead/Madison
Birds	Rock Pigeon	Columba livia	Beaverhead/Madison
Birds	Rock Wren	Salpinctes obsoletus	Beaverhead/Madison
Birds	Gray Partridge	Perdix perdix	Beaverhead/Madison
Birds	Red-naped Sapsucker	Sphyrapicus nuchalis	Beaverhead/Madison
Birds	Northern Rough-winged Swallow	Stelgidopteryx serripennis	Beaverhead/Madison
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Turne	Common Nome	Caiantifia Nama	Country
<b>Type</b> Birds	Northern Bobwhite	Scientific Name Colinus virginianus	County Beaverhead/Madison
Birds		_	
	Northern Flicker	Colaptes auratus	Beaverhead/Madison
Birds	Northern Flicker (Red-shafted)	Colaptes auratus cafer	Beaverhead/Madison
Birds	Northern Goshawk	Accipiter gentilis	Beaverhead/Madison
Birds	Northern Harrier	Circus cyaneus	Beaverhead/Madison
Birds	Northern Hawk Owl	Surnia ulula	Beaverhead/Madison
Birds	Northern Mockingbird	Mimus polyglottos	Beaverhead/Madison
Birds	Northern Oriole	Icterus galbula	Beaverhead/Madison
Birds	Northern Parula	Setophaga americana	Beaverhead/Madison
Birds	Pileated Woodpecker	Dryocopus pileatus	Beaverhead/Madison
Birds	Northern Pygmy-Owl	Glaucidium gnoma	Beaverhead/Madison
Birds	Pied-billed Grebe	Podilymbus podiceps	Beaverhead/Madison
Birds	Northern Saw-whet Owl	Aegolius acadicus	Beaverhead/Madison
Birds	Northern Shoveler	Anas clypeata	Beaverhead/Madison
Birds	Northern Shrike	Lanius excubitor	Beaverhead/Madison
Birds	Northern Waterthrush	Parkesia noveboracensis	Beaverhead/Madison
Birds	Olive-sided Flycatcher	Contopus cooperi	Beaverhead/Madison
Birds	Orange-crowned Warbler	Oreothlypis celata	Beaverhead/Madison
Birds	Osprey	Pandion haliaetus	Beaverhead/Madison
Birds	Pacific Wren	Troglodytes pacificus	Beaverhead/Madison
Birds	Pectoral Sandpiper	Calidris melanotos	Beaverhead/Madison
Birds	Ross's Goose	Chen rossii	Beaverhead/Madison
Birds	Northern Pintail	Anas acuta	Beaverhead/Madison
Fish	Bull Trout	Salvelinus confluentus	Beaverhead Beaverhead
Fish	Burbot	Lota lota	Beaverhead
Fish	California Golden Trout	Oncorhynchus mykiss aguabonita	Beaverhead
Fish	Columbia Slimy Sculpin	Cottus cognatus	Beaverhead
Fish	Common Carp	Cyprinus carpio	Beaverhead
Fish	Lake Trout	Salvelinus namaycush	Beaverhead
Fish	Stonecat	Noturus flavus	Madison
Fish	Green Swordtail	Xiphophorus helleri	Madison
Fish	Flathead Chub	Platygobio gracilis	Madison
Fish	Shortfin Molly	Poecilia mexicana	Madison
Fish	Sailfin Molly	Poecilia latipinna	Madison
Fish	Mountain Sucker	Catostomus platyrhynchus	Madison
Fish	Longnose Dace	Rhinichthys cataractae	Beaverhead/Madison
Fish	Arctic Grayling	Thymallus arcticus	Beaverhead/Madison
Fish	Brown Trout	Salmo trutta	Beaverhead/Madison
Fish	Longnose Sucker	Catostomus catostomus	Beaverhead/Madison
Fish	Mountain Whitefish	Prosopium williamsoni	Beaverhead/Madison
Fish	Rainbow Trout	Oncorhynchus mykiss	Beaverhead/Madison
Fish	Redside Shiner	Richardsonius balteatus	Beaverhead/Madison
Fish	Rocky Mountain Sculpin	Cottus bondi	Beaverhead/Madison
Fish	Utah Chub	Gila atraria	Beaverhead/Madison
Fish	Westslope Cutthroat Trout	Oncorhynchus clarkii lewisi	Beaverhead/Madison
Fish	White Sucker	Catostomus commersoni	Beaverhead/Madison
Fish	Yellowstone Cutthroat Trout	Oncorhynchus clarkii bouvieri	Beaverhead/Madison
Fish	Brook Trout	Salvelinus fontinalis	Beaverhead/Madison
Mammals	Richardson's Ground Squirrel	Urocitellus richardsonii	Madison
Mammals	Bison	Bos bison	Madison
Mammals Mammals	Least Weasel Dwarf Shrew	Mustela nivalis	Madison Beaverhead
iviammais	Dwall Sillew	Sorex nanus	Deaverneau

Mammals Mammals	Common Name Feral Horse Northern Flying Squirrel	Scientific Name Equus caballus	County
Mammals Mammals			Madison
Mammals	DIGITION ENVIROR SOUTEROL	Glaucomys sabrinus	Beaverhead
	Northern Grasshopper Mouse	Onychomys leucogaster	Beaverhead
	Northern Bog Lemming	Synaptomys borealis	Beaverhead
	Merriam's Shrew	Sorex merriami	Beaverhead
	Hoary Marmot		Beaverhead
	Heather Vole	Marmota caligata	
	Fisher	Phenacomys intermedius	Beaverhead
		Martes pennanti	Beaverhead
	Red-tailed Chipmunk	Tamias ruficaudus	Beaverhead
	Snowshoe Hare Montane Vole	Lepus americanus	Beaverhead (Madison
		Microtus montanus	Beaverhead/Madison
	Sagebrush Vole	Lemmiscus curtatus	Beaverhead/Madison
	Least Chipmunk	Tamias minimus	Beaverhead/Madison
	Little Brown Myotis	Myotis lucifugus	Beaverhead/Madison
	Long-eared Myotis	Myotis evotis	Beaverhead/Madison
	Long-legged Myotis	Myotis volans	Beaverhead/Madison
	Long-tailed Vole	Microtus longicaudus	Beaverhead/Madison
	Long-tailed Weasel	Mustela frenata	Beaverhead/Madison
	Marten	Martes americana	Beaverhead/Madison
	House Mouse	Mus musculus	Beaverhead/Madison
	Meadow Vole	Microtus pennsylvanicus	Beaverhead/Madison
	Hoary Bat	Lasiurus cinereus	Beaverhead/Madison
	Moose	Alces americanus	Beaverhead/Madison
Mammals	Mountain Cottontail	Sylvilagus nuttallii	Beaverhead/Madison
Mammals	Mountain Goat	Oreamnos americanus	Beaverhead/Madison
Mammals	Mountain Lion	Puma concolor	Beaverhead/Madison
Mammals	Mule Deer	Odocoileus hemionus	Beaverhead/Madison
Mammals	Muskrat	Ondatra zibethicus	Beaverhead/Madison
Mammals	Myotis Spp	Myotis spp.	Beaverhead/Madison
Mammals	Northern Pocket Gopher	Thomomys talpoides	Beaverhead/Madison
Mammals	Northern River Otter	Lontra canadensis	Beaverhead/Madison
Mammals	Masked Shrew	Sorex cinereus	Beaverhead/Madison
Mammals	Columbian Ground Squirrel	Urocitellus columbianus	Beaverhead/Madison
Mammals	Badger	Taxidea taxus	Beaverhead/Madison
Mammals	Beaver	Castor canadensis	Beaverhead/Madison
Mammals	Big Brown Bat	Eptesicus fuscus	Beaverhead/Madison
Mammals	Bighorn Sheep	Ovis canadensis	Beaverhead/Madison
Mammals	Black Bear	Ursus americanus	Beaverhead/Madison
Mammals	Black-tailed Jack Rabbit	Lepus californicus	Beaverhead/Madison
Mammals	Bobcat	Lynx rufus	Beaverhead/Madison
	Bushy-tailed Woodrat	Neotoma cinerea	Beaverhead/Madison
	Idaho Pocket Gopher	Thomomys idahoensis	Beaverhead/Madison
	Canada Lynx	Lynx canadensis	Beaverhead/Madison
	Preble's Shrew	Sorex preblei	Beaverhead/Madison
	Coyote	Canis latrans	Beaverhead/Madison
	Deer Mouse	Peromyscus maniculatus	Beaverhead/Madison
	Dusky or Montane Shrew	Sorex monticolus	Beaverhead/Madison
	Elk	Cervus canadensis	Beaverhead/Madison
	Fringed Myotis	Myotis thysanodes	Beaverhead/Madison
	Golden-mantled Ground Squirrel	Callospermophilus lateralis	Beaverhead/Madison
	Gray Wolf	Canis lupus	Beaverhead/Madison
	Great Basin Pocket Mouse	Perognathus parvus	Beaverhead/Madison
	Grizzly Bear	Ursus arctos	Beaverhead/Madison

Туре	Common Name	Scientific Name	County
Mammals	California Myotis	Myotis californicus	Beaverhead/Madison
Mammals	Wolverine	Gulo gulo	Beaverhead/Madison
Mammals	Wyoming Ground Squirrel	Urocitellus elegans	Beaverhead/Madison
Mammals	Yellow-bellied Marmot	Marmota flaviventris	Beaverhead/Madison
Mammals	Yellow-pine Chipmunk	Tamias amoenus	Beaverhead/Madison
Mammals	Pika	Ochotona princeps	Beaverhead/Madison
Mammals	Western Spotted Skunk	Spilogale gracilis	Beaverhead/Madison
Mammals	Spotted Bat	Euderma maculatum	Beaverhead/Madison
Mammals	Pronghorn	Antilocapra americana	Beaverhead/Madison
Mammals	Pygmy Rabbit	Brachylagus idahoensis	Beaverhead/Madison
Mammals	Raccoon	Procyon lotor	Beaverhead/Madison
Mammals	Red Fox	Vulpes vulpes	Beaverhead/Madison
Mammals	Red Squirrel	Tamiasciurus hudsonicus	Beaverhead/Madison
Mammals	Short-tailed Weasel	Mustela erminea	Beaverhead/Madison
Mammals	White-tailed Jack Rabbit	Lepus townsendii	Beaverhead/Madison
Mammals	Southern Red-backed Vole	Myodes gapperi	Beaverhead/Madison
Mammals	White-tailed Deer	Odocoileus virginianus	Beaverhead/Madison
Mammals	Striped Skunk	Mephitis mephitis	Beaverhead/Madison
Mammals	Townsend's Big-eared Bat	Corynorhinus townsendii	Beaverhead/Madison
Mammals	Uinta Ground Squirrel	Urocitellus armatus	Beaverhead/Madison
Mammals	Vagrant Shrew	Sorex vagrans	Beaverhead/Madison
Mammals	Water Shrew	Sorex palustris	Beaverhead/Madison
Mammals	Water Vole	Microtus richardsoni	Beaverhead/Madison
Mammals	Western Jumping Mouse	Zapus princeps	Beaverhead/Madison
Mammals	Western Small-footed Myotis	Myotis ciliolabrum	Beaverhead/Madison
Mammals	Porcupine	Erethizon dorsatum	Beaverhead/Madison
Mammals	Silver-haired Bat	Lasionycteris noctivagans	Beaverhead/Madison
Mammals	American Mink	Mustela vison	Beaverhead/Madison
Reptiles	Pygmy Short-horned Lizard	Phrynosoma douglasii	Beaverhead
Reptiles	Eastern Racer	Coluber constrictor	Madison
Reptiles	Prairie Rattlesnake	Crotalus viridis	Beaverhead/Madison
Reptiles	Rubber Boa	Charina bottae	Beaverhead/Madison
Reptiles	Terrestrial Gartersnake	Thamnophis elegans	Beaverhead/Madison
Reptiles	Common Gartersnake	Thamnophis sirtalis	Beaverhead/Madison
Reptiles	Painted Turtle	Chrysemys picta	Beaverhead/Madison
Reptiles	Gophersnake	Pituophis catenifer	Beaverhead/Madison