

Telluride Valley Floor

Environmental Report

Appendices



May 2009



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Appendices

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APPENDIX A
Foley Associates, Inc.
Property Description

EXHIBIT A

FOLEY ASSOCIATES, INC.
CIVIL ENGINEERING AND LAND SURVEYING
P. O. BOX 1385
TELLURIDE, CO 81435
970-728-6153

PROPERTY DESCRIPTION

A tract of land located within portions of Sections 33, 34 and 35 of Township 43 North, Range 9 West, New Mexico Principal Meridian, County of San Miguel, State of Colorado, more fully described as follows:

That portion of the Denver Placer, Mineral Survey No. 12119, Upper San Miguel Mining District lying south of the southerly right-of-way of former Colorado State Highway 145B, Federal Aid Project No. S0150(3), now known as West Colorado Avenue, and lying east of the easterly right-of-way of Colorado State Highway 145, Federal Aid Project No. S0153(13), also containing portions of Tracts 1,3,7 and 8 as described in Reception No. 332079 and Reception No. 332080 both recorded in the office of the Clerk and Recorder of San Miguel County on January 25, 2000;

That portion of the Missouri Placer, Mineral Survey No. 5210, Upper San Miguel Mining District lying south of the southerly right-of-way of former Colorado State Highway 145B, Federal Aid Project No. S0150(3), now known as West Colorado Avenue, also containing portions of Tracts 1,3,5,6,7 and 8 as described in Reception No. 332079 and Reception No. 332080 both recorded in the office of the Clerk and Recorder of San Miguel County on January 25, 2000;

That portion of the Kokomo Placer, Mineral Survey No. 1560, Upper San Miguel Mining District lying south of the southerly right-of-way of former Colorado State Highway 145B, Federal Aid Project No. S0150(3), now known as West Colorado Avenue,

LESS AND EXCEPT the following described property:

Beginning at corner No. 1 of said Placer;

Thence South 10° West along the East line of said Placer a distance of 461.7 feet;

Thence North 80°50' West a distance of 638.3 feet;

Thence North 16°30' West a distance of 37.0 feet;

Thence North 23° East a distance of 467.0 feet to the North line of said Placer;

Thence Easterly along the North line of said Placer a distance of 550.0 feet to corner No. 1 and the Point of Beginning;

AND LESS AND EXCEPT the following described property:

Beginning at corner No. 3 of the above described parcel;

Thence Northwest along the Southerly line of the former County Road a distance of 1386.0 feet to corner No. 2 on the North line of said Placer;

Thence Easterly along the North line of said Placer a distance of 1323.0 feet to corner No. 5 of the above described tract;

Thence South 23° West a distance of 467.0 feet;

Thence South 16° 30' East a distance of 37.0 feet to the Point Of Beginning,
also containing portions of Tracts 1,3,5,6,7,8 and 10 as described in Reception No.
332079 and Reception No. 332080 both recorded in the office of the Clerk and Recorder
of San Miguel County on January 25, 2000;

That portion of the Ohio Placer, Mineral Survey No. 194, Upper San Miguel Mining District
TOGETHER WITH that portion of the Townsite of San Miguel according to the plat filed in
the office of the Clerk and Recorder of San Miguel County in Plat Book 28 at page 27,
lying south of the southerly right-of-way of former Colorado State Highway 145B, Federal
Aid Project No. S0150(3), now known as West Colorado Avenue,

LESS AND EXCEPT Lots 1 through 7, inclusive, Block 14 of said Townsite of San Miguel,
AND LESS AND EXCEPT the following described property:

Beginning at the Northwest corner of Lot 1, Block 14, San Miguel Townsite, according to
the amended Plat thereof on file in the records of the San Miguel Clerk and Recorder;

Thence North 79°48' West a distance of 172.22 feet to a point whence the Northwest
corner of Lot 7 in Block 14 bears North 79°48'00" West a distance of 2.78 feet;

Thence South 08°38'42" West a distance of 111.54 feet along the existing fenceline;

Thence South 78°03'23" East a distance of 119.25 feet;

Thence South 10°12' West a distance of 7.49 feet;

Thence South 78°03'23" East a distance of 58.62 feet;

Thence North 02°58'01" East a distance of 5.45 feet;

Thence North 78°03'23" West a distance of 7.90 feet;

Thence North 10°12'00" East a distance of 119 feet to the Point Of Beginning,

also containing portions of Tracts 7,8,10,11,13 and 15 as described in Reception No.
332079 and Reception No. 332080 both recorded in the office of the Clerk and Recorder
of San Miguel County on January 25, 2000;

That portion of the Virginia Placer, Mineral Survey No. 658, Upper San Miguel Mining
District lying south of the southerly right-of-way of former Colorado State Highway 145B,
Federal Aid Project No. S0150(3), now known as West Colorado Avenue,

LESS AND EXCEPT those portions conveyed by Deeds recorded in the office of the
Clerk and Recorder of San Miguel County on June 30, 1987 in Book 437 at page 100 and
in Book 437 at page 102,

also containing portions of Tracts 13 and 15 as described in Reception No. 332079 and
Reception No. 332080 both recorded in the office of the Clerk and Recorder of San
Miguel County on January 25, 2000;

That portion of the Dakota Placer, Mineral Survey No. 2238, Upper San Miguel Mining District more fully described as follows:

Beginning at a Point on the West line of said Placer whence corner No. 7 of said Placer bears North 10° East a distance of 938.8 feet;

Thence South 10° West a distance of 1222.5 feet;

Thence South 70°06' East a distance of 344;

Thence North 10°15' East a distance of 1122.4 feet;

Thence North 56° West a distance of 395 feet to the Point of Beginning,

lying south of the southerly right-of-way of former Colorado State Highway 145B, Federal Aid Project No. S0150(3), now known as West Colorado Avenue,

also containing portions of Tract 15 as described in Reception No. 332080 recorded in the office of the Clerk and Recorder of San Miguel County on January 25, 2000;

Total acreage of all of the above described tracts contains 572 acres, more or less.



J. David Foley,

P.L.S. #24954

APPENDIX B
Valley Floor Use Regulations
Ordinance No. 1289

ORDINANCE NO. 1289
Series of 2008

AN EMERGENCY ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF TELLURIDE, COLORADO CONFIRMING THE EXTENSION OF TOWN JURISDICTION TO THE VALLEY FLOOR UNDER THE PROVISIONS OF C.R.S. § 31-25-216 AND TOWN MUNICIPAL CODE § 1-3-180, IMPOSING ADDITIONAL RESTRICTIONS ON THE TOWN'S REAL PROPERTY KNOWN AS THE VALLEY FLOOR, PROVIDING OTHER MATTERS RELATING THERETO AND DECLARING AN EMERGENCY.

WHEREAS, the Town of Telluride, Colorado (the "Town") is a duly organized and existing home rule municipality of the State of Colorado (the "State"), created and operating pursuant to Article XX of the Constitution of the State and the home rule charter of the Town (the "Charter"); and

WHEREAS, in 2002 with the passage of Town Ordinance No. 1174 ("Ordinance No. 1174"), the citizens of Telluride authorized the condemnation of approximately 572 acres of real property located principally west of the boundaries of the Town and commonly known as the Valley Floor (the "Valley Floor") for open space park purposes. A legal description of the Valley Floor is available for review in the Office of the Telluride Town Attorney, Rebekah Hall, 113 West Columbia Avenue, Telluride, Colorado and a map depicting the same is attached hereto and incorporated herein as Exhibit C; and

WHEREAS, following trial and appeal on the merits of the Town's condemnation, on June 20, 2008 the San Miguel County District Court, State of Colorado did enter a Rule and Order (the "Valley Floor Rule and Order") granting title to the Valley Floor to the Town; and

WHEREAS, the Valley Floor possesses natural, ecological, educational, riparian, environmentally sensitive areas, significant relatively natural habitat for native plants and wildlife, and scenic vistas of great importance to the public; and

WHEREAS, Ordinance No. 1174 includes a Town commitment to preserve and protect the open space park purposes of the Valley Floor with the imposition of a conservation easement on the Valley Floor; and

WHEREAS, the Town is in the process, with the assistance of retained consultants, of providing a comprehensive assessment of the existing natural conditions on the Valley Floor, which environmental report and scientific assessment (the "Valley Floor Environmental Report") is a key element that must be completed before the imposition of the Valley Floor conservation easement and management plan; and

WHEREAS, unregulated public use of the Valley Floor during the preparation of the Valley Floor Environmental Report and before the imposition of the Valley Floor conservation easement and management plan would not be consistent with the Valley Floor's dedicated purpose as open space park purposes; and

WHEREAS, since May 22, 2007, the Valley Floor has been subject to an Order of the San Miguel County District Court granting Limited Possession of the Valley Floor to the Town (the "Limited Possession Order") with a number of restrictions on public use of the Valley Floor; and

WHEREAS, the terms of the Valley Floor Rule and Order includes a provision that the Limited Possession Order shall be superseded and repealed by the issuance to the Town of the Rule and Order, which, under C.R.S. § 38-1-105(3), serves as the equivalent of a deed of conveyance from the property owner to the Town; and

WHEREAS, approximately 560 acres of the Valley Floor is currently outside the geographical boundaries of the Town of Telluride; and

WHEREAS, C.R.S. § 31-25-216(1) provides that in all instances where a municipality has acquired lands outside its municipal limits for parks purposes, said municipality shall have control and full power and authority in the management, control, improvement and maintenance of and over any such lands so acquired, and said municipality shall also have the power and authority to provide, by ordinance, for the regulation and control of its lands so acquired to prevent the commission of any acts which are or may be declared unlawful; and

WHEREAS, the Town has previously acted, pursuant to the provisions of Municipal Code Section 1-3-180, to extend the authority of C.R.S. § 31-25-216(1) so that "All ordinances and penalties as contained in the Telluride Municipal Code shall fully apply to and govern all activities and uses on all municipally owned park and open space lands located beyond the geographical boundaries of the Town in the same manner as if such lands were located within Town boundaries"; and

WHEREAS, the Town Council deems it necessary to clarify its intention to immediately apply all Town ordinances and penalties to the Valley Floor and to immediately restrict certain activities on the Valley Floor until after the completion of the Valley Floor Environmental Report, and following application of the conservation easement and associated management plan to the Valley Floor; and

WHEREAS, the Town Council of the Town has determined and now hereby decrees that this Emergency Ordinance on the Valley Floor is in the best interests of the Town, its inhabitants and the Valley Floor.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF TELLURIDE, COLORADO as follows:

Section 1. Application of Town of Telluride Municipal Code and All Town Ordinances to the Valley Floor.

The Town hereby clarifies and does affirmatively impose, pursuant to the provisions of C.R.S. § 31-25-216(1) and Town Municipal Code § 1-3-180, full Town control, power and authority in

the management, control and maintenance of the Valley Floor, including the extension to the Valley Floor of all Town ordinances and penalties as contained in the Telluride Municipal Code. Pursuant to Town Municipal Code § 1-3-180, the Valley Floor shall be treated in the same manner as if such real property were located within the boundaries of the Town of Telluride.

Section 2. Restrictions and Prohibited Uses on the Valley Floor.

Pursuant to the authority granted municipalities under the provisions of C.R.S. § 31-25-216, the Town of Telluride hereby provides, by emergency ordinance, for the regulation and control of the Valley Floor by preventing the commission of certain acts and declaring the same to be unlawful:

A. Except as specifically provided hereinbelow, and along Boomerang Road if authorized by San Miguel County, it shall be unlawful for motorized vehicles, including motorized hanggliders, paragliders or airplanes, to enter or remain on the Valley Floor and any such violation of this provision of this Emergency Ordinance shall subject an owner to the Town's impoundment provisions of Municipal Code § 8-3-20. Exceptions to the prohibition of motorized vehicles on the Valley Floor include:

- (i) There is hereby created an exception for motorized access on the Valley Floor during the winter cross-country skiing season, by an entity authorized by the Town, to create and groom cross-country ski trails on the Valley Floor;
- (ii) There is hereby created an exception for motorized access on the Valley Floor for authorized personnel when necessary for patrol, rescue, maintenance, restoration, cleanup and removal of refuse and rubbish as well as remediation activities on the Valley Floor.

B. It shall be unlawful for any person or owner to permit an animal (not wildlife) to enter or remain on the Valley Floor. Any violation of this provision of this Emergency Ordinance shall subject a person or owner to the penalty provisions of Section 3 of this Ordinance as well as the Town's impoundment provisions of Municipal Code Chapter 7, Article 6.

C. Except for a one-time celebratory event for the Valley Floor, authorized in writing by the Town Manager, it shall be unlawful to form or participate in large congregations or festival events on the Valley Floor.

D. It shall be unlawful for any person to operate a bicycle off of established trails or pathways on the Valley Floor.

E. It shall be unlawful for any person to hunt or discharge firearms, pellet guns, or paint guns on the Valley Floor.

F. It shall be unlawful to ignite or discharge fireworks on the Valley Floor.

G. It shall be unlawful for any person to enter, with the intent to damage, any environmentally sensitive areas on the Valley Floor, including wetlands areas, the Telski mitigation site or the mine tailings areas of the Valley Floor. It shall be a presumptive showing of an intent to damage the above-mentioned restricted areas of the Valley Floor if any person remains in said areas following notification to leave the above-mentioned restricted areas by the Town's Open Space Ranger or any other authorized Town representatives.

H. It shall be unlawful for any person to light or cause the ignition of any open fires on the Valley Floor.

I. Without limiting the general applicability of the Telluride Municipal Code to the Valley Floor as provided by this Emergency Ordinance, the Town emphasizes that camping is prohibited on the Valley Floor pursuant to the provisions of Municipal Code § 10-4-60.

J. Without limiting the general applicability of the Telluride Municipal Code to the Valley Floor as provided by this Emergency Ordinance, the Town emphasizes that littering is prohibited on the Valley Floor pursuant to the provisions of Municipal Code § 10-4-100, and the Town will enforce the "pack it in, pack it out" rule on the Valley Floor.

K. Without limiting the general applicability of the Telluride Municipal Code to the Valley Floor as provided by this Emergency Ordinance, the Town modifies the provisions of Municipal Code § 10-9-20(d). to permit the landing of hanggliders on the Valley Floor and to include the same within Exhibit A to Municipal Code § 10-9-20(d). The Town is only extending the landing area for hanggliders and is not amending the regulations pertaining to who can land on Town property pursuant to Municipal Code § 10-9-20(d).

L. It shall be unlawful for any commercial use to occur on the Valley Floor. The Town Manager is authorized to permit limited environmental educational uses on the Valley Floor conducted by non-profit or charitable organizations, provided those activities do not significantly impair or interfere with the Valley Floor's open space park purposes. In considering any exceptions, the Town Manager will consult with the Town Staff and the Town of Telluride Open Space Commission as to whether the use in question would significantly impair or interfere with the Valley Floor's open space park purposes.

Section 3. Penalties for Violation.

Unless otherwise provided by the terms of the Telluride Municipal Code, violations of the terms and restrictions of this Ordinance shall be punishable under the General Penalty Designation of Municipal Code § 1-4-10(a)(2).

Section 4. Declaration of Emergency.

With the repeal and supersession of the use restrictions imposed by the Limited Possession Order, and given the fact that the Town has not completed the Valley Floor Environmental Report, conservation easement or management plan for the Valley Floor, the Town hereby finds and declares that immediate restrictions on public use of the Valley Floor are necessary to preserve the *status quo* until said Valley Floor conservation easement and management plan are adopted and implemented on the Valley Floor.

It is therefore hereby declared that an emergency exists and that this Ordinance is necessary for the preservation of public property, health, peace or safety of the Town. This Ordinance is hereby declared exempt from referendum.

Section 5. Effect on Litigation.

This Ordinance shall not have any effect on existing litigation and shall not operate as an abatement of any action or proceeding now pending under or by virtue of the ordinances repealed or amended as herein provided and the same shall be construed and concluded under such prior ordinances.

Section 6. Severability.

The provisions of this Ordinance are severable and the invalidity of any section, phrase, clause or portion of the ordinance as determined by a court of competent jurisdiction shall not affect the validity or effectiveness of the remainder of the Ordinance.

Section 7. Effective Date.

This Ordinance shall take effect immediately upon final passage and shall be published as soon thereafter as possible, and no later than ten (10) days after passage.

INTRODUCED, PASSED AND ADOPTED AS AN EMERGENCY ORDINANCE BY AN EXTRAORDINARY MAJORITY OF THE TOWN COUNCIL OF TELLURIDE, COLORADO on the 24th day of June, 2008.

TOWN OF TELLURIDE

ATTEST

By: Stuart Fraser
Stuart Fraser, Mayor

Mary Jo Schillaci
Mary Jo Schillaci, Town Clerk

THIS ORDINANCE IS ON FILE IN THE TOWN CLERK'S OFFICE FOR PUBLIC INSPECTION.

APPROVED AS TO FORM:

Kevin J. Geiger
Kevin J. Geiger
Town Attorney

APPENDIX C
Deed of Conservation Easement

DEED OF CONSERVATION EASEMENT

NOTICE: THIS DEED CONTAINS RESTRICTIONS ON THE USE AND DEVELOPMENT OF THE PROPERTY THAT ARE INTENDED TO PROTECT ITS OPEN SPACE VALUES. THE TOWN OF TELLURIDE HAS FOUND THAT THE ADOPTION OF THESE DEED RESTRICTIONS IS IN THE PUBLIC INTEREST.

THIS DEED OF CONSERVATION EASEMENT is made this ___ day of _____, 200___, by the TOWN OF TELLURIDE, a Colorado home rule municipality ("Grantor") in favor of _____, a Colorado nonprofit corporation qualified to do business in the State of Colorado, having an address at P.O. Box _____, Telluride, CO 81435 ("Grantee").

RECITALS

- A. Grantor is the sole owner in fee simple of certain real property in San Miguel County, Colorado, more particularly described in Exhibit A attached hereto and incorporated by this reference (the "Property"). Grantor, as owner of the Property, owns the affirmative rights to identify, preserve, and protect in perpetuity its open space character and its natural features and values. **[Note: Exhibit A shall also include any and all water and water rights beneficially used or conditionally decreed]**
- B. The Property possesses open-space values, as defined in C.R.S. Sections 38-30.5-101—111, natural, ecological, educational, riparian, environmentally sensitive areas, significant relatively natural habitat for native plants and wildlife, and scenic vistas of great importance to the Grantor and its citizens, guests and invitees and is worthy of conservation ("Conservation Values").
- C. The State of Colorado has recognized the importance of private efforts toward the preservation of natural systems in the state by enactment of C.R.S. Sections 38-30.5-101 to 38-30.5-111.
- D. Grantor further intends, as owner of the Property, to convey to Grantee the right to preserve and protect the Conservation Values of the Property in perpetuity and to provide passive recreational opportunities and public park purposes that do not impair the Conservation Values.
- E. The Grantee is a private organization organized to protect and conserve natural areas and ecologically significant land for scientific, charitable and educational purposes, and is a "charitable organization" under the terms of Section 38-30.5-104(2) of the Colorado Revised Statutes and is a "qualified organization" within the provisions of Section 170(h) of the Internal Revenue Code of 1986, as amended (the "IRS Code"), qualified to acquire and hold conservation easements and meets the requirements of the IRS Code as a Sec. 501(c)(3) exempt organization.
- F. Grantee agrees by accepting this grant to honor the intentions of Grantor stated herein and to preserve and protect in perpetuity the Conservation Values of the Property for the benefit of this generation and the generations to come.

NOW, THEREFORE, in consideration of the above and the mutual covenants, terms, conditions, and restrictions contained herein, and pursuant to the laws of the state of Colorado, and in particular C.R.S. § 38-30.5-101 et. seq., Grantor hereby voluntarily grants and conveys to Grantee a conservation easement in perpetuity over the Property of the nature and character and to the extent hereinafter set forth ("Easement").

- 1. Recitals. The Recitals are incorporated herein by this reference.
- 2. Purpose and Allowed Uses. It is the purpose of the Easement to preserve and protect in perpetuity and, in the event of their degradation or destruction, to enhance and restore, the open space and natural features and values of the Property. It is further the specific purpose of this Easement to conserve

important habitat for wildlife; to protect rare or unique native plants currently known or later identified; and to conserve the diverse, meadow, and riparian communities and the wildlife inhabiting these communities. It is further the specific purpose of this Easement to ensure recreational and educational uses such as nature walks, trails and areas for hiking, bicycling, running, cross country skiing, hang/para glider and hot air balloon landing; temporary associated uses of a major festival held within the Town of Telluride (for a duration no longer than such major festival is approved by the Town), such as public sanitation facilities, parking (except for recreational vehicles) and tent camping, and other public park purposes not requiring improvement of the land or placement of permanent structures, and that such uses are accessible to the public and do not significantly impair or interfere with the Conservation Values.

Pursuant to the terms of C.R.S. Sections 38-30.5-101 to 38-30.5-111, the Property preserved hereby as natural land may not be converted or directed to any uses other than those provided herein and incorporated in the Management Plan.

2.1 Remediation. Portions of the Property may be subject to certain orders and judgments filed or entered in Civil Action 83-C-2385, U.S. District Court, District of Colorado and other portions of the Property may be contaminated from prior mining activities. Grantor reserves any rights it may have, in accordance with applicable state and federal statutory and regulatory provisions, to remediate and/or cleanup the Property as necessitated by conditions on the Property which were in existence as of the conveyance to Grantor so long as such remediation does not significantly impair or interfere with the Conservation Values.

2.2 Restoration. Future restoration of the San Miguel River, environmentally sensitive areas, riparian and wildlife habitats are anticipated and restoration work shall be done in accordance with the Management Plan so long as such restoration does not significantly impair or interfere with the Conservation Values.

2.3 Water Rights. The water rights appurtenant to the Property are incorporated herein by this reference. Grantor shall retain the right to file water court actions as necessary to protect the water rights or as otherwise may be necessary to utilize the rights to protect the Conservation Values. [WOULD ANTICIPATE THAT THE ACTUAL LANGUAGE HERE IS LIKELY TO BE MUCH MORE DETAILED TO REFLECT THE WATER RIGHTS NEEDED TO ADVANCE THE CONSERVATION VALUES AND THOSE RIGHTS THAT ARE IN EXCESS OF THIS BASE LEVEL...]

2.4 Utility Systems. The installation of new utilities, or extension or relocation of existing utilities may be permitted for allowed uses under this Easement if construction is underground and is in accordance with the Management Plan, is approved by Grantee and does not significantly impair or interfere with the Conservation Values. The location of all utilities and deeded utility easements on the Property will be mapped as part of the Management Plan.

2.5 Boomerang Road. Grantor and Grantee acknowledge a pre-existing right of way and recognize all rights to same existing under the jurisdiction of San Miguel County.

2.6 Weed Control. Weed control shall be undertaken on the basis of the best management practices commonly used at the time of application. Grantor shall comply with Title 35, Colorado Revised Statutes, regarding weed control. Agricultural chemicals may be used for the following purposes and under the following conditions:

2.6.1 For the control of noxious weeds, as required by Colorado state law, and for the control of other invasive exotic plant species; provided that chemical herbicides may be used only in those amounts and with a frequency of application that constitute the minimum necessary for control; and that the herbicide is not applied by aerial spraying.

2.6.2 For the control of agricultural or forest pests, subject to prior approval by the Grantee.

2.6.3 Use of biological weed and insect control agents, subject to prior approval by the Grantee.

2.7 Limited Private Uses. Grantor and Grantee intend to permit limited private recreational or environmental educational uses of the Property, as will be specifically authorized by Grantor in the Management Plan, some of which may have a limited commercial element, provided these activities do not significantly impair or interfere with the Conservation Values.

2.8 Limited Signage. Limited educational, public information and directional signage is permitted on the Property provided it does not significantly impair or interfere with the Conservation Values.

2.9 Limited Trails. It is anticipated that some improvements to existing trails and some new trail construction will take place on the Property, pursuant to the Management Plan.

3. Management Plan. Grantor and Grantee shall prepare a Management Plan that will identify appropriate land areas for the uses authorized herein as well as program specifics for conducting allowed activities. The Management Plan shall be completed and executed between Grantor and Grantee no later than six (6) months following the effective date of this Conservation Easement. Grantor and Grantee commit to update the Management Plan at least every two (2) years, or sooner if it is determined to be in the best interest of the Conservation Values of the Property.

4. Rights of Grantee. To accomplish the purpose of this Easement the following rights are conveyed to Grantee by this Easement:

4.1 To preserve and protect the Conservation Values of the Property;

4.2 To enter upon the Property at reasonable times in order to monitor Grantor's compliance with and otherwise enforce the terms of this Easement;

4.3 To prevent any activity on or use of the Property that is inconsistent with the purpose of this Easement and to require the restoration of such areas or features of the Property that may be damaged by any inconsistent activity or use;

4.4 To review and approve or deny requests from the Grantor for uses of the Property which are neither expressly granted nor specifically prohibited by this Easement that may compromise the Conservation Values of the Property.

4.5 To enjoin any activity on or any use of the Property that is inconsistent with the Easement.

5. Prohibited Uses. Any activity on or use of the Property inconsistent with the purpose of this Easement is prohibited. Without limiting the generality of the foregoing, the following activities and uses are expressly prohibited:

5.1 Construction of Improvements. The construction or reconstruction of any structure is prohibited, except those identified in the Management Plan which are limited to temporary uses (as identified in Section 1), such as public sanitation facilities, parking and camping, and other public park purposes not requiring improvement of the land or placement of permanent structures. Continuing use of any pre-existing structures identified in the Baseline Report shall be in accordance with the Management Plan.

- 5.2 Fences. Construction of fences is prohibited, except for delineation of the Property boundary, fences required to control the movement of people on the Property, those required to protect certain environmentally sensitive areas on the Property, those required for temporary restoration of the Property and repair of authorized improvements. New access gates and fences, if any, may be constructed only in accordance with the Management Plan.
- 5.3 Livestock. Grazing of livestock is prohibited unless provided for in the Management Plan for range improvement.
- 5.4 Subdivision. Any division or subdivision of title to the Property, whether by physical or legal process, is prohibited except as may be required to vacate existing platted lots and rights of way.
- 5.5 Timber Harvesting. Timber harvesting on the Property shall be prohibited. Trees may be cut to control insects and disease, to control invasive non-native species, and to prevent personal injury and property damage.
- 5.6 Mining/Surface Alteration. Any activity related to the exploration for, or development or extraction of, soil, sand, gravel, rock, lodes of quartz or other rock in place bearing gold, silver, cinnabar, lead, tin, copper or other valuable deposits, peat, oil, natural gas, fuel, or any other mineral or hydrocarbon substance, is prohibited. Removal of gravel, rock, and soil for river channel maintenance or restructuring of the river channel and sediment detention facility is subject to Grantee's prior written approval (except as required to implement and maintain the Management Plan, and for emergency flood and erosion activities). The creation, preservation or enhancement of wetlands in addition to those described in the Management Plan is subject to Grantee's approval.
- 5.7 Paving. No portion of the Property shall be paved or otherwise covered with concrete, asphalt, or any other paving material without the advance written permission of Grantee.
- 5.8 Dumps/Trash. Any dumping or uncontained accumulation of any kind of trash, refuse, debris, fill material or Hazardous Material, as that term is defined under any applicable county, municipal, state, or federal law, rule, ordinance, direction, or regulation as may be amended from time to time, is prohibited.
- 5.9 Commercial or Industrial Activity. No commercial or industrial uses shall be allowed on the Property, except those limited activities recognized in Section 2.7 hereinabove.
- 5.10 Wetlands and Stream Buffer. Draining, filling, dredging, or diking a wetland area located on the Property is prohibited unless authorized by and in accordance with the Management Plan, local, state and federal law.
- 5.11 Motorized Vehicles. Motorized vehicles on the Property are prohibited (subject to any rights that may exist pursuant to Section 2.5, hereinabove), except for authorized personnel when necessary for patrol, rescue, maintenance, restoration and remediation activities, park and recreation equipment as authorized by and in accordance with the Management Plan and motorized vehicular access as approved for any allowed temporary use.

- 5.12 Erosion and Pollution. Any uses or activity that causes or is likely to cause significant soil degradation or erosion or significant pollution of any surface or subsurface waters, is prohibited.
- 5.13 Golf-Related Activities and playing of golf. Golf-related activities and the playing of golf are expressly prohibited on the Property.

6. Reserved Rights. Grantor reserves to itself, and to its successors, and assigns, all rights accruing from the ownership of the Property, including the right to engage in or permit or invite others to engage in all uses of the Property that are not expressly prohibited herein and are not inconsistent with the purpose of this Easement or inconsistent with the Management Plan. Excepting emergency situations, any proposed changes which may adversely affect the Conservation Values of the Property shall be subject to prior written notice to, and prior written approval of Grantee, pursuant to Paragraph 7 of this Easement, if, in the opinion of the Grantee, the exercise of such rights presents a risk of damage to the Conservation Values.

7. Baseline Report. Competent naturalists familiar with the Property have prepared a collection of baseline data on the Property and its resources that have been compiled into a Baseline Report. The Baseline Report will be kept on file at the offices of Grantee with a copy to Grantor and by this reference made a part hereof.

8. Grantee's Approval. Where Grantee's approval is required Grantee shall grant or withhold its approval in writing and any supporting documentation within sixty (60) days of receipt of Grantor's written request therefore. Grantee's approval may be withheld only upon a reasonable determination by Grantee that the action as proposed would be inconsistent with the purpose of this Easement. Failure of Grantee to timely respond will be deemed approval. [ACTUAL LANGUAGE WILL DEPEND ON NOTIFICATION REQUIREMENTS OF GRANTEE PURSUANT TO ITS TEMPLATE]

9. Enforcement. Grantee shall have the right to prevent and correct or require correction of violations of the terms and purposes of this Deed. Grantee may enter the Property for the purpose of inspecting for violations. If Grantee finds what it believes is a violation, Grantee shall immediately notify Grantor in writing of the nature of the alleged violation. Upon receipt of this written notice, Grantor shall either (a) restore the Property to its condition prior to the violation; or (b) provide a written explanation to Grantee of the reason why the alleged violation should be permitted. If the condition described in clause (b) above occurs, both parties agree to meet as soon as possible to resolve this difference. If a resolution of this difference cannot be achieved at the meeting, both parties agree to meet with a mutually acceptable mediator to attempt to resolve the dispute. When, in Grantee's opinion, an ongoing or imminent violation could irreversibly diminish or impair the Conservation Values of the Property, Grantee may, at its discretion, take appropriate legal action. Grantor shall discontinue any activity that could increase or expand the alleged violation during the mediation process. Should mediation fail to resolve the dispute, Grantee may, at its discretion, take appropriate level action. If a court with applicable jurisdiction in San Miguel County determines that a violation is imminent, exists, or has occurred, Grantee may get an injunction to stop it, temporarily or permanently. A court may also issue an injunction to require Grantor to restore the Property to its condition prior to the violation.

10. Costs of Enforcement. Any reasonable costs incurred by Grantee in enforcing the terms of this Easement against Grantor, including without limitation, costs of suit and attorney's fees, and any reasonable costs of restoration necessitated by Grantor's violation of the terms of this Easement shall be borne by Grantor. If Grantor prevails in any action to enforce the terms of this Easement, Grantor's reasonable costs of suit, including without limitation, attorney's fees, shall be borne by Grantee.

11. Grantee's Discretion. Enforcement of the terms of this Easement shall be at the discretion of Grantee, and any forbearance by Grantee to exercise its rights under this Easement in the

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event of any breach of any term of this Easement by Grantor shall not be deemed or construed to be a waiver by Grantee of such term or of any subsequent breach of the same or any other term of this Easement or of any of the Grantee's rights under this Easement. No delay or omission by Grantee in the exercise of any right or remedy upon any breach by Grantor shall impair such right or remedy or be construed as a waiver.

12. Acts Beyond Grantor's Control. Nothing contained in this Easement shall be construed to entitle Grantee to bring any action against Grantor for any injury to or change in the Property resulting from causes beyond Grantor's reasonable control, including without limitation, fire, flood, storm, earth movement, or from any prudent action taken by Grantor under emergency conditions to prevent, abate, or mitigate significant injury to the Property resulting from such causes.

13. Access. The general public shall have access to the Property; subject however to the provisions of the Management Plan.

14. Taxes. Grantor is a governmental entity exempt from taxes and assessments and no taxes will be imposed upon, or incurred as a result of this Easement.

15. Hold Harmless. Grantor agrees to the extent permitted by law to indemnify and hold harmless Grantee, its officers, employees, agents, and insurers from and against all liability, claims, and demands on account of injury, loss or damage, including, without limitation claims arising from bodily injury, personal injury, sickness, disease, weather, property loss or damage, natural resource loss or damage, or any other loss of any kind whatsoever, which arise out of the grant of the Easement and any public recreational uses which occur on the Easement pursuant to this Easement agreement. Grantor agrees to investigate, handle, respond to, provide defense for, and defend against any such liability, claims, or demands at the sole expense of Grantor. Grantor also agrees to bear all other costs and expenses related thereto, including court costs and attorneys' fees, whether or not any such liability, claims or demands are groundless, false, or fraudulent. The obligations under this paragraph shall not extend to any injury, loss or damage which is caused solely by the act, omission, or other fault of Grantee or its employees or agents, and nothing herein shall be construed to abrogate or diminish any protections and limitations as afforded to Grantor or Grantee under the Colorado Governmental Immunity Act, C.R.S. §24-10-101, et. Seq., or the Owners of Recreational Areas statute, C.R.S. §33-41-101, et. seq., as amended, or other law. In the event Grantor and Grantee may be held jointly and severally liable under any statute, decision, or other law providing for such joint and several liability for their respective activities on the Property, the obligations of each to respond in damages shall be apportioned, as between Grantor and Grantee in proportion to the contributions of each as measured by the acts and omissions of each which, in fact, caused such legal injury, damage, or harm, and Grantor and Grantee each shall indemnify the other to the extent necessary to assure such apportionment.

16. Insurance. Grantor warrants that Grantee is a named insured on Grantor's property insurance policies covering the Property. The inclusion of the Grantee as an additional insured shall be an annual appropriation. Failure of Grantor to annually designate Grantee as an additional insured on the insurance policy will be cause for a breach of this Easement, and the Grantee has the right to seek legal compensations.

17. Assignment. Grantee may assign its rights and obligations under this Easement only to an organization that is (a) a qualified organization at the time of transfer under Section 170(h) of the Internal Revenue Code of 1954, as amended (or any successor provision then applicable), and the applicable regulations promulgated thereunder, (b) authorized to acquire and hold conservation easements under Colorado law, and (c) approved as a transferee by the Grantor. As a condition of such transfer, Grantee shall require that any assignment will continue to carry out the conservation purposes that this Conservation Easement is intended to advance. The Grantor shall have the right to require Grantee to assign its rights and obligations under this Easement to a different organization if Grantee ceases to exist or for any reason fails or refuses to enforce the terms and provisions of this Easement. If Grantee ceases

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to exist prior to an assignment of this Easement, then the Easement shall automatically revert to an organization designated by the Grantor that is (a) a qualified organization at the time of transfer under Section 170(h) of the Internal Revenue Code of 1954, as amended (or any successor provision then applicable), and the applicable regulations promulgated thereunder; (b) authorized to acquire and hold conservation easements under Colorado law; and approved as a transferee by the Grantor.

18. Change in Circumstances. The fact that the use of the property that is prohibited by this Easement, or any other uses as determined to be inconsistent with the purpose of this Easement, may become greatly more economically valuable than permitted uses, or that neighboring property may in the future be put entirely to uses that are not permitted hereunder, has been considered by Grantor in granting the Easement. It is Grantor's belief that any such changes will increase the benefit to the public of the continuation of this Easement, and it is the intent of both Grantor and Grantee that any changes should not be assumed to be circumstances justifying the extinguishment or termination of this Easement. In addition, the inability to carry on any or all of the permitted uses, or the unprofitability of doing so, shall not impair the validity of this Easement or be considered ground for its termination or extinguishments.

19. Notices. Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and either served personally or sent by first class mail, postage prepaid, addressed as follows:

To Grantor:

Town of Telluride
c/o Town Manager
P.O. Box 397
113 W. Columbia Avenue
Telluride, Colorado 81435

To Grantee:

Or to such other address as either party from time to time shall designate by written notice to the other.

20. Recordation. Grantee shall record this instrument in a timely fashion in the official records of the County of San Miguel and the Grantee may re-record it at any time as may be required to preserve its rights in this Easement.

21. General Provisions.

21.1 Controlling Law. The laws of the State of Colorado shall govern the interpretation and performance of this Easement.

21.2 Liberal Construction. Any general rule of construction to the contrary notwithstanding, this Easement shall be liberally construed in favor of the grant to effect the purpose of this Easement and the policy and purpose of C.R.S. § 38-30.5-101 et. seq. If any provision in this instrument is found to be ambiguous, an interpretation consistent with the purpose of this Easement that would render the provision valid shall be favored over any interpretation that would render it invalid. In the event of any conflict between the provisions of this Easement and the provisions of any use and zoning restrictions of the state or county in which the Property is located, or any other governmental entity with jurisdiction, the more restrictive provisions shall apply. This Easement shall be interpreted in accordance

with the laws of the state in which the Property is located. No remedy or election given by any provision in this Easement shall be deemed exclusive unless so indicated, but it shall, wherever possible, be cumulative with all other remedies at law or in equity. The parties acknowledge that each party and its counsel have reviewed and revised this Easement and that no rule of construction that ambiguities are to be resolved against the drafting party shall be employed in the interpretation of this Easement.

- 21.3 Severability. If any provision of this Easement, or the application thereof to any person or circumstance, is found to be invalid by a court of competent jurisdiction, the remainder of the provisions of this Easement, or the application of such provision to persons or circumstances other than those as to which it is found to be invalid, as the case may be, shall not be affected thereby.
- 21.4 Entire Agreement. This instrument sets forth the entire agreement of the parties with respect to the Easement and supersedes all prior discussions, negotiations, understandings, or agreements relating to the Easement, all of which are merged herein.
- 21.5 No Forfeiture. Nothing contained herein will result in a forfeiture or reversion of Grantor's title in any respect.
- 21.6 Joint Obligation. The obligations imposed by this Easement upon Grantor and Grantee shall be joint and several.
- 21.7 Successors. The covenants, terms, conditions, and restrictions of this Easement shall be binding upon, and inure to the benefit of, the parties hereto and their respective personal representatives, successors, and assigns, and shall continue as a servitude running in perpetuity with the Property.
- 21.8 Termination of Rights and Obligations. A party's rights and obligations under this Easement terminate upon transfer of the party's interest in the Easement or Property, except that liability for acts or omissions occurring prior to transfer shall survive the transfer.
- 21.9 Captions. The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.
- 21.10 Amendment. Any amendment must be consistent with the conservation purposes of this instrument and may not affect its perpetual duration. Any amendment must be in writing, agreed to and signed by both parties and recorded in the records of the Clerk and Recorder of San Miguel County.

TO HAVE AND TO HOLD unto Grantee, its successors, and assigns forever.

IN WITNESS WHEREOF Grantor and Grantee have executed this Deed of Conservation Easement on the day and year first above written.

GRANTOR
Town of Telluride
a Colorado home rule municipality

ATTEST

By: _____

APPENDIX D
List of Plant Species Identified
within the Study Area

Common Name	Scientific Name	Wetland Indicator Classification (Region 8)	Identification Confirmed by University of Colorado Herbarium
alpine bistort	<i>Polygonum viviparum</i>	FAC	
alpine meadowrue	<i>Thalictrum alpinum</i>	FACW	
alpine milk vetch	<i>Astragalus alpinus</i>	FAC	X
alpine timothy	<i>Phleum alpinum</i>	FAC	X
analogue sedge	<i>Carex simulata</i>	FACW	X
Arctic rush	<i>Juncus arcticus</i>	FACW	X
assorted mosses	<i>Bryophyte spp.</i>	N/A	X
Baker's lupine	<i>Lupinus bakerii</i>	FACU	X
beautiful cinquefoil	<i>Potentilla pulcherrima</i>	**	X
blister sedge	<i>Carex vesicaria</i>	OBL	X
blue spruce	<i>Picea pungens</i>	FAC	X
butter and eggs	<i>Linaria vulgaris</i>	**	
Canada bluegrass	<i>Poa compressa</i>	FACU	X
Canada thistle	<i>Cirsium arvens</i>	FACU	X
Chamisso arnica	<i>Arnica chamissonis</i>	FACW	X
cheatgrass	<i>Bromus tectorum</i>	**	X
clustered field sedge	<i>Carex praegracilis</i>	FACW	X
Columbian monkshood	<i>Aconitum columbianum</i>	FACW	
Columbian needlegrass	<i>Achnatherum nelsonii</i>	**	X
common cattail	<i>Typha latifolia</i>	OBL	
common dandelion	<i>Taraxacum officinale.</i>	FACU	X
common juniper	<i>Juniperus communis</i>	NI (FACU)	X
common sweet clover	<i>Melilotus officinalis</i>	FACU	X
common yarrow	<i>Achillea millefolium</i>	FACU	X
cow parsnip	<i>Heracleum maximum</i>	FACW	X
curly dock	<i>Rumex crispus</i>	FACW	X
curlycup gumweed	<i>Grindelia squarrosa</i>	UPL	
Douglas fir	<i>Pseudotsuga menziesii</i>	NI (FACU)	
early blue violet	<i>Viola adurea</i>	**	
Engelmanns spruce	<i>Picea englemanii</i>	FACU	X
falsegold groundsel	<i>Pachera pseud aurea</i>	FACW	X
field bindweed	<i>Convolvulus arvensis</i>	NI	
field horsetail	<i>Equisetum arvense</i>	FAC	X
field mint	<i>Mentha arvensis</i>	FACW	
field pennycress	<i>Thlaspi arvense</i>	UPL	
Fireweed	<i>Epilobium angustifolium</i>	FACU	
Geyer willow	<i>Salix geyeriana</i>	OBL	X
goldenrods	<i>Solidago spp.</i>	FACU	
heartleaf bittercress	<i>Cardamine cordifolia</i>	FACW	X
Indian paintbrush	<i>Castilleja linariifolia</i>	**	X
Kentucky bluegrass	<i>Poa pratensis</i>	FACU	X

Common Name	Scientific Name	Wetland Indicator Classification (Region 8)	Identification Confirmed by University of Colorado Herbarium
kochia	<i>Kochia scoparia</i>	FACU	
large leaf avens	<i>Geum macrophyllum</i>	OBL	X
lesser wintergreen	<i>Pyrola minor</i>	UPL	
meadow barley	<i>Hordeum brachyantherum</i>	FACW	
mountain bluebells	<i>Mertensia ciliata</i>	OBL	
mountain brome	<i>Bromus marginatus</i>	**	X
mountain parsley	<i>Pseudocymopterus montanus</i>	**	
musk thistle	<i>Carduus nutans</i>	**	X
Mustard	<i>Brassicaceae</i>	**	X
narrowleaf cottonwood	<i>Populus angustifolia</i>	FAC	
narrowleafed burreed	<i>Sparganium angustifolium</i>	When found in Region 8, all species of Sparganium are OBL	X
Nebraska sedge	<i>Carex nebrascensis</i>	OBL	
needle spikerush	<i>Eleocharis acicularis</i>	OBL	X
Northwest Territory sedge	<i>Carex utriculata</i> (formerly <i>C. rostrata</i>)	OBL	X
orchard grass	<i>Dactylis glomerata</i>	FACU	X
Oregon grape	<i>Mahonia repens</i>	**	
oxeye daisy	<i>Chrysanthemum leucanthemum</i>	Colorado B-list noxious	X
pale spikerush	<i>Eleocharis macrostachya</i>	OBL	X
park willow	<i>Salix monticola</i>	OBL	X
plumeless thistle	<i>Carduus acanthoides</i>	**	
prairie bluebells	<i>Mertensia lanceolata</i>	**	X
ragwort unid.	<i>Senecio sp.</i>	**	
red clover	<i>Trifolium pratense</i>	FACU	X
reed canary grass	<i>Phalaris arundinacea</i>	FACW	
rocky mountain rush	<i>Juncus saximontanus</i>	FACW	X
Rue	<i>Thalictrum sp.</i>	**	X
scarlet gilia	<i>Gilia aggregata</i>	**	X
scarlet penstemon	<i>Castilleja miniata</i>	FAC	X
serpentgrass	<i>Bisorta vivapara</i>	**	X
showy Jacob's ladder	<i>Polemonium pulcherrimum</i>	**	
shrub birch	<i>Betula glandulosa</i>	FAC	X
shrubby cinquefoil	<i>Pentaphylloides floribunda</i>	FACW	X
silver sagebrush	<i>Artemisia cana</i>	FAC	X
skullcap	<i>Scutellaria galericulata</i>	OBL	X
slender wheatgrass	<i>Elymus trachycaulus</i>	When found in Region 8, most species of Elymus are considered FACU	X
small leaf pussy toes	<i>Antennaria parvifolia</i>	**	X

Common Name	Scientific Name	Wetland Indicator Classification (Region 8)	Identification Confirmed by University of Colorado Herbarium
small yellow water crowfoot	<i>Ranunculus gmelinii</i>	FACW	X
smallwing sedge	<i>Carex microptera</i>	FAC	X
smooth brome	<i>Bromus inermis</i>	NI (FAC)	X
smooth scouring rush	<i>Equisetum laevigatum</i>	FACW	X
star Solomon's seal	<i>Polygonatum biflorum</i>	FACU	
starry false Solomon's seal	<i>Maianthemum stellatum</i>	FAC	
sticky purple geranium	<i>Geranium viscosissimum</i>	FACU	X
stinging nettle	<i>Urtica dioica</i>	FAC	
strapleaf willow	<i>Salix ligulifolia</i>	OBL	X
strawberry blight	<i>Chenopodium capitatum</i>	**	
strict blue-eyed grass	<i>Sisyrinchium montanum</i>	FAC	X
subalpine buckwheat	<i>Eriogonum subalpinum</i>	OBL	X
subalpine fir	<i>Abies bifolia (lasiocarpa)</i>	FACU	X
sulphur flower	<i>Eriogonum umbellatum</i>	NI (UPL)	X
tall penstemon	<i>Penstemon unilateralis</i>	(FACU)	X
timothy	<i>Phleum pratense</i>	FACU	X
toadflax	<i>Linaria vulgaris</i>	**	
trembling aspen	<i>Populus tremuloides</i>	FAC	X
twinberry honeysuckle	<i>Lonicera involucrata</i>	FAC	X
water buttercup	<i>Ranunculus aquatilis</i>	OBL	X
water milfoil	<i>Myriophyllum spicatum</i>	OBL	
water sedge	<i>Carex aquatilis</i>	OBL	X
Western paintbrush	<i>Castilleja occidentalis</i>	FACU	
western salsify	<i>Tragopogon dubius</i>	**	
white clover	<i>Trifolium repens</i>	FACU	X
white globeflower	<i>Trollius europaeus</i>	OBL	
whitestem gooseberry	<i>Ribes inerme</i>	FAC	X
wild alyssum	<i>Alyssum parviflorum</i>	**	X
woods rose	<i>Rosa woodsii</i>	FAC	X
wooly cinquefoil	<i>Potentilla hippiana</i>	**	X
wooly sedge	<i>Carex lanuginosa</i>	OBL	X
yellow alyssum	<i>Aurinia saxatilis</i>	**	

APPENDIX E
Summary of HSI Data for the
San Miguel River

Individual Reach Characteristics and HSI Values		River Reach							Variable
		1a	1b	2	3	4	5	6	
Thalweg Depth	Measurement (ft)	1	1.3	1.4	1.6	1.3	1.9	1.3	V ₄
	HSI Value	0.46	0.77	0.84	0.95	0.77	1	0.77	
% Cover	Measurement (%)	10	10	20	25	15	30	20	V ₅
	HSI Value	0.66	0.66	0.96	1	0.84	1	0.96	
Avg. Substrate 0.1" - 3"	Measurement (in)	0.75	0.75	0.5	0.5	0.75	0.5	0.5	V ₇
	HSI Value	0.82	0.82	0.65	0.65	0.82	0.65	0.65	
% Substrate 4" - 16"	Measurement (%)	30	30	20	15	25	15	15	V ₈
	HSI Value	1	1	1	1	1	1	1	
Dominant Substrate	Type	B	B	B	B	B	B	B	V ₉
	HSI Value	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
% Pools - Late Season	Measurement (%)	5	5	10	15	5	33	15	V ₁₀
	HSI Value	0.42	0.42	0.58	0.69	0.42	0.98	0.69	
% Vegetation on Banks	Measurement (%)	60	65	65	80	85	60	75	V ₁₁
	HSI Value	0.33	0.38	0.38	0.58	0.66	0.33	0.54	
% Stable Banks	Measurement (%)	70	65	65	80	85	60	75	V ₁₂
	HSI Value	0.96	0.92	0.92	0.98	0.99	0.88	0.97	
% Fines - Riffle/Run	Measurement (%)	10	10	20	25	10	30	20	V ₁₆
	HSI Value	1	1	0.92	0.82	1	0.72	0.92	
% Fines - Spawning Areas	Measurement (%)	10	10	10	10	10	10	10	V ₁₆
	HSI Value	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
% Shade 10:00 - 2:00	Measurement (%)	25	25	10	10	10	10	10	V ₁₇
	HSI Value	0.65	0.65	0.44	0.44	0.44	0.44	0.44	
% Pools	Measurement (%)	5	5	10	15	5	33	15	V ₁₀
	HSI Value	0.42	0.42	0.57	0.69	0.42	0.97	0.69	
Pool Class	Type	C	C	C	C	C	B	C	V ₁₅
	HSI Value	0.3	0.3	0.3	0.3	0.3	0.6	0.3	
% Instream Cover	Measurement (%)	10	10	10	20	15	15	15	V ₆
	HSI Value	0.67	0.67	0.67	0.96	0.84	0.84	0.84	

Overall Characteristics - Typical of All Reaches	Variable	Measurement	HSI Value
Average Max. Water Temp (°C)	V ₁	54.18	1
Average Max. Water Temp during embryo development (°F):	V ₂	54.18	0.95
Average Min. dissolved oxygen during low water period (mg/l) (assumed)	V ₃	5	0.8
Average velocity over spawning area during embryo development (ft/s) (assumed)	V ₅	1.5	1
Average Max. pH	V ₁₃	7.88	1
Average Min pH	V ₁₃	7.16	1
Average low flow base flow/Average annual daily flow*	V ₁₄	0.24	0.5

APPENDIX F
USFWS List of Endangered Species in
San Miguel County

USFWS List of Endangered Species in San Miguel County

Status	Common Name	Scientific Name
E	Colorado pikeminnow	<i>Mustela nigripes</i>
E	bonytail	<i>Gila elegans</i>
T	Canada lynx	<i>Lynx canadensis</i>
E	Colorado pikeminnow	<i>Ptychocheilus lucius</i>
E	humpback chub	<i>Gila cypha</i>
T	Mexican spotted owl	<i>Strix occidentalis lucida</i>
E	razorback sucker	<i>Xyrauchen texanus</i>
E	southwestern willow flycatcher	<i>Empidon traillii extimus</i>
E	Uncompahgre fritillary butterfly	<i>Boloria acrocneuma</i>
C	yellow-billed cuckoo	<i>Coccyzus americanus</i>

APPENDIX G

List of Migratory Bird Species Breeding in San Miguel County, Colorado

List of Migratory Bird Species Breeding in San Miguel County, Colorado

Common Name	Scientific Name
pieb-billed grebe	<i>Podilymbus podiceps</i>
gadwall	<i>Anas strepera</i>
mallard	<i>Anas platyrhynchos</i>
cinnamon teal	<i>Anas cyanoptera</i>
northern shoveler	<i>Anas clypeata</i>
northern pintail	<i>Anas acuta</i>
green-winged teal	<i>Anas crecca</i>
common merganser	<i>Mergus merganser</i>
sharp-shinned hawk	<i>Accipiter striatus</i>
Cooper's hawk	<i>Accipiter cooperii</i>
northern goshawk	<i>Accipiter gentilis</i>
Swainson's hawk	<i>Buteo swainsoni</i>
red-tailed hawk	<i>Buteo jamaicensis</i>
golden eagle	<i>Aquila chrysaetos</i>
American kestrel	<i>Falco sparverius</i>
prairie falcon	<i>Falco mexicanus</i>
sage grouse	<i>Centrocercus urophasianus</i>
white-tailed ptarmigan	<i>Lagopus leucurus</i>
blue grouse	<i>Dendragapus obscurus</i>
Gambel's quail	<i>Callipepla gambelii</i>
sora	<i>Porzana carolina</i>
American coot	<i>Fulica americana</i>
killdeer	<i>Charadrius vociferus</i>
spotted sandpiper	<i>Actitis macularia</i>
common snipe	<i>Gallinago gallinago</i>
band-tailed pigeon	<i>Columba fasciata</i>
mourning dove	<i>Zenaida macroura</i>
flamulated owl	<i>Otus flammeolus</i>
great horned owl	<i>Bubo virginianus</i>
northern pygmy-owl	<i>Glaucidium gnoma</i>
long-eared owl	<i>Asio otus</i>
boreal owl	<i>Aegolius funereus</i>
northern saw-whet owl	<i>Aegolius acadicus</i>
common nighthawk	<i>Chordeiles minor</i>
common poorwill	<i>Phalaenoptilus nuttallii</i>
black swift	<i>Cypseloides niger</i>
white-throated swift	<i>Aeronautes saxatalis</i>
black-chinned hummingbird	<i>Archilochus alexandri</i>
broad-tailed hummingbird	<i>Selasphorus platycercus</i>

Common Name	Scientific Name
belted kingfisher	<i>Ceryle alcyon</i>
Lewis's woodpecker	<i>Melanerpes lewis</i>
Williamson's sapsucker	<i>Sphyrapicus thyroideus</i>
red-naped sapsucker	<i>Sphyrapicus nuchalis</i>
downy woodpecker	<i>Picoides pubescens</i>
hairy woodpecker	<i>Picoides villosus</i>
three-toed woodpecker	<i>Picoides tridactylus</i>
northern flicker	<i>Colaptes auratus</i>
olive-sided flycatcher	<i>Contopus cooperi</i>
western wood-pewee	<i>Contopus sordidulus</i>
willow flycatcher	<i>Empidonax traillii</i>
Hammond's flycatcher	<i>Empidonax hammondii</i>
gray flycatcher	<i>Empidonax wrightii</i>
dusky flycatcher	<i>Empidonax oberholseri</i>
Cordilleran flycatcher	<i>Empidonax occidentalis</i>
Say's phoebe	<i>Sayornis saya</i>
ash-throated flycatcher	<i>Myiarchus cinerascens</i>
Cassin's kingbird	<i>Tyrannus vociferans</i>
western kingbird	<i>Tyrannus verticalis</i>
gray vireo	<i>Vireo vicinior</i>
plumbeous vireo	<i>Vireo plumbeus</i>
warbling vireo	<i>Vireo gilvus</i>
gray jay	<i>Perisoreus canadensis</i>
Stellar's jay	<i>Cyanocitta stelleri</i>
western scrub-jay	<i>Aphelocoma californica</i>
Pinyon jay	<i>Gymnorhinus cyanocephalus</i>
Clark's nutcracker	<i>Nucifraga columbiana</i>
black-billed magpie	<i>Pica pica</i>
American crow	<i>Corvus brachyrhynchos</i>
common raven	<i>Corvus corax</i>
horned lark	<i>Eremophila alpestris</i>
purple martin	<i>Progne subis</i>
tree swallow	<i>Tachycineta bicolor</i>
violet green swallow	<i>Tachycineta thalassina</i>
northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
cliff swallow	<i>Petrochelidon pyrrhonota</i>
barn swallow	<i>Hirundo rustica</i>
black-capped chickadee	<i>Poecile atricapillus</i>
mountain chickadee	<i>Poecile gambeli</i>
juniper titmouse	<i>Baeolophus griseus</i>

Common Name	Scientific Name
bushy tit	<i>Psaltriparus minimus</i>
red-breasted nuthatch	<i>Sitta candensis</i>
white-breasted nuthatch	<i>Sitta carolinensis</i>
pygmy nuthatch	<i>Sitta pygmaea</i>
brown creeper	<i>Certhia americana</i>
rock wren	<i>Salpinctes obsoletus</i>
canyon wren	<i>Catherpes mexicanus</i>
Bewick's wren	<i>Thryomanes bewickii</i>
house wren	<i>Troglodytes aedon</i>
American dipper	<i>Cinclus mexicanus</i>
golden-crowned kinglet	<i>Regulus satrapa</i>
ruby-crowned kinglet	<i>Regulus calendula</i>
blue-gray gnatcatcher	<i>Poliophtila caerulea</i>
western bluebird	<i>Sialia mexicana</i>
mountain bluebird	<i>Sialia currucoides</i>
Townsend's solitaire	<i>Myadestes townsendi</i>
Swainson's thrush	<i>Catharus ustulatus</i>
hermit thrush	<i>Catharus guttatus</i>
American robin	<i>Turdus migratorius</i>
northern mockingbird	<i>Mimus polyglottos</i>
sage thrasher	<i>Oreoscoptes montanus</i>
curve billed thrasher	<i>Toxostoma curvirostre</i>
European starling	<i>Sturnus vulgaris</i>
American pipit	<i>Anthus rubescens</i>
orange-crowned warbler	<i>Vermivora celata</i>
Virginia's warbler	<i>Vermivora virginiae</i>
yellow warbler	<i>Dendroica petechia</i>
yellow rumped warbler	<i>Dendroica coronata</i>
black-throated gray warbler	<i>Dendroica nigrescens</i>
Grace's warbler	<i>Dendroica graciae</i>
MacGillivray's warbler	<i>Oporornis tolmiei</i>
Wilson's warbler	<i>Wilsonia pusilla</i>
yellow-breasted chat	<i>Icteria virens</i>
western tanager	<i>Piranga ludoviciana</i>
green-tailed towhee	<i>Pipilo chlorurus</i>
spotted towhee	<i>Pipilo maculatus</i>
chipping sparrow	<i>Spizella passerina</i>
Brewer's sparrow	<i>Spizella breweri</i>
vesper sparrow	<i>Pooecetes gramineus</i>
lark sparrow	<i>Chondestes grammacus</i>

Common Name	Scientific Name
black-throated sparrow	<i>Amphispiza bilineata</i>
sage sparrow	<i>Amphispiza belli</i>
lark bunting	<i>Calamospiza melanocorys</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
fox sparrow	<i>Passerella iliaca</i>
song sparrow	<i>Melospiza melodia</i>
Lincoln's sparrow	<i>Melospiza lincolni</i>
white-crowned sparrow	<i>Zonotrichia leucophrys</i>
dark-eyed junco	<i>Junco hyemalis caniceps</i>
black-headed grosbeak	<i>Pheucticus melanocephalus</i>
blue grosbeak	<i>Guiraca caerulea</i>
Lazuli bunting	<i>Passerina amoena</i>
indigo bunting	<i>Passerina cyanea</i>
red-winged blackbird	<i>Agelaius phoeniceus</i>
western meadowlark	<i>Sturnella neglecta</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
common grackle	<i>Quiscalus quiscula</i>
brown-headed cowbird	<i>Molothrus ater</i>
Bullock's oriole	<i>Icterus bullockii</i>
brown-capped rosy-finch	<i>Leucosticte australis</i>
pine grosbeak	<i>Pinicola enucleator</i>
Cassin's finch	<i>Carpodacus cassinii</i>
house finch	<i>Carpodacus mexicanus</i>
red crossbill	<i>Loxia curvirostra</i>
Pine siskin	<i>Carduelis pinus</i>
lesser goldfinch	<i>Carduelis psaltria</i>
American goldfinch	<i>Carduelis tristis</i>
evening grosbeak	<i>Coccythraustes vespertinus</i>
house sparrow	<i>Passer domesticus</i>

APPENDIX H
USFS Sensitive Species List
Region 2

USFS Species Conservation Program - Region 2 Sensitive Species List

Common Name	Scientific Name
MAMMALS	
Rocky Mountain gray wolf	<i>Canis lupus irremotus</i>
common hog-nosed skunk	<i>Conepatus leuconotus</i>
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>
Gunnison's prairie dog	<i>Cynomys gunnisoni</i>
white-tailed prairie dog	<i>Cynomys leucurus</i>
black-tailed prairie dog	<i>Cynomys ludovicianus</i>
spotted bat	<i>Euderma maculatum</i>
wolverine	<i>Gulo gulo</i>
river otter	<i>Lontra canadensis</i>
American marten	<i>Martes americana</i>
water vole	<i>Microtus richardsoni</i>
fringed myotis	<i>Myotis thysanodes</i>
desert bighorn sheep	<i>Ovis canadensis nelsoni</i>
Rocky Mountain bighorn sheep	<i>Ovis canadensis canadensis</i>
pygmy shrew	<i>Sorex hoyi</i>
Wyoming pocket gopher	<i>Thomomys clusius</i>
grizzly bear	<i>Ursus arctos horribilis</i>
kit fox	<i>Vulpes macrotis</i>
swift fox	<i>Vulpes velox</i>
BIRDS	
northern goshawk	<i>Accipiter gentilis</i>
boreal owl	<i>Aegolius funereus</i>
Cassin's sparrow	<i>Aimophila cassinni</i>
grasshopper sparrow	<i>Ammodramus savannarum</i>
sage sparrow	<i>Amphispiza belli</i>
short-eared owl	<i>Asio flammeus</i>
burrowing owl	<i>Athene cunicularia</i>
American bittern	<i>Botaurus lentiginosus</i>
ferruginous hawk	<i>Buteo regalis</i>
McCown's longspur	<i>Calcarius mccownii</i>
Gunnison sage-grouse	<i>Centrocercus minimus</i>
chestnut-collared longspur	<i>Calcarius ornatus</i>
greater sage-grouse	<i>Centrocercus urophasianus</i>
mountain plover	<i>Charadrius montanus</i>
black tern	<i>Chlidonias niger</i>
northern harrier	<i>Circus cyaneus</i>
yellow-billed cuckoo	<i>Coccyzus americanus</i>

Common Name	Scientific Name
olive-sided flycatcher	<i>Contopus cooperi</i>
trumpeter swan	<i>Cygnus buccinator</i>
black swift	<i>Cypseloides niger</i>
American peregrine falcon	<i>Falco peregrinus anatum</i>
bald eagle	<i>Haliaeetus leucocephalus</i>
harlequin duck	<i>Histrionicus histrionicus</i>
white-tailed ptarmigan	<i>Lagopus leucurus</i>
loggerhead shrike	<i>Lanius ludovicianus</i>
Lewis's woodpecker	<i>Melanerpes lewis</i>
long-billed curlew	<i>Numenius americanus</i>
flamulated owl	<i>Otus flammeolus</i>
black-backed woodpecker	<i>Picoides arcticus</i>
American three-toed woodpecker	<i>Picoides dorsalis</i>
purple martin	<i>Progne subis</i>
Brewer's sparrow	<i>Spizella breweri</i>
Columbian sharp-tailed grouse	<i>Tympanuchus phasianellus colubianus</i>
greater prairie-chicken	<i>Tympanuchus cupido</i>
lesser prairie-chicken	<i>Tympanuchus pallidicinctus</i>
AMPHIBIANS	
boreal toad	<i>Bufo boreas boreas</i>
plains leopard frog	<i>Rana blairi</i>
Columbia spotted frog	<i>Rana luteiventris</i>
northern leopard frog	<i>Rana pipiens</i>
wood frog	<i>Rana sylvatica</i>
REPTILES	
massasauga	<i>Sistrurus catenatus</i>
Black Hills redbelly snake	<i>Storeria occipitomaculata pahasapae</i>
FISHES	
bluehead sucker	<i>Catostomus discobolus</i>
flannelmouth sucker	<i>Catostomus latipinnis</i>
mountain sucker	<i>Catostomus platyrhynchus</i>
Rio Grande sucker	<i>Catostomus plebius</i>
lake chub	<i>Couesius plumbeus</i>
Rio Grande chub	<i>gila pandora</i>
roundtail chub	<i>Gila robusta</i>
plains minnow	<i>Hybognathus placitus</i>
sturgeon chub	<i>macrhybopsis gelida</i>
pearl dace	<i>Margariscus margarita</i>

Common Name	Scientific Name
hornyhead chub	<i>Nocomis biguttatus</i>
Colorado river cutthroat trout	<i>Oncorhynchus clarki pleuriticus</i>
Rio Grande cutthroat trout	<i>Oncorhynchus clarki virginalis</i>
Yellowstone cutthroat trout	<i>Oncorhynchus clarki bouvieri</i>
northern redbelly dace	<i>Phoxinus eos</i>
southern redbelly dace	<i>Phoxinus erythrogaster</i>
finescale dace	<i>Phoxinus neogaeus</i>
flathead chub	<i>Platygobio gracilis</i>
INSECTS	
Ottoo skipper	<i>Hesperia ottoe</i>
caddisfly	<i>Ochorotrichia susanae</i>
Hudsonian emerald	<i>Somatochlora hudsonica</i>
regal fritillary butterfly	<i>Speyeria idalia</i>
Nokomis fritillary butterfly	<i>Speyeria nokomis nokomis</i>
MOLLUSKS	
Rocky Mountain capshell	<i>Acroloxus coloradensis</i>
Cooper's Rocky Mountain snail	<i>Oreohelix strigosa cooperi</i>
PLANTS – DICOTS Common names of Sensitive Plant Species are not acknowledged by the USFS	
	<i>Aquilegia chrysantha var. rydbergii</i>
	<i>Aquilegia laramiensis</i>
	<i>Armeria maritima ssp. sibirica</i>
	<i>Asclepias uncialis</i>
	<i>Astragalus barrii</i>
	<i>Astragalus leptaleus</i>
	<i>Astragalus missouriensis var. humistratus</i>
	<i>Astragalus proximus</i>
	<i>Astragalus ripleyi</i>
	<i>Astragalus wetherillii</i>
	<i>Braya glabella</i>
	<i>Chenopodium cycloides</i>
	<i>Cirsium perplexans</i>
	<i>Descurainia torulosa</i>
	<i>Draba exunguiculata</i>
	<i>Draba grayana</i>
	<i>Draba smithii</i>
	<i>Drosera anglica</i>
	<i>Drosera rotundifolia</i>

Common Name	Scientific Name
	<i>Eriogonum brandegeei</i>
	<i>Eriogonum exilifolium</i>
	<i>Eriogonum visheri</i>
	<i>Gilia sedifolia</i>
	<i>Ipomopsis aggregata ssp. weberi</i>
	<i>Ipomopsis globularis</i>
	<i>Ipomopsis polyantha</i>
	<i>Lesquerella fremontii</i>
	<i>Lesquerella pruinosa</i>
	<i>Machaeranthera coloradoensis</i>
	<i>Mimulus gemmiparus</i>
	<i>Neoparrya lithophila</i>
	<i>Oenothera harringtonii</i>
	<i>Oreoxis humilis</i>
	<i>Parnassia kotzebuei</i>
	<i>Penstemon absarokensis</i>
	<i>Penstemon caryi</i>
	<i>Penstemon degeneri</i>
	<i>Penstemon harringtonii</i>
	<i>Phacelia scopulina var. submutica</i>
	<i>Physaria didymocarpa var. lanata</i>
	<i>Physaria pulvinata</i>
	<i>Potentilla rupincola</i>
	<i>Primula egaliksensis</i>
	<i>Pyrrocoma carthamoides var. subsquarrosa</i>
	<i>Pyrrocoma clementis var. villosa</i>
	<i>Pyrrocoma integrifolia</i>
	<i>Ranunculus karelinii</i>
	<i>Rubus arcticus ssp. acaulis</i>
	<i>Salix arizonica</i>
	<i>Salix barrattiana</i>
	<i>Salix candida</i>
	<i>Salix myrtilifolia</i>
	<i>Salix serissima</i>
	<i>Sanguinaria canadensis</i>
	<i>Shoshonea pulvinata</i>
	<i>Thalictrum heliophilum</i>
	<i>Townsendia condensata var. anomala</i>

Common Name	Scientific Name
	<i>Utricularia minor</i>
	<i>Viburnum opulus var. americanum</i>
	<i>Viola selkirkii</i>
PLANTS -- NONVASCULAR	
	<i>Sphagnum angustifolium</i>
PLANTS -- MONOCOTS	
	<i>Amerorchis rotundifolia</i>
	<i>Calochortus flexuosus</i>
	<i>Carex alopecoidea</i>
	<i>Carex diandra</i>
	<i>Carex livida</i>
	<i>Cypripedium montanum</i>
	<i>Cypripedium parviflorum</i>
	<i>Eleocharis elliptica</i>
	<i>Epipactis gigantea</i>
	<i>Eriophorum altaicum var. neogaeum</i>
	<i>Eriophorum chamissonis</i>
	<i>Eriophorum gracile</i>
	<i>Festuca hallii</i>
	<i>Kobresia simpliciuscula</i>
	<i>Liparis loeselii</i>
	<i>Malaxis brachypoda</i>
	<i>Platanthera orbiculata</i>
	<i>Ptilagrostis porteri</i>
	<i>Schoenoplectus hallii</i>
	<i>Triteleia grandiflora</i>
PLANTS - FERN AND FERN ALLIES	
	<i>Botrychium ascendens</i>
	<i>Botrychium campestre</i>
	<i>Botrychium furcatum</i>
	<i>Botrychium paradoxum</i>
	<i>Botrychium lineare</i>
	<i>Lycopodium complanatum</i>
	<i>Selaginella selaginoides</i>

APPENDIX I
BLM Sensitive Species List
Southwestern Region

BLM Sensitive Species known to occur within the jurisdiction of the Uncompahgre, Gunnison or San Juan Field Offices (southwestern region).

Common Name	Scientific Name	Field Office
MAMMALS		
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	UN, SJ
spotted bat	<i>Euderma maculatum</i>	SJ, UN
Allen's big-eared bat	<i>Idionycteris phyllotis</i>	UN, SJ
fringed myotis	<i>Myotis thysanodes</i>	UN, SJ
Yuma myotis	<i>Myotis yumanensis</i>	UN, SJ
big free-tailed bat	<i>Nyctinomops macrotis</i>	SJ, UN
BIRDS		
northern goshawk	<i>Accipiter gentilis</i>	UN, GN, SJ
ferruginous hawk	<i>Buteo regalis</i>	UN, SJ
Gunnison sage grouse	<i>Centrocercus minimus</i>	UN, GN, SJ
black tern	<i>Chlidonias niger</i>	SJ
long-billed curlew	<i>Numenius americanus</i>	UN
white-faced ibis	<i>Plegadis chihi</i>	UN, GN, SJ
FISH		
bluehead sucker	<i>Catostomus discobolus</i>	UN, SJ
flannelmouth sucker	<i>Catostomas latipinnis</i>	UN, SJ
roundtail chub	<i>Gila robusta</i>	UN, SJ
Colorado River cutthroat trout	<i>Oncorhynchus clarki pleurticus</i>	GN, SJ
REPTILE		
longnose leopard lizard	<i>Gambelia wislizenii</i>	UN
Texas horned lizard	<i>Phrynosoma cornutum</i>	SJ
desert spiny lizard	<i>Sceloporus magister</i>	SJ
AMPHIBIAN		
canyon treefrog	<i>Hyla arenicolor</i>	UN
northern frog	<i>Rana pipiens</i>	UN
INVERTEBRATES		
Great basin silverspot butterfly	<i>Speyeria nokomis nokomis</i>	UN
PLANTS		
Crandall rockcress	<i>Arabis crandalli</i>	GN
Gunnison milkvetch	<i>Astragalus anisus</i>	GN
Cronquist milkvetch	<i>Astragalus cronquistii</i>	SJ
Grand Junction milkvetch	<i>Astragalus linifolius</i>	UN
skiff milkvetch	<i>Astragalus microcymbus</i>	GN
Naturita milkvetch	<i>Astragalus naturitensis</i>	UN, SJ
Sandstone milkvetch	<i>Astragalus sesquiflorus</i>	UN
Rocky Mountain thistle	<i>Cirsium perplexans</i>	UN

Common Name	Scientific Name	Field Office
Kachina daisy	<i>Erigeron kachinensis</i>	SJ
Comb Wash buckwheat	<i>Eriogonum clavellatum</i>	SJ
Colorado wild buckwheat	<i>Eriogonum coloradense</i>	GN
Pagosa trumpet gilia	<i>Ipomopsis polyantha var. polyantha</i>	SJ
Pagosa bladderpod	<i>Lesquerella pruinosa</i>	SJ
Montrose bladderpod	<i>Lesquerella vicina</i>	UN
Northern twayblade	<i>Listera borealis</i>	GN
Colorado desert parsley	<i>Lomatium concinnum</i>	UN
Paradox valley lupine	<i>Lupinus crassus</i>	UN
Dolores skeleton plant	<i>Lygodesmia doloresensis</i>	UN
Eastwood monkey-flower	<i>Mimulus eastwoodiae</i>	UN
Paradox breadroot	<i>Pediomelum aromaticum</i>	UN
UN = Uncompahgre Field Office		
SJ = San Juan Field Office		
GN = Gunnison Field Office		

APPENDIX J
**State of Colorado Threatened or
Endangered Species List**

State of Colorado List of Threatened or Endangered Species

Common Name	Scientific Name	Status
AMPHIBIANS		
boreal toad	<i>Bufo boreas boreas</i>	SE
northern cricket frog	<i>Acris crepitans</i>	SC
Great Plains narrowmouth toad	<i>Gastrophryne olivacea</i>	SC
northern leopard frog	<i>Rana pipiens</i>	SC
wood frog	<i>Rana sylvatica</i>	SC
plains leopard frog	<i>Rana blairi</i>	SC
Couch's spadefoot	<i>Scaphiopus couchii</i>	SC
BIRDS		
whooping crane	<i>Grus americana</i>	SE
least tern	<i>Sterna antillarum</i>	SE
southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	SE
plains sharp-tailed grouse	<i>Tympanuchus phasianellus jamesii</i>	SE
piping plover	<i>Charadrius melodus circumcinctus</i>	ST
bald eagle	<i>Haliaeetus leucocephalus</i>	ST
Mexican spotted owl	<i>Strix occidentalis lucida</i>	ST
burrowing owl	<i>Athene cunicularia</i>	ST
lesser prairie-chicken	<i>Tympanuchus pallidicinctus</i>	ST
western yellow-billed cuckoo	<i>Coccyzus americanus</i>	SC
greater sandhill crane	<i>Grus canadensis tabida</i>	SC
ferruginous hawk	<i>Buteo regalis</i>	SC
Gunnison sage-grouse	<i>Centrocercus minimus</i>	SC
American peregrine falcon	<i>Falco peregrinus anatum</i>	SC
greater sage grouse	<i>Centrocercus urophasianus</i>	SC
western snowy plover	<i>Charadrius alexandrinus</i>	SC
mountain plover	<i>Charadrius montanus</i>	SC
long-billed curlew	<i>Numenius americanus</i>	SC
Columbian sharp-tailed grouse	<i>Tympanuchus phasianellus columbianus</i>	SC
FISH		
bonytail	<i>Gila elegans</i>	SE
razorback sucker	<i>Xyrauchen texanus</i>	SE
humpback chub	<i>Gila cypha</i>	ST
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	ST
greenback cutthroat trout	<i>Oncorhynchus clarki stomias</i>	ST
Rio Grande sucker	<i>Catostomus plebius</i>	SE
lake chub	<i>Couesius plumbeus</i>	SE

Common Name	Scientific Name	Status
plains minnow	<i>Hybognathus placitus</i>	SE
suckermouth minnow	<i>Phenacobius mirabilis</i>	SE
northern redbelly dace	<i>Phoxinus eos</i>	SE
southern redbelly dace	<i>Phoxinus erythrogaster</i>	SE
brassy minnow	<i>Hybognathus hankinsoni</i>	ST
common shiner	<i>Luxilus cornutus</i>	ST
Arkansas darter	<i>Etheostoma cragini</i>	ST
plains orangethroat darter	<i>Etheostoma specetabile</i>	SC
Iowa darter	<i>Etheostoma exile</i>	SC
Rio Grande chub	<i>Gila pandora</i>	SC
Colorado roundtail chub	<i>Gila robusta</i>	SC
stonecat	<i>Noturus flavus</i>	SC
Colorado River cutthroat trout	<i>Oncorhynchus clarki pleuriticus</i>	SC
flathead chub	<i>Platygobio gracilus</i>	SC
MAMMALS		
gray wolf	<i>Canis lupus</i>	SE
black-footed ferret	<i>Mustela nigripes</i>	SE
grizzly bear	<i>Ursus arctos</i>	SE
Preble's mouse jumping mouse	<i>Zapus hudsonius preblei</i>	ST
lynx	<i>Lynx canadensis</i>	SE
wolverine	<i>Gulo gulo</i>	SE
river otter	<i>Lontra canadensis</i>	ST
kit fox	<i>Vulpes macrotis</i>	SE
Townsend's big-eared bat	<i>Corynorhinus townsendii pallescens</i>	SC
black-tailed prairie dog	<i>Cynomys ludovicianus</i>	SC
Botta's pocket gopher	<i>Thomomys bottae rubidus</i>	SC
northern pocker gopher	<i>Thomomys talpoides macrotis</i>	SC
swift fox	<i>Vulpes velox</i>	SC
REPTILES		
triploid checkered whiptail	<i>Cnemidophorus neotesselatus</i>	SC
midget faded rattlesnake	<i>Crotalus viridis concolor</i>	SC
longnose leopard lizard	<i>Gambelia wislizenii</i>	SC
yellow mud turtle	<i>Kinosternon flavescens</i>	SC
common king snake	<i>Lampropeltis getula</i>	SC
Texas blind snake	<i>Leptotyphlops dulcis</i>	SC
Texas horned lizard	<i>Phrynosoma cornutum</i>	SC
roundtail horned lizard	<i>Phrynosoma modestum</i>	SC
massasauga	<i>Sistrurus catenatus</i>	SC

Common Name	Scientific Name	Status
common garter snake	<i>Thamnophis sirtalis</i>	SC
MOLLUSKS		
Rocky Mountain capshell	<i>Acroloxus coloradensis</i>	SC
cylindrical papershell	<i>Anodontoides ferussacianus</i>	SC
SE = State Endangered		
ST = State Threatened		
SC = State Species of Special Concern		

APPENDIX K
Functional Assessment Data Sheets
(Wetland, Upland)

Assessment Area		Functions / Values Evaluated																								Total Functional Rating		Percent of Possible Score		
		Listed / Proposed T&E Species Habitat		Colorado Natural Heritage Program Species Habitat		General Wildlife Habitat		General Fish Habitat		Flood Attenuation		Short and Long Term Surface Water Storage		Sediment / Nutrient / Toxicant Removal		Sediment/Shoreline Stabilization		Production Export/Food Chain Support		Groundwater Discharge / Recharge		Uniqueness		Recreation / Education Potential						
Assessment Area	Acres	Rating	Points	Rating	Points	Rating	Points	Rating	Points	Rating	Points	Rating	Points	Rating	Points	Rating	Points	Rating	Points	Rating	Points	Rating	Points	Rating	Points	Rating	Points			
		Max Possible Scores		Max Possible Scores		Max Possible Scores		Max Possible Scores		Max Possible Scores		Max Possible Scores		Max Possible Scores		Max Possible Scores		Max Possible Scores		Max Possible Scores		Max Possible Scores		Max Possible Scores		Max Possible Scores		Max Possible Scores		
		H	1	H	1	E	1	E	1	H	1	H	1	H	1	H	1	H	1	H	1	H	1	H	1	H	1	I	11.2	100%
WA1	14.52	L	0.1	L	0.1	H	0.9	M	0.3	H	0.8	H	1	H	0.9	L	0.2	H	1	H	1	M	0.4	H	0.2	II	6.9	63%		
WA2	4.87	L	0.1	L	0.1	L	0.1	N/A	N/A	H	0.8	L	0.2	L	0.2	L	0.2	L	0.2	M	0.4	L	0.2	H	0.2	IV	2.7	27%		
WA3	9.37	L	0.1	L	0.1	M	0.7	M	0.3	H	0.8	M	0.6	L	0.2	L	0.2	M	0.6	H	1	L	0.3	H	0.2	III	5.1	46%		
WA4	10.05	L	0.1	L	0.1	H	0.9	M	0.3	M	0.5	M	0.5	H	0.9	M	0.5	H	0.8	M	0.4	M	0.4	H	0.2	II	5.6	51%		
WA5	7.8	L	0.1	L	0.1	L	0.3	N/A	N/A	N/A	N/A	L	0.2	H	1	N/A	N/A	M	0.5	M	0.4	L	0.1	H	0.2	III	2.9	36%		
WA6	17.79	L	0.1	L	0.1	L	0.1	N/A	N/A	M	0.5	L	0.3	L	0.2	L	0.2	M	0.4	M	0.7	L	0.2	H	0.2	IV	3.0	30%		
WA7	3.46	L	0.1	L	0.1	M	0.5	N/A	N/A	H	0.8	H	0.8	M	0.4	H	1	M	0.7	H	1	L	0.3	H	0.2	III	5.9	59%		
WA8	9.49	L	0.1	L	0.1	M	0.5	M	0.3	M	0.5	H	1	M	0.4	H	1	H	0.9	H	1	M	0.4	H	0.2	III	6.4	58%		
WA9	12.74	L	0.1	L	0.1	M	0.7	N/A	N/A	N/A	N/A	M	0.4	N/A	N/A	N/A	N/A	M	0.5	M	0.4	M	0.4	H	0.2	III	2.8	47%		
WA10	7.12	L	0.1	L	0.1	M	0.7	N/A	N/A	N/A	N/A	M	0.4	N/A	N/A	N/A	N/A	L	0.2	M	0.4	M	0.4	H	0.2	III	2.5	36%		
WA11	0.91	L	0.1	L	0.1	M	0.7	N/A	N/A	N/A	N/A	M	0.4	M	0.5	N/A	N/A	M	0.6	H	1	L	0.3	H	0.2	IV	3.9	49%		
WA12	13.21	L	0.1	L	0.1	M	0.7	M	0.5	M	0.5	H	0.8	L	0.2	M	0.7	H	0.8	H	1	L	0.3	H	0.2	III	5.9	54%		
WA13	3.08	L	0.1	L	0.1	M	0.7	M	0.4	L	0.2	L	0.3	H	0.9	H	0.9	M	0.7	M	0.7	H	0.9	H	0.2	II	6.1	55%		
WA14	7.16	L	0.1	L	0.1	M	0.7	N/A	N/A	H	0.9	L	0.2	L	0.3	M	0.5	M	0.6	M	0.4	L	0.3	H	0.2	III	4.3	43%		
WA15	1.13	L	0.1	L	0.1	M	0.5	N/A	N/A	N/A	N/A	H	0.6	M	0.5	N/A	N/A	L	0.3	M	0.7	L	0.3	H	0.2	IV	3.3	41%		
WA16	0.3	L	0.1	L	0.1	L	0.1	L	0.2	L	0.1	L	0.1	M	0.4	L	0.1	L	0.2	L	0.1	L	0.2	H	0.2	IV	1.9	17%		
WA17	10.23	L	0.1	L	0.1	M	0.7	M	0.4	M	0.5	M	0.6	L	0.2	H	0.9	M	0.7	H	1	L	0.3	H	0.2	III	5.7	52%		
WA18	24.11	L	0.1	L	0.1	M	0.7	M	0.4	M	0.5	M	0.6	H	0.9	M	0.6	M	0.7	M	0.7	L	0.2	H	0.2	III	5.7	52%		
WA19	7.25	L	0.1	L	0.1	H	0.9	N/A	N/A	N/A	N/A	H	0.8	H	0.9	N/A	N/A	H	1	H	1	H	1	H	0.2	I	6.0	75%		
WA20	38.45	L	0.1	L	0.1	H	0.9	N/A	N/A	N/A	N/A	H	1	H	1	N/A	N/A	H	1	H	1	M	0.4	H	0.2	II	5.7	71%		
WA21	49.09	L	0.1	L	0.1	H	0.9	M	0.3	N/A	N/A	H	1	H	1	N/A	N/A	H	1	H	1	M	0.4	H	0.2	II	6.0	67%		
WA22	1.48	L	0.1	L	0	L	0.1	M	0.3	N/A	N/A	H	0.8	M	0.7	N/A	N/A	L	0.3	H	1	L	0.2	H	0.2	IV	3.7	41%		
WA23	4.84	L	0.1	L	0.1	M	0.5	M	0.4	M	0.6	L	0.3	L	0.2	M	0.7	M	0.7	H	1	L	0.2	H	0.2	III	5.0	45%		
WA24	8.89	L	0.1	L	0.1	H	0.9	N/A	N/A	M	0.5	M	0.6	M	0.4	H	1	H	1	M	0.7	M	0.4	H	0.2	II	5.9	59%		
WA25	35.42	L	0.1	L	0.1	M	0.5	N/A	N/A	N/A	N/A	M	0.5	H	0.9	L	0.3	M	0.6	M	0.4	L	0.1	H	0.2	III	3.7	41%		
WA26	7.94	L	0.1	L	0.1	M	0.7	M	0.3	NA	NA	H	0.8	H	0.9	NA	NA	H	0.8	H	1	L	0.3	H	0.2	III	5.2	58%		
UA27	8.18	L	0.1	L	0.1	M	0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	M	0.6	L	0.1	L	0.3	H	0.2	IV	1.9	32%		
UA28	1.42	L	0.1	L	0.1	M	0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	M	0.5	L	0.1	M	0.5	H	0.2	III	2.0	33%		
UA29	37.22	L	0.1	L	0.1	H	0.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	H	0.8	L	0.1	M	0.6	H	0.2	II	2.8	47%		
UA30	4.62	L	0.1	L	0.1	H	0.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	M	0.7	L	0.1	M	0.5	H	0.2	II	2.6	43%		
UA31	12.14	L	0.1	L	0.1	H	0.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	H	0.8	M	0.4	H	0.9	H	0.2	II	3.4	57%		
UA32	180.42	L	0.1	L	0.1	L	0.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	M	0.4	M	0.4	L	0.1	H	0.2	IV	1.6	27%		
UA33	1.33	L	0.1	L	0.1	L	0.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	L	0.2	L	0.1	M	0.4	H	0.2	IV	1.3	22%		
UA34	12.51	L	0.1	L	0.1	M	0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	M	0.6	L	0.1	M	0.4	H	0.2	III	2.0	33%		

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

Type of Fishery: Cold Water (CW) _____ Warm Water (WW) _____ Use the CW or WW guidelines in the user manual to complete the matrix.

Duration of surface water in AA Aquatic habitat / resting / escape cover / Thermal cover optimal / suboptimal	Permanently / Perennial			Seasonal / Intermittent			Temporary / Ephemeral			
	Optimal	Adequate	Poor	Optimal	Adequate	Poor	Optimal	Adequate	Poor	
FWP Tier I fish species	TE	9H	8H	7M	6M	5M	4M	3L	2L	1L
FWP Tier II or Native Game fish species	9H	8H	7M	6M	5M	4M	3L	2L	1L	1L
FWP Tier III or Introduced Game fish	9H	7M	6M	5M	4M	3L	2L	1L	1L	1L
FWP Non-Game fish IV or No fish species	5M	5M	4M	4M	3L	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 MDC/DIS of waterbodies in need of TMDL development with listed "Priority Impaired Users" including cold or warm water fishery or aquatic life support, or to aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y = Yes, reduce score in 1 above by 0.1; N = No, if yes, add 0.1 to the adjusted score in 1 for the above.

iii. Final Score and Rating: _____ Comments: _____

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

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

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



Food-pore width	Bankfull width	Entrenchment ratio
1	2 x Bankfull Depth	ER = 2:2
1	Bankfull Depth	ER = 1:1 - 2:2
1	Bankfull Depth	ER = 1:1 - 1:4

ii. Are 2-10 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 (circle)? Y = Yes, N = No
 Comments: Several features present located within 0.5 mile downstream of the AA are subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle) Y = Yes, N = No

14F. Short and long term Surface Water Storage: (Applies whether the flood or pond from in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Instructions for surface water of these terms):

Estimated maximum area feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>3 acre feet			1.1 to 6 acre feet			≤1 acre foot				
	PIP	SH	9H	SH	9H	7M	SH	9H	7M	3L	2L
Duration of surface water at wetlands within the AA	9H	9H	7M	9H	9H	7M	9H	9H	7M	3L	2L
Wetlands in AA flood or pond ≥ 5 out of 10 years	9H	9H	7M	9H	9H	7M	9H	9H	7M	3L	2L
Wetlands in AA flood or pond < 5 out of 10 years	9H	9H	7M	9H	9H	7M	9H	9H	7M	3L	2L

Comments: Wetlands in AA flood or pond < 5 out of 10 years. Retained to allow a beaver dam - but still gives site vigor in landscape.

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

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

Sediment, nutrient, and toxicant input levels within AA	Permanently / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
	Optimal	Adequate	Poor	Optimal	Adequate	Poor	Optimal	Adequate	Poor
% cover of wetland vegetation in AA	Yes	≥ 70%	No	Yes	≥ 70%	No	Yes	≥ 70%	No
Evidence of flooding / ponding in AA	1H	8H	7M	1H	8H	7M	1H	8H	7M
AA contains no or restricted outlet	9H	7M	6M	9H	7M	6M	9H	7M	6M
AA contains unrestricted outlet	9H	7M	6M	9H	7M	6M	9H	7M	6M

14H. Sediment/Nutrient/Toxicant Retention and Removal: (Applies only if AA occurs on or within the banks of 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, circle NA here and proceed to 14I.)

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

% Cover of wetland streambank or shoreline by species with stability ratings of ≥ 6 (see Appendix F)	Permanently / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
	Optimal	Adequate	Poor	Optimal	Adequate	Poor	Optimal	Adequate	Poor
≥ 65%	1H	7M	6M	1H	7M	6M	1H	7M	6M
35-64%	9H	7M	6M	9H	7M	6M	9H	7M	6M
< 35%	9H	7M	6M	9H	7M	6M	9H	7M	6M

14I. Production Export/Food Chain Support:

General Fish Habitat Rating (14D III)	E/H	H	M	L
General Fish Habitat	E/H <td>H <td>M <td>L </td></td></td>	H <td>M <td>L </td></td>	M <td>L </td>	L
Rating (14D III)	E/H <td>H <td>M <td>L </td></td></td>	H <td>M <td>L </td></td>	M <td>L </td>	L
	M	H <td>M <td>L</td> </td>	M <td>L</td>	L
	M	M <td>M <td>L</td> </td>	M <td>L</td>	L
	L	M <td>M <td>L</td> </td>	M <td>L</td>	L
	N/A	H	M <td>L</td>	L

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = average 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 PIP, SH, 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		
	High	Moderate	Low	High	Moderate	Low	High	Moderate	Low
PIP	1H	7M	6M	1H	7M	6M	1H	7M	6M
SH	9H	7M	6M	9H	7M	6M	9H	7M	6M
T/E	9H	7M	6M	9H	7M	6M	9H	7M	6M
A	9H	7M	6M	9H	7M	6M	9H	7M	6M

14J. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) Vegetated Upland Buffer (VUB): Area with a 30% plant cover, 5-15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for CWVed control). a) Is there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference? Y = Yes, N = No, if yes, add 0.1 to the score in 14I above and adjust rating accordingly.

iv. Final Score and Rating: 2L Comments: _____

14L. Groundwater Discharge/Recharge: (check the appropriate indicators in I, & II below)

- I. Discharge Indicators
- The AA is a seeps wetland
 - Springs or seeps are known or observed
 - Vegetation growing during dormant season/drought
 - Wetland occurs at the toe of a natural slope
 - Seeps are present at the wetland edge
 - AA permanently flooded during drought periods
 - Wetland contains an outlet, but no inlet
 - Shallow water table and the site is saturated to the surface
- II. Recharge Indicators
- Permeable substrates present without underlying impeding layer
 - Wetland contains inlet but no outlet
 - Stream is a known / using stream, discharge volume decreases
 - Other: _____

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

Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix.

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

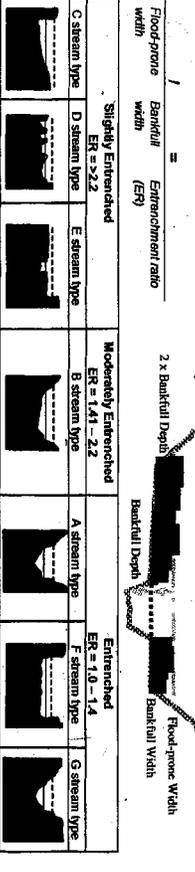
Duration of Surface water in AA	Permanent/Perennial			Seasonal/Intermittent			Temporary/Ephemeral		
	Optimal	Adequate	Poor	Optimal	Adequate	Poor	Optimal	Adequate	Poor
Thermal cover optimal/suboptimal	0	S	0	0	S	0	0	S	0
FWP Tier I fish species	1E	9H	8H	7M	6M	5M	4M	3L	2L
FWP Tier II or Native Game fish species	9H	8H	7M	6M	5M	4M	3L	2L	1L
FWP Tier III or Introduced Game fish or Non-Game fish	9M	7M	6M	5M	4M	3L	2L	1L	1L
Sources used for identifying fish sp. potentially found in AA:	5M	5M	4M	4M	4M	3L	2L	1L	1L

II. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)
 a) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.)? Yes, add 0.1 to the adjusted score in 1 or 1a above.
 b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.)? No, reduce score in 1 above by 0.1.
 III. Final Score and Rating: 3M Comments:

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

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

Estimated or Calculated Entrenchment (Ferguson 1994, 1996)	Slightly Entrenched - C	Moderately Entrenched - D	Entrenched A, F, G stream types
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	9H	8M
AA contains unrestricted outlet	3H	8H	7M



II. Are ≤ 10 acres of wetland in the AA subject to flooding AMD are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle) 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, circle NA here and proceed to 14G.)

I. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: PIP = permanent/perennial; SI = season/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 ponding, flooding or ponding	PIP	SI	T/E	PIP	SI	T/E	PIP	SI	T/E
>5 acre feet	1H	9H	8H	7M	6M	5M	4M	3L	2L
1 to 5 acre feet	3H	8H	7M	6M	5M	4M	3L	2L	1L
≤ 1 acre foot	3H	8H	7M	6M	5M	4M	3L	2L	1L

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

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

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

14H. Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks of 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, circle NA here and proceed to 14I.)

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

% Cover of wetland streambank or shoreline by species with stability ratings of 26 (see Appendix F)	Permanent/Perennial			Seasonal/Intermittent			Temporary/Ephemeral		
	Optimal	Adequate	Poor	Optimal	Adequate	Poor	Optimal	Adequate	Poor
$\geq 65\%$	1H	7M	3L	9H	8M	7L	7M	6M	5L
35-64%	3H	7M	3L	9H	8M	7L	7M	6M	5L
<35%	3H	7M	3L	9H	8M	7L	7M	6M	5L

14I. Production Export/Food Chain Support:

I. Level of Biological Activity (Synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat Rating (14D III)	EH	H	M	L
General Wildlife Habitat Rating (14C III)	H	M	M	L
AA	H	M	M	L
NA	H	M	M	L

II. Rating (Working from top to bottom, use the matrix below to arrive at [circle] 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); 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 PIP, SI, 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		
	High	Moderate	Low	High	Moderate	Low	High	Moderate	Low
B	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
C	1H	7M	8H	6M	4M	5M	3L	8H	6M
PIP	1H	7M	8H	6M	4M	5M	3L	8H	6M
SI	9H	8H	7M	4M	5M	3L	8H	6M	5M
T/E	9H	8H	7M	4M	5M	3L	8H	6M	5M

III. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with $\geq 30\%$ plant cover; $\geq 15\%$ forams weed or ANTS cover, and that is not subjected to periodic mechanical mowing or clearing (unless seed control). a) Is there an average ≥ 50 foot-wide vegetated upland buffer around $\geq 75\%$ of the AA circumference? Yes, add 0.1 to the score in II above and adjust rating accordingly. No

IV. Final Score and Rating: 6M Comments:

14J. Groundwater Discharge/Recharge: (Check the appropriate indicators in I & II below)

I. Discharge Indicators

- The AA is a slope wetland
- Springs or seeps are known or observed
- Vegetation growing during dormant season/drought
- 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

II. Recharge Indicators

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

Criteria	Duration of saturation at AA Wetlands FROM GROUNDWATER DISCHARGE ON WITH WATER TABLES FEEDBACKING THE GROUNDWATER SYSTEM			
Groundwater Discharge or Recharge	1H	2H	3H	4H
Insufficient Data/Information	1M	2M	3M	4M
Comments:	There is groundwater discharge and it is perennial stream			

14K. Uniqueness:

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

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S1" by the MTNHP				AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association listed as "S2" by the MTNHP				AA does not contain previously cited rare types or associations and structural diversity (#13) is low-moderate			
	rate	common	abundant	rate	common	abundant	rate	common	abundant	rate	common	abundant
Low disturbance at AA (#12)	1H	2H	3H	4H	5M	6M	7M	8M	9M	10M	11M	12M
Moderate disturbance at AA (#12)	1M	2M	3M	4M	5M	6M	7M	8M	9M	10M	11M	12M
High disturbance at AA (#12)	1H	2H	3H	4H	5M	6M	7M	8M	9M	10M	11M	12M

Comments: 3L

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

I. Is the AA a known or potential rec'd site: (circle) Y (if "Yes" continue with the evaluation; if "No" then circle NA here and proceed to the overall summary and rating page)

II. Check categories that apply to the AA: Educational/scientific study, Consumptive rec., Non-consumptive rec., Other

III. Rating (use the matrix below to arrive at (circle) the functional points and rating)

Known or Potential Recreation or Education Area	Known	Potential
Public ownership with general public access (no permission required)	2H	1M
Private ownership with general public access, or requiring permission for public access	1M	0M

Comments:

General Site Notes:

Stream is a gravelly cobble/gravel substrate w/ mud/sand along banks and grassy vegetation. Assessment would be higher, more vegetation along edges. Many trees were removed and the banks were sloped instead of vertical.

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #S):

WA-3

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Average)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.1	1		
B. Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Habitat	M	0.7	1		
D. General Fish Habitat	M	0.3	1		*
E. Flood Attenuation	H	0.8	1		*
F. Short and Long Term Surface Water Storage	M	0.6	1		*
G. Sediment/Nutrient/Toxicant Removal	L	0.2	1		
H. Sediment/Shoreline Stabilization	L	0.2	1		
I. Production Export/Food Chain Support	M	0.6	1		*
J. Groundwater Discharge/Recharge	H	1	1		*
K. Uniqueness	L	0.3	1		
L. Recreation/Education Potential (bonus points)	H	0.2	1		
Totals:		5.1	11	54.55%	
Percent of Possible Score				47.3%	

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 Natural Heritage Program Species Habitat; or

Score of 1 functional point for General Wildlife Habitat; or

Score of 1 functional point for General Fish Habitat; or

"High" or "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or

Score of 1 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 II)

"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: (circle appropriate category based on the criteria outlined above) I II III III IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Fellows Valley Water Elev 258 Project # 200-081 Contour # 4
 2. Evaluation Date: 11 Nov 08 4. Evaluator(s): A. Eiders 5. Wetland/State #: WA-4
 3. Wetland Location: Legal: T 42N S 9 E of 0 S 23
 6. Approx. Shading or Milepost: Aspen Park
 7. Approx. Distance to Nearest Town: 14.030003 Watershed Name, County: Spokane
 8. Wetland Use: (total acres) 10.05 (visually estimated) (measured, e.g. by GPS if applies)
 9. Assessment area (AA): (acres) 10.05 (visually estimated) (measured, e.g. by GPS if applies)

10. Classification of Wetland and Aquatic Habitats in AA
 HGM Class (Bifurcated) Class Modifier (Covertin) Water Regime % of AA
 D PEM ST 1%
 PEM TE 82%
 PSS

11. Estimated relative abundance: (of similarly classified sites within the same Major Wetland/State Basin, see definitions)
 (Circle one) Unknown Rate Common Abundant

12. General condition of AA:
 I. Disturbance: (use matrix below to determine (circle) appropriate response - see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) lists)
 Predominant conditions adjacent to within 500 feet of AA

Conditions within AA	Land not cultivated, but may be moderately grazed or logged, or otherwise managed; some noxious weed or ANVS cover is 5-15%.	Land not cultivated, but may be moderately grazed or logged, or otherwise managed; some noxious weed or ANVS cover is 15-30%.	Land not cultivated, but may be moderately grazed or logged, or otherwise managed; some noxious weed or ANVS cover is 30-50%.	Land not cultivated, but may be moderately grazed or logged, or otherwise managed; some noxious weed or ANVS cover is 50-75%.	Land not cultivated, but may be moderately grazed or logged, or otherwise managed; some noxious weed or ANVS cover is 75-95%.
low disturbance	low disturbance	low disturbance	low disturbance	low disturbance	low disturbance
moderate disturbance	moderate disturbance	moderate disturbance	moderate disturbance	moderate disturbance	moderate disturbance
high disturbance	high disturbance	high disturbance	high disturbance	high disturbance	high disturbance

13. Structural Diversity: (based on number of "Covered" vegetation classes present (do not include unvegetated classes) see #10 above)
 Existing # of "Covered" Vegetation Classes in AA: 23 (for 2 & 1 if forested) classes
 #2 (or 1 if forested) classes
 1 class, but not a monoculture
 Comments: Predominantly PSS, interspersed w/ PEM and one large PEM
Canopy near 100% open

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:
 AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat D S
Canada Jay, Crows

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in 14A above)
 AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat D S
Canada Jay, Golden Eagle, Peregrine Falcon, Black Swift

14C. General Wildlife Habitat Rating:
 I. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (based on any of the following [check]):
 - observations of abundant wildlife (during any period)
 - abundant wildlife signs such as scat, tracks, nest structures, game trails, etc.
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (based on any of the following [check]):
 - observations of moderate wildlife (during any period)
 - common occurrence of moderate wildlife signs such as scat, tracks, nest structures, game trails, etc.
 - interviews with local biologists with knowledge of the AA
 Minimal (based on any of the following [check]):
 - few or no wildlife observations during peak use periods
 - little to no wildlife signs
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

Highest Habitat Level	Substantial	Moderate	Minimal
S1 Species:	1H	8H	7M
Functional Points and Rating	1H	8H	7M
S2 and S3 Species:	9H	7M	6M
Functional Points and Rating	9H	7M	6M
Sources for documented use (e.g. observations, records, etc.):			

14D. Rating: Use the conditions from I above and the matrix below to arrive at (circle) the functional points and rating:
 Functional Points and Rating
 Highest Habitat Level: 1H 9H 8M 7M 3L 1L
 Functional Points and Rating: (e.g. observations, records, etc.):

14E. Rating: Use the conditions from I above and the matrix below to arrive at (circle) the functional points and rating:
 Evidence of wildlife use (I)
 Substantial: 1H 9H 8M 7M 3L 1L
 Moderate: 9H 8M 7M 3L 2L 1L
 Minimal: 9H 8M 7M 3L 2L 1L

14F. Rating: Use the conditions from I above and the matrix below to arrive at (circle) the functional points and rating:
 Evidence of wildlife use (I)
 Substantial: 1H 9H 8M 7M 3L 1L
 Moderate: 9H 8M 7M 3L 2L 1L
 Minimal: 9H 8M 7M 3L 2L 1L

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Telluride Valley Floor 2. Project #: 300-081 Control #: EC
 3. Evaluation Date: No. 9 Day 11 Year 02 4. Evaluator(s): Krzysztof Krzyzdzko 5. Wetland Site #s: WA-5
 6. Wetland Location(s): I. Legal: T 43 00 S; R 9 E of AA 3 N or S, P, E or W, S
 II. Approx. Stationing or Milepost: 1.5 miles west of Telluride
PSS/BBN Complex, 800 S. State St. Telluride, CO
 III. Watershed: 17 03 00 03 Upper Colorado - Balcones, San Miguel Watershed Name, County: Upper Colorado - Balcones, San Miguel

7. a. Evaluating Agency: _____ 8. Wetland size: (total acres) 7.80 (visually estimated)
 b. Purpose of Evaluation: _____ 9. Assessment area (AA): (acres, (visually estimated)
 1. Wetlands potentially affected by MDT project see instructions on determining AA) 7.80 (measured, e.g. by GPS (if applies))
 2. Mitigation wetlands: pre-construction
 3. Mitigation wetlands: post-construction
 4. Other _____

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Bibson)	Class	Modifier (Coverdn)	Water Regime	% of AA	Abbreviations: (see manual for definitions)
D	REM	SI	TE	10%	HGM Classes: Riverine (R), Depositional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF).
D	PSS	TE	TE	90%	Coverdn Classes: Rock bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-Screen Wetland (MS), Emergent Wetland (EM), Scum-Shrub Wetland (SS), Freshwater Wetland (FW), Modified: Excavated (E), Impounded (I), Diked (D), Paddy Drained (PD), Fanned (F), Artificial (A) Water Regimes: Permanent / Perennial (PP), Seasonal / Intermittent (SI), Temporary / Epheermal (TE)

11. Estimated relative abundance: (if similarly classified sites within the same Major Montana Watershed basin, see definition.)
 (Circle one) Unknown Abundant Common

12. General condition of AA:
 I. Disturbance: (use matrix below to determine [circled] appropriate response - see instructions for Montana-tiled roudous weed and aquatic nuisance vegetation species: (ANVS) (NVS))
 Pre-dominant conditions adjacent to within 500 feet of AA

Conditions within AA	Managed to predominantly natural state: (land not cultivated, bar not mowed, etc.)	Land not cultivated, bar not mowed, etc. (land not cultivated, bar not mowed, etc.)	Land cultivated or mowed/grazed or irrigated, etc. (land cultivated or mowed/grazed or irrigated, etc.)
low disturbance	low disturbance	low disturbance	low disturbance
moderate disturbance	moderate disturbance	moderate disturbance	moderate disturbance
high disturbance	high disturbance	high disturbance	high disturbance

13. Structural Diversity: (based on number of Coverdn vegetated classes present for not include unvegetated classes, see #10 above) 1
 Existing # of "Coverdn" Vegetated Classes in AA: 1
 23 (or 2 if 1 is forested) classes
 1 class, monoculture (1 species comprises 20% of total cover)
 Comments: AA is dominated by a single species, PIP, which is a monoculture. The AA is dominated by a single species, PIP, which is a monoculture. The AA is dominated by a single species, PIP, which is a monoculture.

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:
 AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat D S
Canada Lynx (Migratory)

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in 14A above)
 AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat D S
Bald Eagle, Golden Eagle, Peregrine Falcon, Black Swift

14C. General Wildlife Habitat Rating:
 Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (based on any of the following [check]):
 - observations of abundant wildlife as or high species diversity (during any period)
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (based on any of the following [check]):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA
 Minimal (based on any of the following [check]):
 - few or no wildlife observations during peak use periods
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

Highest Habitat Level	High	Moderate	Low
S1 Species:	1H	2M	3L
Functional Points and Rating	1H	2M	3L
S2 and S3 Species:	4H	5M	6L
Functional Points and Rating	4H	5M	6L

14D. Rating (Use the conclusions from I and above and the matrix below to arrive at [circled] the functional points and rating)
 Sources for documented use (e.g. observations, records, etc.):

Highest Habitat Level	High	Moderate	Low
Functional Points and Rating	1H	2M	3L

14E. Rating (Use the conclusions from I and above and the matrix below to arrive at [circled] the functional points and rating)
 Sources for documented use (e.g. observations, records, etc.):

Highest Habitat Level	High	Moderate	Low
Functional Points and Rating	1H	2M	3L

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S):

WA-5

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		
B. MT Natural Heritage Program Species Habitat	L	1	1		
C. General Wildlife Habitat	L	3	1		*
D. General Fish Habitat	NA	-	-		
E. Flood Attenuation	NA	-	-		
F. Short and Long Term Surface Water Storage	L	2	1		
G. Sediment/Nutrient/Toxicant Removal	H	1	1		*
H. Sediment/Shoreline Stabilization	NA	-	-		
I. Production Export/Food Chain Support	M	5	1		*
J. Groundwater Discharge/Recharge	M	4	1		*
K. Uniqueness	L	1	1		
L. Recreation/Education Potential (bonus points)	H	2	NA		
Totals:		29	8	227.80	
Percent of Possible Score			36%	27.62	

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
 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 Fish Habitat; or
 "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; 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: (circle appropriate category based on the criteria outlined above) I II **III** IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Palumbo Valley Floor 2. MDT Project #: 300-081 Control #: WA-6
 3. Evaluation Date: 9 Day, 11 Mo, 08 Year 4. Evaluator(s): Krzysztof 5. Wetland/site #(s): WA-6
 6. Wetland Location(s): N 43° 15' 00" W, E of W.S. 033
 7. Approx. Stationing or Mileposts: 1.5 miles northwest portion of 55th St. PFO tailings
 8. Watershed: 19030002 Watershed Name: Upper Colorado - Dolores San Miguel

7. a. Evaluating Agency: _____ 8. Wetland size: (total acres) 17.79 (visually estimated)
 b. Purpose of Evaluation: 1. Wetlands potentially affected by MDT project 9. Assessment area (AA): (acres, measured, e.g. by GPS [if applies])
2. Mitigation wetlands; pre-construction see instructions on determining AA) 17.79 (visually estimated)
3. Mitigation wetlands; post-construction
4. Other: _____

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Binson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
WSE	PFO	~	SI	100%

Abbreviations: (see manual for definitions)
 HGM Classes: Riverine (R), Depositional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF),
 Cowardin Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Emergent Wetland (EM), Scud Moss (MS), Emergent Wetland (EM), Shrub Wetland (SW), Forested Wetland (FO),
 Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Diked (PD), Famed (F), Artificial (A)
 Water Regimes: Permanent/Perennial (PP), Seasonal/Intermittent (SI), Temporary/Ephemeral (TE)
 (Circle one) Rate Common Abundant

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)
 (Circle one) Rate Unknown

12. General condition of AA:
 I. Disturbance: (use matrix below to determine [circle] appropriate response - see instructions for Montana listed noxious weed and aquatic nuisance vegetation species (ANVS) lists)

Conditions within AA	Prevalent conditions adjacent to (within 500 feet of) AA
AA occurs and is managed in predominantly natural state; it not grazed, hayed, logged, or otherwise converted; does not contain roads or other buildings; and noxious weed or ANVS covers less than 5% of the area.	Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or other buildings; and noxious weed or ANVS cover is < 5%.
AA not converted, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is 5-20%.	Land not cultivated, but may be moderately grazed or hayed or otherwise logged; or contains few roads or buildings; noxious weed or ANVS cover is 5-20%.
AA not converted, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is 20-35%.	Land not cultivated, but may be moderately grazed or hayed or otherwise logged; or contains few roads or buildings; noxious weed or ANVS cover is 20-35%.
AA not converted, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is > 35%.	Land not cultivated, but may be moderately grazed or hayed or otherwise logged; or contains few roads or buildings; noxious weed or ANVS cover is > 35%.

Comments: (types of disturbance, intensity, season, etc.)
Wetland is in a good condition, but there is some disturbance from nearby agriculture and roads.
 II. Prominent noxious, aquatic nuisance, & other exotic vegetation species:
None
 III. Provide brief descriptive summary of AA and surrounding land use/habitat:
Wetland is in a good condition, but there is some disturbance from nearby agriculture and roads.

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

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

Comments: Wetland is in a good condition, but there is some disturbance from nearby agriculture and roads.
If there is some disturbance from nearby agriculture and roads, but the wetland is still in a good condition, it is in a good condition.
Disturbance is visible in a better capacity for maintenance, this is in a good condition.

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in Instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) S
 No usable habitat

Canada Lynx (Felis concolor)

ii. Rating (use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	doctrimary	sustprimary	docssecondary	sustsecondary	doctrincidental	sustincidental	None
Functional Points and Rating	1H	9H	8M	7M	3L	1L	0L

Sources for documented use (e.g. observations, records, etc.):

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in Instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) S
 No usable habitat

Bald Eagle Golden Eagle Black Bear

ii. Rating (use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	doctrprimary	sustprimary	docssecondary	sustsecondary	doctrincidental	sustincidental	None
Functional Points and Rating	1H	8H	7M	6M	2L	1L	0L
S1 Species:							
S2 and S3 Species:	9H	7M	6M	5M	2L	1L	0L

Sources for documented use (e.g. observations, records, etc.):

14C. General Wildlife Habitat Rating:

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

Sustentable (based on any of the following (check)):
 - observations of abundant wildlife as of _____
 - abundant wildlife sign such as tracks, tracks, nest structures, game trails, etc.
 - presence of extremely similar habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA

Moderate (based on any of the following (check)):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources

Low (wildlife habitat features (Working from top to bottom, circle appropriate AA attribute in matrix to arrive at rating. Structural diversity is from #13. For class cover to be adequate or strong, the total wetland percent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Absence of for surface water features as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/temporal; and A = assist (see instructions for further definitions of these terms).)

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

iii. Rating (use the conclusions from I and II above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife use (i)	Wildlife habitat features rating (ii)			
Substantial	TE	9H	8H	7M
Moderate	9H	9H	5M	3L
Minimal	6M		4M	2L

Comments:

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "recoverable" such that the AA could be used by fish (i.e., fish use is precluded by perched culvert or other barrier, etc.). If the AA is not used by fish, (S) is the most reasonable due to habitat constraints, or is not determined from a management perspective (such as fish entrapment in a canal), then circle **NA** here and proceed to 14E).

Type of Fishery: Cold Water (CW) _____ Warm Water (WW) _____ Use the CW or WW guidelines in the user manual to complete the matrix

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

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

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

a) Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)
 b) Use of the AA significantly reduced by a current, direct or indirect barrier or structure of activity or is the watershed included on the current fish or wildlife management plan? Y N
 c) 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 II above.

iii. Final Score and Rating: _____ Comments:

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

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

Estimated or Calculated Entrenchment Ratio (Kosonen 1994, 1998)	Slightly entrenched - C	Moderately entrenched - D	Entrenched - A, F
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	9H	8H
AA contains unrestricted outlet	9H	8H	7M
Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-pore width)/(bankfull width)			
Flood-pore width - estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.			



Flood-pore width	Bankfull width	Entrenchment ratio
ER = >2.2 <td>ER = 1.41 - 2.2 <td>ER = 1.0 - 1.4 </td></td>	ER = 1.41 - 2.2 <td>ER = 1.0 - 1.4 </td>	ER = 1.0 - 1.4
Slightly Entrenched	Moderately Entrenched	Entrenched
C stream type	D stream type	B stream type
E stream type	A stream type	F stream type
G stream type		

ii. Are ≥10 acres of wetland in the AA subject to flooding AND are non-rare features which may be significantly damaged by flood, located within 0.5 mile upstream of the AA (circle) Y N Comments: Low

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, circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. Absence of for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/temporal (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
Valleys in AA flood or pond 5 out of 10 years	P/P	S/I	T/E
Wetlands in AA flood or pond < 5 out of 10 years	9H	8H	7M

Comments:

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): WA-6

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: Points x Estimated AA (Acres)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.2	1		
B. <input checked="" type="checkbox"/> Natural Heritage Program Species Habitat	L	0.2	1		
C. General Wildlife Habitat	L	0.1	1		
D. General Fish Habitat	NA	N/A			
E. Flood Attenuation	M	0.5	1		*
F. Short and Long Term Surface Water Storage	L	0.3	1		*
G. Sediment/Nutrient/Toxicant Removal	L	0.2	1		
H. Sediment/Shoreline Stabilization	L	0.2	1		
I. Production Export/Food Chain Support	M	0.4	1		
J. Groundwater Discharge/Recharge	M	0.7	1		
K. Uniqueness	L	0.2	1		*
L. Recreation/Education Potential (Bonus points)	H	0.2	1		*
Totals:		3.0	10	30.0%	
Percent of Possible Score				53.3%	

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 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 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 II)
 "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: (circle appropriate category based on the criteria outlined above) I II III **IV**

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Telluride Valley Floor 2. EPC Project #: 300-081 Control #: WA-5
 3. Evaluation Date: 9 Day 11 2002 4. Evaluator(s): Krzysztof Krzyzdzko 5. Wetland Site #s: WA-6
 6. Wetland Location(s): Legal: T 43N R 9E of M 3
II. Approx. Stationing or Milepost: (use section markers)
PSS/BBPA Campground on side of road on the road
 III. Watershed: 170330003 Watershed Name, County: Upper Colorado - Blacks, San Miguel

7. a. Evaluating Agency: _____ 8. Wetland size: (total acres) 7.80 (visually estimated) (measured, e.g. by GPS if applies)
 b. Purpose of Evaluation:
 1. Wetlands potentially affected by MDT project
 2. Mitigation wetlands: pre-construction
 3. Mitigation wetlands: post-construction
 4. Other: NA

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Bismuth)	Class	Modifier (Coverdn)	Water Regime	% of AA
D	DEW	REW	SI	10%
D	PSS	TE	QDM	

Abbreviations: (see manual for definitions)
 HGM Classes: Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF).
 Coverdn Classes: Rock Bottom (RB), Unconsolidated Bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-Screen Wetland (MS), Emergent Wetland (EM), Sand-Shrub Wetland (SS), Freshwater Wetland (FW), Sand-Drainage (SD), Fanned (F), Artificial (A)
 Water Regimes: Permanent / Perennial (PP), Seasonal / Intermittent (SI), Temporary / EpheMERAL (TE)

11. Estimated relative abundance (of similarly classified sites within the same Major Montana Watershed Basin, see definition).
 (Circle one) Unknown Rare Common **Abundant**

12. General condition of AA:
 I. Disturbance: (use matrix below to determine (circle) appropriate response for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) (NVS))

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA
AA occurs and is managed to predominantly natural state; to not graze, mow, dig, or otherwise compact, clear the canopy, or remove debris; and noxious weed or ANVS cover is 5.0%.	Managed to predominantly natural state; no grazing, mowing, digging, or otherwise compact, clear the canopy, or remove debris; and noxious weed or ANVS cover is 5.0%.
AA not cultivated, but may be moderately grazed or mowed or otherwise compact, clear the canopy, or remove debris; and noxious weed or ANVS cover is 5.0%.	Land not cultivated, but may be moderately grazed or mowed or otherwise compact, clear the canopy, or remove debris; and noxious weed or ANVS cover is 5.0%.
AA cultivated or heavily grazed or mowed, or otherwise compact, clear the canopy, or remove debris; and noxious weed or ANVS cover is 5.0%.	Land cultivated or heavily grazed or mowed, or otherwise compact, clear the canopy, or remove debris; and noxious weed or ANVS cover is 5.0%.

13. Structural Diversity: (based on number of Coverdn vegetated classes present for not include unvegetated classes; see #10 above) 3
 I. Provide brief descriptive summary of AA and surrounding land use/habitat:
AA is a small area of wetland with a small stream flowing through it. The stream is a tributary of the Telluride River. The wetland is located on the side of the road. The stream is a small stream and the wetland is a small wetland.
 II. Fragmentation, riparian habitat, or other special vegetation species:
None
 III. Provide brief descriptive summary of AA and surrounding land use/habitat:
AA is a small area of wetland with a small stream flowing through it. The stream is a tributary of the Telluride River. The wetland is located on the side of the road. The stream is a small stream and the wetland is a small wetland.

Existing # of "Coverdn" Vegetated Classes in AA

Rating	Initial	Final	Modified Rating
3 (or 2 if 1 is forested) classes	3	3	3
1 class, but not a monoclinal	1	1	1

Comments: _____

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S
Canada Lynx (Lynx canadensis)

ii. Rating (Use the conclusions from i above and the matrix below to arrive at (circle) the functional points and rating)

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

Sources for documented use (e.g. observations, records, etc.):

14B. Habitat for plant or animals rated \$1, \$2, or \$3 by the Montana Natural Heritage Program: (not including species listed in 14A above)

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S
Bald Eagle, Golden Eagle, Herring Gull, Black Swift

ii. Rating (Use the conclusions from i above and the matrix below to arrive at (circle) the functional points and rating)

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

Sources for documented use (e.g. observations, records, etc.):

14C. General Wildlife Habitat Rating:

Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (based on any of the following (check)):
 - observations of abundant wildlife or high species diversity (during any period)
 - presence of extremely thriving habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (based on any of the following (check)):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA
 Low (based on any of the following (check)):
 - few or no wildlife observations during peak use periods
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; SI = seasonal/intermittent; TE = temporary/ephemeral; and A = absent (see instructions for further definitions of these terms)

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

iii. Rating (Use the conclusions from i and ii above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife use (i)	Exceptional			High			Moderate			Low		
	1E	9H	8M	7M	6M	5M	4M	3L	2L	1L	0L	
Substantial												
Moderate												
Incidental												
None												

Comments:

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

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

Segment, 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.			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.		
	≥ 70%	< 70%	≥ 70%	< 70%	≥ 70%	< 70%
% cover of wetland vegetation in AA	Yes	No	Yes	No	Yes	No
Evidence of flooding/ponding in AA	1H	9H	7M	5M	3L	2L
AA contains no or restricted outlet	1H	9H	7M	5M	3L	2L
AA contains unrestricted outlet	3L	2L	1L	0L	0L	0L

Comments: NOA required for wetlands from 2004 (BSE Act) but most sediment flows reduced due to riparian wetlands water body by 1970s. No sediment stabilization. (Applies only if AA occurs on or within the banks of 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, circle N/A here and proceed to 14I.)

ii. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating)

% Cover of wetland streambank or shoreline by species with stability ratings of 5+ (see Appendix F)	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
	1H	9H	7M	3L	2L	1L	0L		
≥ 65%									
35-64%									
< 35%									

Comments:

14I. Production Export/Food Chain Support:

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

ii. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. Factor A = average 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, SI, and TE 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			
	High	Moderate	Low	High	Moderate	Low	High	Moderate	Low	
B	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
C	1H	7M	8H	5M	6M	4M	9H	5M	3L	2L
P/P	1H	7M	8H	5M	6M	4M	9H	5M	3L	2L
SI	9H	6M	7M	4M	5M	3L	8H	5M	3L	2L
TE/A	9H	6M	7M	4M	5M	3L	8H	5M	3L	2L
A	8H	5M	6M	3L	4M	2L	7M	4M	3L	2L

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1). Vegetated Upland Buffer (VUB): Area with ≥ 30% plant cover, ≥ 15% non-woody herbaceous cover, and that is not subjected to periodic mechanical mowing (unless deemed exempt). If there is an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference? Y (N = No, Y = Yes, add 0.1 to the score in II above and adjust rating accordingly)

iv. Final Score and Rating: SW Comments:

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

- i. Discharge Indicators
 - The AA is a slope wetland
 - Springs or seeps are known or observed
 - Vegetation growing during dormant seasons/drought
 - Wetland occurs at the toe of a natural slope
 - Seeps are present at the wetland edge
 - AA permanently flooded during drought periods
 - Wetland contains an outlet, but no inlet
 - Shallow water table and the site is saturated to the surface
- ii. Recharge Indicators
 - Permeable substrate present without underlying impeding layer
 - Wetland contains field but no outlet
 - Stream is a known down stream; discharge volume decreases
 - Other: Wetland is a basin (no outlet) with a known down stream; discharge volume decreases from a known stream + outflows under local camp in drier years so recharge is important during high floods + groundwater table

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

Type of Fishery: Cold Water (CW) _____ Warm Water (WW) _____ Use the CW or WW guidelines in the user manual to complete the matrix

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

Sources used for identifying fish sp. potentially found in AA:
 I. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)
 a) Use the AA's significance / FWDI for the current date of pond/riparian structure or activity, or is the watershed included on the current final FWDI?
 b) Is the AA's significance / FWDI for the current date of pond/riparian structure or activity, or is the watershed included on the current final FWDI?
 c) Do aquatic nuisance plants or animal species (see Appendix E) occur in fish habitat? Y/N If yes, reduce score in 1 below by 0.1.
 d) 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 1 or the above.

Final Score and Rating: _____ Comments: _____

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

Estimated or Calculated Entrenchment Ratio (ER) (Kosonen 1994, 1996)	Slightly entrenched - C		Moderately entrenched - D		Entrenched - A, F, G stream types	
	D stream type	B stream type	D stream type	B stream type	D stream type	B stream type
% of flooded wetland classified as forested and/or scrub/shrub	75%	<25%	25-75%	<25%	75%	<25%
AA contains no outlet or restricted outlet	1H	1H	2H	2H	3L	3L
AA contains unrestricted outlet	9H	8H	7M	6M	5M	4M
Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (inlet-pore width)/(bankfull width)	9H	8H	7M	6M	5M	4M
Flood-pore width - estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the topsoil on each side of the stream.	9H	8H	7M	6M	5M	4M



C stream type	D stream type	E stream type	B stream type	Entrenched	
				F stream type	G stream type
ER = >2.2	ER = >2.2	ER = >2.2	ER = 1.41 - 2.2	ER = 1.0 - 1.4	ER = 1.0 - 1.4

iii. Final Score and Rating: _____ Comments: _____

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

14F. Short-term Outflow from 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, circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] 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/epimeral [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

Duration of surface water at wetlands within the AA

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

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

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

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. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			Wetbody on MDC list of waterbodies in need of sediment, nutrients, or toxicant 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.		
	> 70%	< 70%	< 70%	> 70%	< 70%	< 70%
% cover of wetland vegetation in AA	Yes	No	Yes	No	Yes	No
Evidence of flooding / ponding in AA	1H	9H	7M	6M	5M	4M
AA contains no or restricted outlet	1H	9H	7M	6M	5M	4M
AA contains unrestricted outlet	9H	8H	7M	6M	5M	4M
Comments: <u>Wetland does not receive sediment, nutrients, or toxicants from surrounding land use. Wetland is not on MDC list of waterbodies in need of sediment, nutrients, or toxicant.</u>	9H	8H	7M	6M	5M	4M
14H Sediment/Stormwater Storage: (Applies only to wetlands on or within the banks of 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, circle NA here and proceed to 14I.)	9H	8H	7M	6M	5M	4M

Final Score and Rating: 9H Comments: _____

14I. Production Export/food Chain Support:

General Fish Habitat Rating (4AD JII)	Permanent / Perennial			Seasonal / Intermittent			Temporary / Epimeral		
	A	B	C	A	B	C	A	B	C
EH	H	H	M	H	M	M	H	M	M
M	H	H	M	H	M	M	H	M	M
L	H	H	M	H	M	M	H	M	M
NA	H	H	M	H	M	M	H	M	M

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland; Factor B = % cover of SAV/S cover, and that is not subject to periodic mechanical mowing or clearing (unless A weed control); Factor C = substrate 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		
	High	Moderate	Low	High	Moderate	Low	High	Moderate	Low
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes
B	1H	7M	8H	6M	4M	7M	4M	5M	3L
D	9H	8H	7M	6M	5M	4M	3L	2L	1L
S/I	9H	8H	7M	6M	5M	4M	3L	2L	1L
T/E	9H	8H	7M	6M	5M	4M	3L	2L	1L
A	9H	8H	7M	6M	5M	4M	3L	2L	1L

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) Vegetated Upland Buffer (VUB): Area with > 30% plant cover, > 5% SAV/S cover, and that is not subject to periodic mechanical mowing or clearing (unless A weed control). If yes, add 0.1 to the score in ii above and adjust rating accordingly.

Final Score and Rating: 9H Comments: _____

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

i. Discharge indicators		ii. Recharge indicators	
AA is a slope wetland	_____	Permeable substrate present without underlying impeding layer	_____
Springs or seeps are known or observed	_____	Wetland contains met 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	_____		

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

Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix.

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

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

Source: User to identify fish species found in AA. If no fish species are identified, circle '1' or '2' (or the less than 0.1). All fish species in the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the watershed included on the current final MDEC list of watersheds 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 1 above by 0.1.

d) 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 1 or 2a above.

iii. Final Score and Rating: _____ Comments: _____

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

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

Estimated or Calculated Entrenchment (Rosson 1994, 1996)	Slightly entrenched - C	Moderately entrenched - D	Entrenched - A, F	G stream types
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%	<25%
AA contains no outlet or restricted outlet	1H	.9H	.8H	.7M
Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/bankfull width. Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.	.9H	.8H	.7M	.6M



C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type
ER = >2.2			ER = 1.41 - 2.2		ER = 1.0 - 1.4	

ii. Are 3-10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by flood located within 0.5 mile downstream of the AA (circle)? 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, circle **NA** here and proceed to 14G.)

1. Rating (Working from top to bottom, use the matrix below to arrive at circle the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial, S/S = 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	P/P	S/S	T/E	P/P	S/S	T/E
Wetlands in AA flood or pond 5 out of 10 years	1H	.9H	.8H	.7M	.6M	.5M
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.6M	.5M	.4M

Comments: _____

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

1. Rating (working from top to bottom, use the matrix below to arrive at circle the functional points and rating (H = High, M = moderate, or L = Low))

AA receives or surrounds land use with potential to deliver levels of sediments, nutrients, or compounds at levels such that other functions are not substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.	≥ 70%	< 70%	≥ 70%	< 70%
Evidence of flooding/ponding in AA	1H	.9H	.7M	.6M
AA contains no or restricted outlet	.9H	.8H	.7M	.6M
AA contains unrestricted outlet	.8H	.7M	.6M	.5M

14H. Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks of 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, circle **NA** here and proceed to 14I.)

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

% Cover of <i>Myrica</i> streambank or shoreline by species with stability ratings of 20 (see Appendix F)	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
≥ 65%	1H	.9H	.7M
35-64%	.7M	.6M	.5M
< 35%	.3L	.2L	.1L

Comments: _____

14I. Production Export/food Chain Support:

1. Level of Biological Activity (synthesis of wildlife and fish habitat ratings (circle))

General Fish Habitat Rating (14D.III)	EH	H	M	L
EH	H <td>H <td>M <td>M</td> </td></td>	H <td>M <td>M</td> </td>	M <td>M</td>	M
M	H <td>M <td>M <td>M</td> </td></td>	M <td>M <td>M</td> </td>	M <td>M</td>	M
L	M <td>M <td>M <td>M</td> </td></td>	M <td>M <td>M</td> </td>	M <td>M</td>	M
NA	H	H	M	L

ii. Rating (working from top to bottom, use the matrix below to arrive at circle the functional points and rating. Factor A = average 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/S, and T/E are as previously defined, and A = "absent" (see instructions for further definitions of these terms).)

A	High	Moderate	Low	High	Moderate	Low	High	Moderate	Low
B	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
P/P	1H	.7M	.9H	.6M	.4M	.9H	.6M	.8M	.4M
S/S	.9H	.6M	.7M	.4M	.5M	.8H	.5M	.6M	.3L
T/E	.8H	.5M	.6M	.4M	.5M	.7M	.4M	.5M	.2L
A	.5M	.6M	.3L	.4M	.7M	.4M	.5M	.4M	.2L

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with ≥ 30% plant cover, ≥ 5 ft in elevation above the water table, and that is not subject to periodic mechanical mowing or clearing unless it is a forested wetland. If the VUB is present, circle the modified rating around a 75% of the AA circumference. Y N If yes, add 0.1 to the score in ii above and adjust rating accordingly. _____

iv. Final Score and Rating: _____ Comments: _____

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

- I. Discharge indicators
- The AA is a slope wetland
 - Springs or seeps are known or observed
 - Vegetation growing during dormant season/drought
 - Wetland occurs at the toe of a natural slope
 - Seeps are present at the wetland edge
 - AA permanently flooded during drought periods
 - Wetland contains an outlet, but no inlet
 - Shallow water table and the site is saturated to the surface
 - Other: _____
- ii. Recharge indicators
- Permeable substrate present without underlying impeding layer
 - Wetland contains inlet but no outlet
 - Stream is a known using stream; discharge volume decreases
 - Other: _____

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Telluride Valley Her 2. FWS Project #: 300-081 Control #: WA-8
 3. Evaluation Date: 9 Day 11 Yr. 08 4. Evaluator(s): E. Ebers 5. Wetlands/State(s): WA-8
 6. Wetland Location(s): I. Legal: T43 Or S: R E: 0 S: 33 N or S: R E: W S: 9
 II. Approx. Spotting or Mileposts: Northern River and abutting wetlands
Coastal Seaside
 III. Watershed: T43030205 Watershed Name: Upper Colorado - Dolores, San Miguel

7. a. Evaluating Agency: _____ 8. Wetland size: (total acres) 9.49 (measured, e.g. by GPS (if applied))
 b. Purpose of Evaluation: _____ 9. Assessment area (AA): (dates, see instructions on determining AA) 9.49 (measured, e.g. by GPS (if applied))
 1. Wetlands potentially affected by MDT project
 2. Mitigation wetlands: pre-construction
 3. Mitigation wetlands: post-construction
 4. Other: _____

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Bifurcated)	Class (Covardin)	Modifier (Covardin)	Water Regime	% of AA	HGM Classes: R (Riverine), Depositional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF)
R	RUB		PP	19%	Covardin Classes: Rock bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)
R	PEN		SI	38%	Modifiers: Excavated (E), Impounded (I), Diked (D), Parly-Diked (PD), Fanned (F), Artificial (A)
R	SS		SI	30%	Water Regimes: Permanent/Perennial (P), Seasonal/Intermittent (SI), Temporary/Ephemeral (TE)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions) Common
 (Circle one) Unknown Rare Abundant

12. General condition of AA: _____
 I. Disturbance: (Use matrix below to determine [circle] appropriate response - see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) lists)

Conditions within AA	Predominant conditions adjacent to within 500 feet of AA
AA occurs and is managed in predominantly natural state, is not grazed, logged, or otherwise converted; does not contain rocks or scattered buildings; and noxious weed or ANVS cover is < 5%.	Managed in predominantly natural state, is not grazed, logged, or otherwise converted; does not contain rocks or scattered buildings; and noxious weed or ANVS cover is < 5%.
AA is cultivated, but not for noxious weed or ANVS cover; or selectively logged; or has been subject to relatively minor clearing, if placement or hydrological alteration contains few rocks or buildings; noxious weed or ANVS cover is < 50%.	Land not cultivated, but may be moderately grazed or logged or selectively logged; or has been subject to relatively minor clearing, if placement or hydrological alteration contains few rocks or buildings; noxious weed or ANVS cover is < 50%.
AA contains or has been grazed or logged; subject to relatively minor clearing, if placement or hydrological alteration contains few rocks or buildings; noxious weed or ANVS cover is < 50%.	Land not cultivated, but may be moderately grazed or logged or selectively logged; or has been subject to relatively minor clearing, if placement or hydrological alteration contains few rocks or buildings; noxious weed or ANVS cover is < 50%.

Comments: (Types of disturbance, intensity, season, etc.) Portion S, M, river stream channel and lower floodplain from SP 14 to merge
Portion S, M, river stream channel and lower floodplain from SP 14 to merge
 II. Prominent noxious, aquatic nuisance, & other exotic vegetation species: not much but some thistle
 III. Provide brief descriptive summary of AA and surrounding land use/habitat: AA is a riparian area with a mix of wetland and upland habitats. The surrounding area is mostly agricultural and residential. The AA is a mix of wetland and upland habitats, including emergent wetlands, shrub wetlands, and forested wetlands.
 13. Structural Diversity: (based on number of Covardin vegetated classes present (do not include unvegetated classes); see #10 above) adjacent

Existing # of "Covardin" Vegetated Classes in AA	Initial Rating	Is current management preventing classes?	Modified Rating
23 (or 21 if forested classes)	H	NA	NA
2 (or 1 if forested classes)	M	NA	NA
1 class, but not a monoculture	L	NA	NA

1 class, monoculture (1 species comprises >50% of total cover)

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 (circle one based on definitions contained in instructions):
 Primary habitat (list species) _____
 Secondary habitat (list species) _____
 Incidental habitat (list species) _____
 No usable habitat _____
 II. Rating (use the conclusions from I above and the matrix below to arrive at [circle] the functional points and rating)
 Highest Habitat Level: doc Functional Points and Rating: 1H 9H 9M 7M 3L 1L 0L
 Sources for documented use (e.g. observations, records, etc): _____

14B. Habitat for Plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in 14A above)
 I. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) _____
 Secondary habitat (list species) _____
 Incidental habitat (list species) _____
 No usable habitat _____
 II. Rating (use the conclusions from I above and the matrix below to arrive at [circle] the functional points and rating)
 Highest Habitat Level: doc Functional Points and Rating: 1H 8H 7M 6M 2L 1L 0L
 Sources for documented use (e.g. observations, records, etc): Bald Eagle, Golden Eagle, Ferruginous Hawk, Black Swift

14C. General Wildlife Habitat Rating:
 I. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (based on any of the following [check]):
 - observations of abundant wildlife signs or high species diversity (during any period)
 - abundant wildlife signs such as scat, tracks, nest structures, game trails, etc.
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (based on any of the following [check]):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife signs such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA
 Minimal (based on any of the following [check]):
 - few or no wildlife observations during peak use periods
 - little to no wildlife signs
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

II. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water duration are as follows: P/P = permanent/perennial; SI = seasonal/intermittent; TE = temporary/ephemeral; and A = absent (see instructions for further definitions of these terms).
 Structural diversity (see #13)

Class cover distribution (all vegetated classes)	Even			Unknown			Moderate			Low		
	Even	High	Low	Even	High	Low	Even	High	Low			
Duration of surface water in > 10% of AA	PIP	SI	TE	PIP	SI	TE	PIP	SI	TE	PIP	SI	TE
Low disturbance at AA (see #12)	E	E	E	H	E	H	M	E	H	M	E	H
Moderate disturbance at AA (see #12)	H	H	H	M	H	M	L	M	L	M	L	L
High disturbance at AA (see #12)	M	M	M	L	M	L	M	L	L	M	L	L

III. Rating (Use the conclusions from I and II above and the matrix below to arrive at [circle] the functional points and rating)
 Evidence of wildlife use (I)

Substantial	Exponential			High			Moderate			Low		
	Substantial	Moderate	Minimal									
Substantial				1E	8H	7M	2L	1L	0L			
Moderate				5H	7M	3L	2L	1L	0L			
Minimal				6M	4M	2L	1L	0L				

Comments: primarily PEM

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

Type of Fishery: Cold Water (CW) / Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

Duration of surface water in AA	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
	Optimal	Adequate	Poor	Optimal	Adequate	Poor	Optimal	Adequate	Poor
Aquatic sedge/ emergent/ Therapeutic/ emergent/ / subaquatal	O	S	O	S	O	S	O	S	O
FMP Tier II or Native Game fish species	1E	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L
FMP Tier III or Introduced Game fish	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
FMP Non-game Tier IV or No fish species	.5M	.5M	.5M	.4M	.4M	.4M	.3L	.2L	.1L

141. 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 MDEC list of waterbodies in need of TMDL development with listed "Probable Impaired Usage" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plants or animal species (see Appendix E) occur in fish habitat? **YN** If yes, reduce score in 1 above by 0.1.
 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 aquatic score in 1 or the above.
 c) **Very shallow channel, eroding, Very little thermal cover, etc.**

142. Final Score and Rating: **3M**
 Comments: **Very shallow channel, eroding, Very little thermal cover, etc.**

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

Flood-prone width	Bankfull width	Entrenchment ratio (ER)	2 x Bankfull Depth		Bankfull Depth		Flood-prone Width	
			Bankfull Width	Bankfull Depth	Bankfull Width	Bankfull Depth		
Stagnant/Entrenched	ER = 2-2.2							
D stream type								
E stream type								
Moderately Entrenched	ER = 1.41 - 2.2							
B stream type								
A stream type								
Entrenched	ER = 1.0 - 1.4							
F stream type								
G stream type								

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, circle **NA** here and proceed to 14G.)

1. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Advise/notes for surface water durations are as follows: PIP = permanent/perennial; ST = seasonal/intermittent; and TIE = temporary/ephemeral (see instructions for further definitions of these terms).
 Estimated maximum acre feet of water contained in wetlands: **1.1 to 5 acre feet**
 Estimated maximum acre feet of water contained in wetlands: **1.1 to 5 acre feet**
 Estimated maximum acre feet of water contained in wetlands: **1.1 to 5 acre feet**

Estimated maximum acre feet of water contained in wetlands	PIP	ST	TIE	PIP	ST	TIE	PIP	ST	TIE
1 to 5 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
5 to 10 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
10 to 25 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
25 to 50 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
50 to 100 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
100 to 250 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
250 to 500 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
500 to 1000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
1000 to 2500 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
2500 to 5000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
5000 to 10000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
10000 to 25000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
25000 to 50000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
50000 to 100000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
100000 to 250000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
250000 to 500000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
500000 to 1000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
1000000 to 2500000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
2500000 to 5000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
5000000 to 10000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
10000000 to 25000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
25000000 to 50000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
50000000 to 100000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
100000000 to 250000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
250000000 to 500000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
500000000 to 1000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
1000000000 to 2500000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
2500000000 to 5000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
5000000000 to 10000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
10000000000 to 25000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
25000000000 to 50000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
50000000000 to 100000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
100000000000 to 250000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
250000000000 to 500000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
500000000000 to 1000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
1000000000000 to 2500000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
2500000000000 to 5000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
5000000000000 to 10000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
10000000000000 to 25000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
25000000000000 to 50000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
50000000000000 to 100000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
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250000000000000 to 500000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
500000000000000 to 1000000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
1000000000000000 to 2500000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
2500000000000000 to 5000000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
5000000000000000 to 10000000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
10000000000000000 to 25000000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
25000000000000000 to 50000000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
50000000000000000 to 100000000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
100000000000000000 to 250000000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
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1000000000000000000000000000 to 2500000000000000000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
2500000000000000000000000000 to 5000000000000000000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
5000000000000000000000000000 to 10000000000000000000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
10000000000000000000000000000 to 250000000000000000000000000000 acre feet	.9H	.8H	.7M	.6M	.5M	.4M	.3L	.2L	.1L
2									

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Feltz Lake Valley Floor Project #: 300-081 Control #: WA-9
 2. Evaluation Date: 9 Day, 11 Yr, 08 & Evaluator(s): AFIERS 5. Wetland(s) #: WA-9
 6. Wetland Location(s): Legal: T 430 S R 9 E of 0 S 33 Nor S, R, E or W, S
IL Approx. Stationing Mileposts: 15.000 to 15.000 between 15.000 and 15.000
ISOLATED PEN PDS between 15.000 and 15.000
 III. Watershed: LH 03 02 03 Watershed Name: Upper Colorado - Palisade - Palisade San Miguel

7. a. Evaluating Agency: _____
 b. Purpose of Evaluation: _____
 1. Wetlands ordinarily affected by MDT project
 2. Mitigation wetlands: pre-construction
 3. Mitigation wetlands: post-construction
 4. Other: _____
 9. Assessment area (AA): (acres, see instructions on determining AA) 12.77 (visually estimated)
 10. Wetland size: (total acres) 12.77 (visually estimated)

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brenson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA	HGM Classes: Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF)
D	PEN		TE	42%	Cowardin Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Emergent Wetland (EM), Shrub Wetland (SS), Forested Wetland (FO)
	PSS		TE	58%	Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Diked (PD), Farmed (F), Artificial (A)

Abbreviations: (see manual for definitions)

11. Estimated relative abundance: (or similarly classified sites within the same Major Wetland Watershed Basin, see definitions) Common
 (Circle one) Unknown Rare Abundant

12. General condition of AA:
 I. Disturbance: (use matrix below to determine [circle] appropriate response - see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) lists)

Conditions within AA	Predominant conditions adjacent to within 500 feet of AA	AA occurs and is managed in predominantly natural state, is not grazed, hayed, logged, or otherwise converted, does not contain roads or occupied buildings, and noxious weed or ANVS cover is 4.0% or less, but may be moderately grazed or hayed or selectively logged, or has been subjected to relatively minor clearing, till placement, or hydrological alteration; contains few ANVS cover or noxious weed or ANVS cover is 5.0% or less	Land not cultivated, but may be moderately grazed or hayed or selectively logged, or has been subjected to minor clearing, contains few ANVS cover or noxious weed or ANVS cover is 5.0% or less	Land cultivated or heavily grazed or logged, subject to substantial till placement, grading, or other disturbance; contains many ANVS cover or noxious weed or ANVS cover is 5.0% or less
low disturbance	low disturbance	low disturbance	low disturbance	low disturbance
moderate disturbance	moderate disturbance	moderate disturbance	moderate disturbance	moderate disturbance
high disturbance	high disturbance	high disturbance	high disturbance	high disturbance

Comments: (types of disturbance, intensity, season, etc.): located on island primary disturbance from zebrans
Thistle oxeye daisy

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

Existing # of "Cowardin" Vegetated classes in AA	Initial Rating	Is current management preventing (assess) existence of additional vegetated classes?	Modified Rating
23 (or 2 if forested classes)	H	NA	NA
2 (or 1 if forested classes)	M	NO	NA
1 class, but not a macroalgae	M	NA	L
1 class, macroalgae 1 species comprises 250% of total cover	NA	NA	NA

Comments: composed of 21 taxa (pss) almost exclusively
PEN - junco's, carex, assorted grasses

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:
 AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary critical habitat (list species) _____
 Secondary critical habitat (list species) _____
 Incidental habitat (list species) _____
 No usable habitat _____
Canada (you forgot)

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

Functional Points and Rating	H1	9H	8M	7M	3L	sus/functional	None
Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
Functional Points and Rating	1H	9H	8M	7M	3L	1L	0L

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in 14A above)
 AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) _____
 Secondary habitat (list species) _____
 Incidental habitat (list species) _____
 No usable habitat _____
RALEIGH, Golden Eagle, Ring-necked Pheasant, Black Scaup

ii. Rating (use the conclusions from 1 above and the matrix below to arrive at [circle] the functional points and rating)

Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
S1 Species: Functional Points and Rating	1H	9H	8M	7M	3L	1L	0L
S2 and S3 Species: Functional Points and Rating	9H	7M	6M	5M	2L	1L	0L

14C. General Wildlife Habitat Rating:
 i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (based on any of the following [check]):
 - observations of abundant wildlife #s or high species diversity (during any period)
 - abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (based on any of the following [check]):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA
 Minimal (based on any of the following [check]):
 - few or no wildlife observations during peak use periods
 - little to no wildlife sign
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their seasonal/intermittent, TIE = temporary/intermittent, and A = absent (see instructions for further definitions of these terms))

Structural diversity (see #13)	Even			High			Moderate			Low		
	Even	Uneven	Even	Even	Uneven	Even	Even	Uneven	Even	Uneven	Even	
Class cover distribution (all vegetated classes)	PIP	SI	T/E	A	PIP	SI	T/E	A	PIP	SI	T/E	A
Duration of surface water in > 10% of AA	E	E	E	H	E	H	E	H	E	H	E	H
Low disturbance at AA (see #12)	H	H	H	H	H	H	H	H	H	H	H	H
Moderate disturbance at AA (see #12)	M	M	M	M	M	M	M	M	M	M	M	M
High disturbance at AA (see #12)	M	M	M	M	M	M	M	M	M	M	M	M

iii. Rating (use the conclusions from 1 and 2 above and the matrix below to arrive at [circle] the functional points and rating)

Evidence of wildlife use (i)	Exceptional	High	Moderate	Low
Substantial	9H	8M	7M	3L
Moderate	9H	8M	7M	3L
Minimal	9M	8M	7M	3L

Comments: _____

140. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to regenerate sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed to 141.)

Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)	AA receives or surrounding land use with potential to deliver at levels such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.		Wetlands on MDEQ list of wetlands in need of delivery of sediment, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.	
	1H	1M	2H	2M
% cover of wetland vegetation in AA	≥ 70%	Yes	< 70%	Yes
Evidence of flooding/poaching in AA	1H	2H	1M	2M
AA contains no or restricted outlet	1H	2H	1M	2M
AA contains unrestricted outlet	2H	2M	1H	1M

141. Sediment/Nutrient/Toxicant Stabilization: (Applies only if AA occurs on or within the banks or a river stream - either natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 141 does not apply, circle NA here and proceed to 141.)

Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)	Dilation of surface water adjacent to rooted vegetation		Seasonal / Intermittent		Temporary / Ephemeral	
	1H	1M	2H	2M	3H	3M
% Cover of wetland streambank or shoreline by woody plants with stability ratings of 2/3 (see Appendix F)	1H <td>1M <td>2H <td>2M <td>3H <td>3M</td> </td></td></td></td>	1M <td>2H <td>2M <td>3H <td>3M</td> </td></td></td>	2H <td>2M <td>3H <td>3M</td> </td></td>	2M <td>3H <td>3M</td> </td>	3H <td>3M</td>	3M
≥ 65%	1H <td>1M <td>2H <td>2M <td>3H <td>3M</td> </td></td></td></td>	1M <td>2H <td>2M <td>3H <td>3M</td> </td></td></td>	2H <td>2M <td>3H <td>3M</td> </td></td>	2M <td>3H <td>3M</td> </td>	3H <td>3M</td>	3M
< 35%	2H <td>2M <td>3H <td>3M <td>1H <td>1M</td> </td></td></td></td>	2M <td>3H <td>3M <td>1H <td>1M</td> </td></td></td>	3H <td>3M <td>1H <td>1M</td> </td></td>	3M <td>1H <td>1M</td> </td>	1H <td>1M</td>	1M

141. Production Export/food Chain Support:

Level of Biological Activity (Synthesis of wildlife and fish habitat ratings [circle])	General Wildlife Habitat Rating (4/4/2/2)	General Wildlife Habitat Rating (4/4/3/3)
EH	H	M
M	H	M
L	M	L
N/A	H	M

11. Rating (Working from top to bottom, use the matrix below to arrive at [circle] 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), Factor C = whether or not the AA contains a surface or subsurface flow of water (141), Factor D = whether or not the AA contains a surface or subsurface flow of water (141), Factor E = whether or not the AA contains a surface or subsurface flow of water (141). For further definitions of these factors, see instructions for further definitions of these factors.)

Rating	Vegetated component ≥ 25 acres			Vegetated component 1-5 acres			Vegetated component < 1 acre		
	High	Medium	Low	High	Medium	Low	High	Medium	Low
A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
B	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
C	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
D	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
E	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
F	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
G	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
H	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
I	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
J	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
K	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
L	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
M	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
N	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
O	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
P	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
Q	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
R	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
S	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
T	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
U	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
V	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
W	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
X	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
Y	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
Z	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes

13. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with ≥ 30% plant cover, 5-15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless exempted control), 50' or more in average ± 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference? Yes, add 0.1 to the score in II above and adjust rating accordingly. No

14. Groundwater Discharge/Recharge: (check the appropriate indicators in I & II below)

I. Discharge Indicators

The AA is a slope wetland

Springs or seeps are known or observed

Vegetation growing during dormant season/drought

Wetland occurs at the toe of a natural slope

Seeps are present at the wetland edge

AA permanently flooded during drought periods

Wetland contains an outlet, but no inlet

Shallow water table and the site is saturated to the surface

Other: _____

II. Recharge Indicators

Permeable substrate present without underlying impeding layer

Wetland contains inlet but no outlet

Stream is a known losing stream, discharge volume decreases

Other: _____

Criteria	Duration of saturation at AA wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM			
	1H	1M	2H	2M
Groundwater Discharge or Recharge	1H	1M	2H	2M
Insignificant Dehydration	1H	1M	2H	2M

14. Uniqueness:

Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)	AA contains rare, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S1" by the MTHHP		AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association listed as "S2" by the MTHHP	
	1H	1M	2H	2M
Estimated relative abundance (#1)	1H	1M	2H	2M
Low disturbance at AA (#12)	1H	1M	2H	2M
Moderate disturbance at AA (#12)	1H	1M	2H	2M
High disturbance at AA (#12)	1H	1M	2H	2M

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

Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)	AA provides recreation or education opportunity		AA does not provide recreation or education opportunity	
	1H	1M	2H	2M
Known or Potential Recreation or Education Area	1H <td>1M <td>2H <td>2M</td> </td></td>	1M <td>2H <td>2M</td> </td>	2H <td>2M</td>	2M
Public ownership with general public access (no permission required)	1H <td>1M <td>2H <td>2M</td> </td></td>	1M <td>2H <td>2M</td> </td>	2H <td>2M</td>	2M
Private ownership with general public access (no permission required)	1H <td>1M <td>2H <td>2M</td> </td></td>	1M <td>2H <td>2M</td> </td>	2H <td>2M</td>	2M
Private or public ownership without general public access, or requiring permission for public access	1H <td>1M <td>2H <td>2M</td> </td></td>	1M <td>2H <td>2M</td> </td>	2H <td>2M</td>	2M

General Site Notes

Area is an island between two sections of the S.M. line heavily impacted by beavers. All sites there are a major receive species diversity and peak flows. The area is a sand water a precipitation that snowmelt. The area is a sand water has an outlet to the lake.

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLANDSITE #(S): WA-9

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acres)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.1	1		
B. MT Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Habitat	M	0.9	1		*
D. General Fish Habitat	NA	-	-		
E. Flood Attenuation	NA	-	-		
F. Short and Long Term Surface Water Storage	M	0.4	1		*
G. Sediment/Nutrient/Toxicant Removal	NA	-	-		
H. Sediment/Shoreline Stabilization	NA	-	-		
I. Production Export/Food Chain Support	M	0.5	1		*
J. Groundwater Discharge/Recharge	M	0.4	1		*
K. Uniqueness	M	0.4	1		
L. Recreation/Education Potential (bonus points)	H	0.8	NA		
Totals		2.8	7	2.8 x 0.24	
Percent of Possible Score			40%	36%	

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
 Percent 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
 "High" to "Exceptional" ratings for both General Fish 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: (circle appropriate category based on the criteria outlined above) I II **III** IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Turkey Valley Fibre 2. Project #: 300-081 3. Wetland/Site #): WA-10
 3. Evaluation Date: 09 Day 11 4. Evaluator(s): A. Ellis 5. Wetland/Site #): WA-10
 6. Wetland Location(s): Legal: T-430 or S-R-9, E of 015 N or S-R-9, E or W-S
 II. Approx. Stationing or Mileposts: along isolated wetland area on island near south channel, Jackson Sawmill
 III. Watershed: T4030003 Watershed Name: Upper Colorado-Bellevue, San Miguel County

7. a. Evaluating Agency: _____ 8. Wetland size: (total acres) 7.12 (visually estimated) (measured, e.g. by GPS (if applies))
 b. Purpose of Evaluation: _____ 9. Assessment area (AA): (acres, (measured, e.g. by GPS (if applies))
 1. Wetlands potentially affected by MDT project
 2. Mitigation wetlands: pre-construction
 3. Mitigation wetlands: post-construction
 4. Other _____

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Benson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	BEM	TE	90%	
	PEM	ST	9%	

Abbreviations: (see manual for definitions)
 HGM Classes: Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF);
 Cowardin Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Stone (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scud-Shrub Wetland (SS), Forested Wetland (FO)
 Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Diked (PD), Farmed (F), Artificial (A)
 Water Regimes: Permanent/Perennial (PP), Seasonal/Intermittent (SI), Temporary/Ephemeral (TE)

11. Estimated relative abundance: (or similarly classified sites within the same Major Montana Watershed Basin, see definitions) _____
 (circle one) Unknown Rare Abundant

12. General condition of AA: _____
 I. Disturbance: (use matrix below to determine forcing appropriate response - see instructions for Montana listed noxious weed and aquatic nuisance vegetation species (ANVS) lists) _____
 Predominant conditions adjacent to (within 500 feet of) AA

Conditions within AA	High disturbance	Moderate disturbance	Low disturbance
AA occurs and is managed in predominantly natural state; is not mowed or mowed infrequently; and noxious weed or ANVS cover is <15%.	High disturbance	Moderate disturbance	Low disturbance
AA not cultivated, but may be moderately grazed or mowed or selectively logged; or has been subject to relatively minor (few or no) herbicide treatments; or ANVS cover is <25%.	High disturbance	Moderate disturbance	Low disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial till placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is >25%.	High disturbance	Moderate disturbance	High disturbance

Comments: (types of disturbance, intensity, season, etc.) Disturbance currently occurring, some potential
Trails are generally marked by the mowers.
II. Prominent noxious, aquatic nuisance, & other exotic vegetation species: large cholla, yellow water in SW corner

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

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management preventing (passive) existence of additional vegetated classes?	Modified Rating
33 (or 2 if forested) classes	H	NA	NA
2 (or 1 if forested) classes	M	NA	NA
1 class, but not a monoculture	L	NA	NA

1 class, monoculture (1 species comprises >90% of total cover)

Comments: _____

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:
 AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 D S
 Primary or critical habitat (list species) _____
 Secondary habitat (list species) _____
 Incidental habitat (list species) _____
 No usable habitat _____

Canada Lynx (Felis canadensis)

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

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

Sources for documented use (e.g. observations, records, etc.):

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 D S
 Primary or critical habitat (list species) _____
 Secondary habitat (list species) _____
 Incidental habitat (list species) _____
 No usable habitat _____

Bald Eagle, Golden Eagle, Peregrine Falcon, Black-Sk. W.

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

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

Sources for documented use (e.g. observations, records, etc.):

14C. General Wildlife Habitat Rating:
 i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following (check)):
 - observations of abundant wildlife at or high species diversity (during any period)
 - abundant bird sign such as nest, tracks, nest structures, game trails, etc.
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA

Minimal (based on any of the following (check)):
 - few or no wildlife observations during peak use periods
 - little to no wildlife sign
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

Moderate (based on any of the following (check)):
 - moderate observations of wildlife at or relatively few species during peak periods
 - common occurrence of wildlife sign such as nest, tracks, nest structures, game trails, etc.
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. Percent cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their seasonal/phenological. T/E = temporary/phenological, and A = absent (see instructions for further definitions of these terms))

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

iii. Rating (Use the conclusions from I and II above and the matrix below to arrive at (circle) the functional points and rating)

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

Comments: Lots of birds, no mammals observed except b.t. skunks

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

Type of Fishery: Cold Water (CW) _____ Warm Water (WW) _____ Use the CW or WW guidelines in the user manual to complete the matrix

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

Duration of surface water in AA	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral			
	Adequate / High / Resting / Escape cover	Optimal	Adequate	Poor	Optimal	Adequate	Poor	Optimal	Adequate	Poor
Thermal cover optimal / Suboptimal	O	S	O	S	O	S	O	S	O	S
FMP Tier I fish species	1E	9H	8H	7M	6M	5M	4M	3L	2L	1L
FMP Tier II or Native Game fish species	9H	8H	7M	6M	5M	4M	3L	2L	1L	0L
FMP Tier III or Introduced Game fish	9H	7M	6M	5M	4M	3L	2L	1L	0L	0L
FMP Non-Game fish or No fish species	5M	5M	4M	4M	3L	2L	2L	1L	1L	0L

ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)
 - If the AA is used by fish, use the matrix above to arrive at a rating. If the AA is not used by fish, use the matrix above to arrive at a rating.
 - If the AA is used by fish, use the matrix above to arrive at a rating. If the AA is not used by fish, use the matrix above to arrive at a rating.
 - If the AA is used by fish, use the matrix above to arrive at a rating. If the AA is not used by fish, use the matrix above to arrive at a rating.

b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc. - specify in comments) for native fish or introduced game fish? Y N If yes, add 0.1 to the adjusted score in 1 or 1a above.

iii. Final Score and Rating: _____ Comments: _____

14E. Food Attenuation: (Apply only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.)

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

Estimated or Calculated Entrenchment (Fossner 1994, 1996)	Slightly entrenched - C		Moderately entrenched - D		Entrenched - A, F, G stream types	
	ER = >2.2	ER = 1.41 - 2.2	ER = >2.2	ER = 1.41 - 2.2	ER = 1.0 - 1.4	ER = 1.0 - 1.4
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	.8H	.6M	.8H	.5M	.4M
AA contains unrestricted outlet	9H	8H	6M	7M	6M	4M
AA contains restricted outlet	9H	8H	6M	7M	6M	4M
AA contains unrestricted outlet	9H	8H	6M	7M	6M	4M
AA contains restricted outlet	9H	8H	6M	7M	6M	4M
AA contains unrestricted outlet	9H	8H	6M	7M	6M	4M
AA contains restricted outlet	9H	8H	6M	7M	6M	4M

ii. Final Score and Rating: _____ Comments: _____



Food-prone width	Bankfull Depth	Bankfull Width	Flood-prone Width
Slightly Entrenched	Moderately Entrenched	Entrenched	
ER = >2.2	ER = 1.41 - 2.2	ER = 1.0 - 1.4	

ii. Are 1-10 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 (circle)? 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, circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at (circle) 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		
	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Duration of surface water at wetlands within the AA	1H	9H	8H	7M	6M	5M	4M	3L	2L
Wetlands in AA flood or pond 2.5 out of 10 years	9H	8H	7M	6M	5M	4M	3L	2L	1L
Wetlands in AA flood or pond < 2.5 out of 10 years	9H	8H	7M	6M	5M	4M	3L	2L	1L

Comments: Area is a former oxbow (and adjacent FEM) but prob by only 3 factors slows storm S.M. in or at absolute high water extremely high flows (i.e. major storms). Otherwise PPT storage w/ no where to go, sandbars probably allow relatively rap. drain. S/H strategy

146. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through inlet of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed to 141.)

Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)	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 impacted. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.		Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.		Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.		Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.	
	High	Moderate	High	Moderate	High	Moderate	High	Moderate	High	Moderate
AA contains no or restricted cover	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H
AA contains unrestricted cover	1M	2M	3M	4M	5M	6M	7M	8M	9M	10M

144. Sediment/Short-term Stabilization: (Applies only if AA occurs on or within the banks of 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 144 does not apply, circle NA here and proceed to 141.)

Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)	% Cover of established streambeds or shoreline by species with average ratings of 5.0 (see Appendix J)		Duration of surface water adjacent to coded vegetation		Seasonal / Intermittent		Temporary / Ephemeral	
	High	Moderate	High	Moderate	High	Moderate	High	Moderate
≥ 65%	1H	2H	3H	4H	5H	6H	7H	8H
< 35%	1M	2M	3M	4M	5M	6M	7M	8M

Comments: Carex ssp. X. S. catkins on edge of open water but open water is not to wave action.

141. Production Export/Food Chain Support:

Level of Biological Activity (Synthesis of wildlife and fish habitat ratings [circle])	General Wildlife Habitat Rating (14C.M)	General Fish Habitat Rating (14D.H)
High	H	H
Moderate	M	M
Low	L	L
Very Low	VL	VL
None	N	N

14. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = average of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (141.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/L, and T/E are as previously defined, and A = "absent" (see instructions for further definitions of these terms).

Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)	Vegetated component ≥ 5 acres		Vegetated component 1-5 acres		Vegetated component < 1 acre	
	High	Moderate	High	Moderate	High	Moderate
High	1H	2H	3H	4H	5H	6H
Moderate	1M	2M	3M	4M	5M	6M
Low	1L	2L	3L	4L	5L	6L
Very Low	1VL	2VL	3VL	4VL	5VL	6VL
None	1N	2N	3N	4N	5N	6N

14. Modified Rating: (NOTE: Modified score cannot exceed 1 or be less than 0.1). Vegetated Upland Buffer (VUB): Area with ≥ 30% plant cover, 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control). If there are an average of 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference? (Y) Yes, add 0.1 to the score in II above and adjust rating accordingly. (N) No.

Final Score and Rating: 1.6 M Comments: PAVN PDS is SE of open water. Stream is surrounded by upland mixed grasses. PDS is SE of open water. Stream is surrounded by upland mixed grasses. PDS is SE of open water. Stream is surrounded by upland mixed grasses.

141. Groundwater Discharge/Recharge: (check the appropriate indicators in I & II below)

- I. Discharge Indicators
 - The AA is a slope wetland
 - Springs or seeps are known or observed
 - Vegetation growing during dormant season/drought
 - Wetland occurs at the toe of a natural slope
 - Seeds 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
- II. Recharge Indicators
 - Fermeable substrate present without underlying impeding layer
 - Wetland contains inlet but no outlet
 - Stream is a known "losing" stream; discharge volume decreases
 - Other:

143. Rating (use the information from I and II above and the table below to arrive at [circle] the functional points and rating)

Criteria	High	Moderate	Low	Very Low	None
Groundwater Discharge or Recharge	1H	2H	3H	4H	5H
Insignificant Disturbance	1M	2M	3M	4M	5M
Groundwater Discharge or Recharge	1L	2L	3L	4L	5L
Insignificant Disturbance	1VL	2VL	3VL	4VL	5VL
Groundwater Discharge or Recharge	1N	2N	3N	4N	5N
Insignificant Disturbance	1NL	2NL	3NL	4NL	5NL

Comments: Seeps high but discharge area. No signs of springs or wetlands. The area is permanent (no vegetation on bottom slope) and could be a recharge area. No signs of springs or wetlands.

144. Uniqueness: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through inlet of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed to 141.)

Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)	Estimated relative abundance (#17)		AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association listed as "S1" by the MTNHP		AA does not contain previously cited rare types and structural diversity (#13) is low/moderate	
	High	Moderate	High	Moderate	High	Moderate
Low disturbance at AA (#12)	1H	2H	3H	4H	5H	6H
Moderate disturbance at AA (#12)	1M	2M	3M	4M	5M	6M
High disturbance at AA (#12)	1L	2L	3L	4L	5L	6L

141. Recreation/Education Potential: (atfords "bonus" points if AA provides recreation or education opportunity)

Rating (use the matrix below to arrive at [circle] the functional points and rating)	Known or Potential Recreation or Education Area		Known or Potential	
	High	Moderate	High	Moderate
Known or potential recreation or education area with general public access (no permission required)	1H	2H	3H	4H
Known or potential recreation or education area with general public access (no permission required)	1M	2M	3M	4M
Known or potential recreation or education area with general public access (no permission required)	1L	2L	3L	4L
Known or potential recreation or education area with general public access (no permission required)	1VL	2VL	3VL	4VL
Known or potential recreation or education area with general public access (no permission required)	1N	2N	3N	4N
Known or potential recreation or education area with general public access (no permission required)	1NL	2NL	3NL	4NL

General Site Notes: Two small wetland patches. One with PPN and open water. The other surrounded by beech and PDS water in pond on July 1st. Mostly collected localized beech, ferns, and PDS. Some interaction with 5M year and possibly old discharge (springs).

Known or Potential Recreation or Education Area	Known or Potential
Public ownership or 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

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLANDSITE #9):

WA-11

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.1	1		
B. MT Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Habitat	M	0.7	1		*
D. General Fish Habitat	NA	-	-		
E. Flood Attenuation	NA	-	-		
F. Short and Long Term Surface Water Storage	M	0.8	1		
G. Sediment/Nutrient/Toxicant Removal	M/A	N/A	-		
H. Sediment/Shoreline Stabilization	M	0.6	1		*
I. Production Export/Food Chain Support	H	1.0	1		*
J. Groundwater Discharge/Recharge	L	0.3	1		*
K. Uniqueness	H	0	NA		
L. Recreation/Education Potential (bonus points)					
Totals		3.9	8	3.9 x 0.91	
Percent of Possible Score		48%		3.55	

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
 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 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: (circle appropriate category based on the criteria outlined above) I II III IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Yellowstone Valley Floor ^{ERC} Project #: 300-081 Contour #: WA-12
 2. Evaluation Date: Mo. 9 Day, 11 m. 08 3. Evaluator(s): ABE/ERS 4. Wetland/Site # (s): WA-12
 5. Wetland Location (s): 1. Legal: T. 48N. R. 9. E. of GPS 33, 34 North of S-R E or W. S
Approx. Stationing or Milepost: 3.25 km. west of River Fork (Kaibito)
 6. Approx. Stationing or Milepost: 3.25 km. west of River Fork (Kaibito)
 7. Watershed: 17030003 Watershed Name: Upper Colorado - Dolores

7. a. Evaluating Agency: _____
 b. Purpose of Assessment: _____
 c. Wetland site: (total acres) 13.21 (visually estimated) 13.21 (measured, e.g. by GPS [if applies])
 1. Wetlands potentially affected by MDT project
 2. Mitigation wetlands: pre-construction
 3. Mitigation wetlands: post-construction
 4. Other: _____
 8. Assessment area (AA): (acres) _____ (visually estimated)
 9. Mitigation area (MA): (acres) _____ (visually estimated)
 see instructions on determining AA) 13.21 (measured, e.g. by GPS [if applies])

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Benson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
Riverine	PEM	ST	16%	
	PEM	PP	46%	
	RUB	PP	1%	
	RUB	PP	37%	

Abbreviations: (see manual for definitions)
 HGM Classes: Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine (L)
 Cowardin Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-Algae Wetland (MA), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)
 Modifiers: Excavated (E), Impounded (I), Diked (D), Peaty (P), Filled (F), Artificial (A)
 Water Regimes: Permanent/Permanent (PP), Seasonal/Intermittent (SI), Temporary/Ephemeral (TE)
 11. Estimated relative abundance: (at similarly classified sites within the same Major Watershed Basin, see definitions) Common
 (Circle one) Unknown Rare Abundant

12. General condition of AA:
 I. Disturbance: (use matrix below to determine [circle] appropriate response - see instructions for Montana field notes) wet and aquatic disturbance vegetation species (AVNS) lists

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA
AA covers and is managed in predominantly natural state; in not grazed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or AVNS cover is 50% or less.	Managed in predominantly natural state; in not grazed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or AVNS cover is 25%.
AA contains heavily grazed or logged; subject to relatively frequent disturbance; or has been subjected to relatively minor disturbance; AVNS cover is 50%.	Land not cultivated, but very to moderately grazed or logged or subjected to relatively frequent disturbance; AVNS cover is 25%.
AA contains heavily grazed or logged; subject to relatively frequent disturbance; or has been subjected to relatively minor disturbance; AVNS cover is 25%.	Land cultivated or heavily grazed or logged; subject to substantial frequent disturbance; AVNS cover is 25%.

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

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management preventing class(es)?	Modified Rating
23 (or 2 if 1 is forested) classes	H	NA	NA
2 (or 1 if forested) classes	M	NA	NA
1 class, but not a macroclimate	(M)	(L-ND)	L
1 class, macroclimate (1 species comprises 250% of total cover)	L	NA	NA

Comments: _____

14. Prevalent noxious, aquatic nuisance, & other exotic vegetation species:
None known, other than (Crowsfoot) on berm(s) - dot excessive.
Redwood (Wetland) - altered by natural grass. Berms covered & collected, native tall grasses scattered.

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

1. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat / S

II. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	do/primary	su/primary	do/secondary	su/secondary	do/incidental	su/incidental	None
Functional Points and Rating	1H	3H	3M	7M	3L	1L	0L

Sources for documented use (e.g. observations, records, etc.):

148. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in 144 above)

1. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) S
 No usable habitat / S

II. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	do/primary	su/primary	do/secondary	su/secondary	do/incidental	su/incidental	None
S1 Species:	1H	3H	7M	6M	2L	1L	0L
S2 and S3 Species:	3H	7M	6M	6M	2L	1L	0L

Sources for documented use (e.g. observations, records, etc.):

149. General Wildlife Habitat Rating:

- I. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (based on any of the following (check)):
 - observations of abundant wildlife of high species diversity (during any period)
 - presence of extremely thriving habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (based on any of the following (check)):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - interviews with local biologists with knowledge of the AA
 Low (based on any of the following (check)):
 - few or no wildlife observations during peak use periods
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

II. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent, vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; SI = seasonal/intermittent; TE = temporary/ephemeral; and A = absent (see instructions for further definitions of these terms)

Structural diversity (see #13)	Even				Uneven				Moderate				Low			
	P/P	SI	TE	A	P/P	SI	TE	A	P/P	SI	TE	A	P/P	SI	TE	A
Class cover distribution (all vegetated classes)																
Duration of surface water > 10% of AA	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Low disturbance at AA (see #12)	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
Moderate disturbance at AA (see #12)	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
High disturbance at AA (see #12)	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

III. Rating (Use the conclusions from I and II above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife use (I)	Exceptional				High				Moderate				Low			
	1E	3H	3M	7M	3L	1L	0L	0L	1L	2L	3L	4L	5L	6L	7L	8L
Substantial																
Moderate																
Minimal																

Comments:

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

Type of Fishery: Cold Water (CW) / Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

I. Habitat Quality and Known or Suspected Fish Species in AA (use matrix to arrive at (circle) the functional points and rating)

Duration of surface water fishing / resting / escape cover / Thermal cover optimal / Suboptimal	Permanent/Perennial			Seasonal/Intermittent			Temporary/Ephemeral		
	Optimal	Adequate	Poor	Optimal	Adequate	Poor	Optimal	Adequate	Poor
FWP Tier I fish species	O	S	O	S	O	S	O	S	O
FWP Tier II or Native Game fish species	3H	3H	7M	6M	6M	6M	3L	3L	3L
FWP Tier III or Introduced Game fish	3H	7M	6M	6M	6M	6M	3L	3L	3L
FWP Non-Game Tier IV or No fish species	3M	6M	6M	6M	6M	6M	3L	3L	3L

- Sources used for identifying fish sp. potentially found in AA:
 a) Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)
 b) 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 MDCQ list of waterbodies in need of TMDL development with listed "Toxicity Impaired Uses" including odd or warm water fishery or aquatic life support or 200 aquatic species plant or animal species (see Appendix E) occur in fish habitat? Yes, reduce score in I above by 0.1
 No

II. Final Score and Rating: 6.4M

Comments:

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

I. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating)

Estimated or Calculated Entrenchment (Reznor, 1994, 1996)	Slightly entrenched - D E stream types	Moderately entrenched - B stream types	Entrenched - A, F, G stream types
% of flood/wetland classified as forested and/or scrubshrub	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	3H	6M
AA contains unrestricted outlet	3H	6M	6M
Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/bankfull width	1.1	1.1	1.1

Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.



Flood-prone width	Bankfull width	Entrenchment ratio
1	2 x Bankfull Depth	2

Stream Type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type
ER = 2.2						
ER = 1.1 - 2.2						
ER = 1.0 - 1.1						

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 (circle)? 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, circle NA here and proceed to 14G.)

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

Storage area feet of water contained in wetlands within the AA that are subject to specific flooding or ponding	>5 acre feet			1.1 to 5 acre feet			<1 acre feet		
	P/P	SI	TE	P/P	SI	TE	P/P	SI	TE
Wetlands in AA flood or pond > 5 and of 10 years	3H	3H	7M	3H	3H	7M	3H	3H	7M
Wetlands in AA flood or pond < 5 and of 10 years	3H	3H	7M	3H	3H	7M	3H	3H	7M

Comments:

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

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.				Wetland on MDEG list of wetlands/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.			
	≥ 70%	< 70%	≥ 70%	< 70%	≥ 70%	< 70%	≥ 70%	< 70%
AA contains no or restricted outlet	1H	8H	7M	5M	4M	3L	2L	1L
AA contains unrestricted outlet	9H	7M	6M	4M	3L	2L	1L	

14H. Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. H = high, M = moderate, or L = low).

% Cover of wetland vegetation in AA	Permanent / Perennial				Seasonal / Intermitent				Temporary / Ephemeral			
	High	Moderate	Low	Very Low	High	Moderate	Low	Very Low	High	Moderate	Low	Very Low
≥ 65%	1H	2M	3L	1L	3H	4M	5L	1L	7M	8M	9L	1L
35-64%	3H	4M	5L	2L	6M	7M	8M	9L	1L	2L	3L	4L

14I. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. H = high, M = moderate, or L = low).

General Fish Habitat Rating (14D)(III)	General Wildlife Habitat Rating (14C)(II)
EH	H
M	M
L	L
NA	NA

14J. Rating (Working from top to bottom, use the matrix below to arrive at (circle) 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); 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 PIP, SII, and TIE 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			
	High	Moderate	Low	Very Low	High	Moderate	Low	Very Low	High	Moderate	Low	Very Low
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
PIP	1H	7M	8H	5M	4M	3L	2L	1L	3L	2L	1L	2L
SII	9H	8M	7M	4M	5M	3L	2L	1L	7M	5M	3L	2L
TIE	8H	5M	5M	3L	4M	2L	1L	1L	4M	4M	2L	1L

14K. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1). Vegetated Upland Buffer (VUB) Area with ≥ 30% plant cover, 15% mounds used or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control), a) is there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference? Y (N) if yes, add 0.1 to the score in II above and adjust rating accordingly.

14L. Final Score and Rating: 8H Comments:

- I. Discharge Indicators
 - The AA is a slope wetland
 - Sediments or debris are known or observed
 - Vegetation growing during dominant season/drought
 - Wetland occurs at the toe of a natural slope
 - Sedges 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
- II. Recharge Indicators
 - Permeable substrate present without underlying impeding layer
 - Wetland contains inlet but no outlet
 - Stream is a known (e.g. stream, discharge volume decreases)
 - Other:

14M. Rating (Use the information from I and II above and the table below to arrive at (circle) the functional points and rating).

Criteria	Groundwater Discharge or Recharge				Duration of saturation at AA wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM			
	PIP	SII	TIE	None	PIP	SII	TIE	None
Groundwater Discharge or Recharge	1H	7M	4M	1L				
Duration of saturation at AA wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM								

14N. Uniqueness: Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating).

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

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

Known or Potential Recreation or Education Area	Known	Potential
Public ownership with general public access (no permission required)	2H	1.5H
Private ownership with general public access (no permission required)	1.5H	1M
Private or public ownership without general public access, or requiring permission for public access	1M	0.5L

General Site Notes

This reach of the San Antonio River is characterized by the following: This stretch has more diversity than the other reaches. It has a more diverse plant community and a more diverse animal community.

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

1. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S
Canada Sparrow Hawk

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

Highest Habitat Level	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H
Functional Points and Rating	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H
Sources for documented use (e.g. observations, records, etc.):										

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

1. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S
Golden Eagle, Peregrine Falcon, Bald Eagle, Black Swift

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

Highest Habitat Level	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H
Functional Points and Rating	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H
Sources for documented use (e.g. observations, records, etc.):										

14C. General Wildlife Habitat Rating:

i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (Based on any of the following (check):
 - observations of abundant wildlife & or high species diversity (during any period)
 - abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (Based on any of the following (check):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - interviews with local biologists with knowledge of the AA
 Low (Based on any of the following (check):
 - few or no wildlife observations during peak use periods
 - little to no wildlife sign
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating). Structural diversity is from #13. For class, cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; SI = seasonal/intermittent; TE = temporary/temporary; and A = absent (see instructions for further definitions of these terms)

Structural diversity / use (#13)	High				Moderate				Low			
	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven
Care cover distribution (all vegetated classes)	P/P	SA	TE	A	P/P	SA	TE	A	P/P	SA	TE	A
Duration of surface water > 10% of AA	E	E	E	E	H	H	H	H	M	M	M	M
Low disturbance at AA (see #12)	H	H	H	H	H	H	H	H	M	M	M	M
Recent disturbance at AA (see #12)	M	M	M	M	M	M	M	M	M	M	M	M
High disturbance at AA (see #12)	M	M	M	M	M	M	M	M	M	M	M	M

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

Evidence of wildlife use (i)	Wildlife Habitat Features Rating (ii)			
	Exceptional	High	Moderate	Low
Substantial	1E	2E	3E	4E
Moderate	1M	2M	3M	4M
Low	1L	2L	3L	4L

Comments:

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

Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

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

Duration of surface water in AA	Permanent / Perennial				Seasonal / Intermittent				Temporary / Ephemeral			
	Optimal	Adequate	Poor	NA	Optimal	Adequate	Poor	NA	Optimal	Adequate	Poor	NA
Agriatic Rating / Resting / Eggcase cover	O	S	O	S	O	S	O	S	O	S	O	S
Thermal cover optimal / suboptimal	O	S	O	S	O	S	O	S	O	S	O	S
FWP Tier I fish species	1E	2E	3E	4E	1M	2M	3M	4M	1L	2L	3L	4L
FWP Tier II or Native Game Fish species	1H	2H	3H	4H	1M	2M	3M	4M	1L	2L	3L	4L
FWP Tier III or Introduced Game Fish	1H	2H	3H	4H	1M	2M	3M	4M	1L	2L	3L	4L
FWP Non-Game Tier IV or No fish species	1H	2H	3H	4H	1M	2M	3M	4M	1L	2L	3L	4L

Sources used for identifying fish sp. potentially found in AA:
 i. 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, dam, or other man-made structure or activity, or is the waterbody included on the current final MDC list of waterbodies in need of TMDL development with listed PFDs? (circle one) Yes, reduce score by 0.5; No, reduce score by 0.1; No, reduce score by 0.05; No, reduce score by 0.025; No, reduce score by 0.0125; No, reduce score by 0.00625; No, reduce score by 0.003125; No, reduce score by 0.0015625; No, reduce score by 0.00078125; No, reduce score by 0.000390625; No, reduce score by 0.0001953125; No, reduce score by 0.00009765625; No, reduce score by 0.000048828125; No, reduce score by 0.0000244140625; No, reduce score by 0.00001220703125; No, reduce score by 0.000006103515625; No, reduce score by 0.0000030517578125; No, reduce score by 0.00000152587890625; No, reduce score by 0.000000762939453125; No, reduce score by 0.0000003814697265625; No, reduce score by 0.00000019073486328125; No, reduce score by 0.000000095367431640625; No, reduce score by 0.0000000476837158203125; No, reduce score by 0.00000002384185791015625; No, reduce score by 0.000000011920928955078125; No, reduce score by 0.0000000059604644775390625; No, reduce score by 0.00000000298023223876953125; 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No, reduce score by 0.00000000000000000069388939039172213541666600000031708203125; No, reduce score by 0.0000000000000000003469446951958610627083333000000158541015625; No, reduce score by 0.00000000000000000017347234759793053135416666000000079270578125; No, reduce score by 0.0000000000000000000867361737989652667541666600000000396352890625; No, reduce score by 0.000000000000000000043368086899482633375416666000000001981764453125; No, reduce score by 0.0000000000000000000216840434497413168754166660000000009908822265625; No, reduce score by 0.000000000000000000010842021724870658437541666600000000049544111328125; No, reduce score by 0.00000000000000000000542101086243532718754166660000000002477205640625; No, reduce score by 0.0000000000000000000027105054312176638893754166660000000012386028203125; No, reduce score by 0.000000000000000000001355252715608831944693754166660000000061930141015625; No, reduce score by 0.0000000000000000000006776263578044207234693754166660000000030965070578125; No, reduce score by 0.000000000000000000000338813178902210361734693754166660000000154825352890625; 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No, reduce score by 0.0000000000000000000000000000000002407412436434861111104081734693754166660000001100099872395833455640625; No, reduce score by 0.00000000000000000000000000000000012037062182172222040817346937541666600000005500499361979166727811328125; No, reduce score by 0.0000000000000000000000000000000000601853109108611111040817346937541666600000027502496809895833455640625; No, reduce score by 0.0000000000000000000000000000000000300926554544305555040817346937541666600000137512484049479166727811328125; No, reduce score by 0.000000000000000000000000000000000015046327727215277770408173469375416666000000687562420247395833455640625; No, reduce score by 0.000000000000000000000000000000000007523163863610638888040817346937541666600000034378121012395833455640625; No, reduce score by 0.00000000

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S):

WA-13

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acres)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.1	1		
B. MT Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Habitat	M	0.7	1		*
D. General Fish Habitat	M	0.4	1		
E. Flood Attenuation	L	0.2	1		
F. Short and Long Term Surface Water Storage	L	0.3	1		
G. Sediment/Nutrient/Toxicant Removal	H	0.9	1		*
H. Sediment/Shoreline Stabilization	H	0.9	1		*
I. Production Export/Food Chain Support	M	0.7	1		
J. Groundwater Discharge/Recharge	M	0.7	1		*
K. Uniqueness	H	0.9	1		
L. Recreation/Education Potential (bonus points)	H	0.7	NA		
Totals:		6.1	11	61 x 3.08 = 187.9	
Percent of Possible Score			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 Flood Attenuation and answer to Question 14E; 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 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 II)
 "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: (circle appropriate category based on the criteria outlined above) I II III IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Tullum de Valley Floor 2. Evaluator: EKE 3. Project #: 800-081 4. Wetland/Site #(s): WA-14 5. Control #: ---

6. Wetland Location(s): Legal: T 43 N S 9 E of W 8 S 34 7. Wetland Location(s) (approximate): Legal: T 43 N S 9 E of W 8 S 34

8. Approx. Stationing or Mileposts: Case of Section 34 of T 43 N S 9 E of W 8 S 34

9. Wetland Name: Wetland Name: County: Upper Columbia

7. a. Evaluating Agency: --- 8. Wetland size: (total acres) 7.16 (visually estimated) (measured, e.g. by GPS if applies)

b. Purpose of Evaluation: --- 9. Assessment area (AA): (acres, see instructions on determining AA) 7.16 (visually estimated) (measured, e.g. by GPS if applies)

1. Wetlands potentially affected by MDT project ---

2. Mitigation wetlands: pre-construction ---

3. Mitigation wetlands: post-construction ---

4. Other ---

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Binson)	Class	Modifier	Water Regime	% of AA
	PHD	(Cowardin)	TE	36%
	PSS	(Cowardin)	TE	43%
	PSS	(Cowardin)	SI	17%

Abbreviations: (see manual for definitions)
 HGM Classes: Riverine (R), Depositional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF).
 Cowardin Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Shrub Wetland (SW), Emergent Wetland (EW), Scud-Shrub Wetland (SS), Forested Wetland (FW), Diked (D), Parly Diked (PD), Farmed (F), Artificial (A)
 Water Regimes: Permanent/Perennial (PP), Seasonal/Intermittent (SI), Temporary/Ephemeral (TE)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions) (Circle one) Common Abundant

12. General condition of AA: ---

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

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA
AA occurs and is managed in predominantly natural state, in no graded, tamped, roped, or otherwise converted; does not contain debris, excavated buildings, and noxious weed or ANVS cover is 45%.	Managed in predominantly natural state; land not cultivated, tamped, roped, or otherwise converted; does not contain debris, excavated buildings, and noxious weed or ANVS cover is 45%.
AA not cultivated, but may be moderately grazed or tamped or selectively logged, or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few ANVS and/or ANVS cover is 20%.	Land not cultivated, but may be moderately grazed or tamped, roped, or otherwise converted; does not contain debris, excavated buildings, and noxious weed or ANVS cover is 20%.
AA disturbed or converted to another use; contains many ANVS and/or ANVS cover is 20%.	Land cultivated or heavily grazed or roped, tamped, or otherwise converted; contains many ANVS and/or ANVS cover is 20%.

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

14. Existing # of "Cowardin" Vegetated Classes in AA

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management preventing (passive) existence of additional vegetated classes?	Modified Rating
23 (or 2 if 1 is forested) classes	(H)	NA	NA
2 (or 1 if forested) classes	M	NA	NA
1 class, but not a monoculture	L	NO	L
1 class, monoculture (1 species comprises 20% of total cover)	L	NA	NA

Comments: ---

15. Provide brief descriptive summary of AA and surrounding land use/habitat in an area adjacent to the Son Natural Wetland. ---

16. Structural Diversity: (based on number of "Cowardin" vegetated classes present (do not include unvegetated classes); see #10 above) ---

17. Existing # of "Cowardin" Vegetated Classes in AA

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management preventing (passive) existence of additional vegetated classes?	Modified Rating
23 (or 2 if 1 is forested) classes	(H)	NA	NA
2 (or 1 if forested) classes	M	NA	NA
1 class, but not a monoculture	L	NO	L
1 class, monoculture (1 species comprises 20% of total cover)	L	NA	NA

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

1. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat D S
 (S) Canada lynx (suspected habitat)

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H	11H	12H
Functional Points and Rating	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H	11H	12H

Sources for documented use (e.g. observations, records, etc.):

144. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in 144 above)

1. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat D S
 (S) Sold sage grouse sage, peregrine falcon, black swift (S3)

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H	11H	12H
Functional Points and Rating	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H	11H	12H

Sources for documented use (e.g. observations, records, etc.):

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

Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (based on any of the following [check]):
 - abundant wildlife sign such as scat, track, nest structures, game trails, etc.
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (based on any of the following [check]):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA
 Low (based on any of the following [check]):
 - little to no wildlife sign
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least present vegetated classes must be within 20% of each other in terms of their percent composition. The AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; TE = temporary/ephemeral; and A = absent (see instructions for further definitions of these terms).
 Structural diversity (see #13)

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

iii. Rating (Use the conclusions from I and II above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife use (I)	Exceptional			High			Moderate			Low		
Substantial	1E	2E	3E	4E	5E	6E	7E	8E	9E	10E	11E	12E
Moderate	1M	2M	3M	4M	5M	6M	7M	8M	9M	10M	11M	12M
Minimal	1L	2L	3L	4L	5L	6L	7L	8L	9L	10L	11L	12L

Comments:

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

Type of Fishery: Cold Water (CW) ___ Warm Water (WW) ___ Use the CW or WW guidelines in the user manual to complete the matrix

140. Habitat for Quality and Known / Suspected Fish Species in AA (use matrix to arrive at (circle) the functional points and rating)

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

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 watershed included on the current final MDCB list of watersheds in need of TMDL development with listed Priority Impaired Uses including cold or warm water fishery or aquatic life support, or aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y N If yes, add 0.1 to the adjusted score in I above by _____
 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 above by _____

iii. Final Score and Rating: NA Comments:

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

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

Estimated or Calculated Entrenchment (Risser 1994, 1996)	Slightly entrenched - C		Moderately entrenched - D		Entrenched A, F, G stream types	
	D	E	D	E	D	E
% of flooded wetland classified as forested and/or scrubland	75%	25-75%	<25%	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	2H	3H	4H	5H	6H
AA contains unrestricted outlet	1M	2M	3M	4M	5M	6M
Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width) / (bankfull width)	1L	2L	3L	4L	5L	6L
Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.						



Flood-prone width = Entrenchment ratio

Bankfull width = Entrenchment ratio

Bankfull depth = Entrenchment ratio

Bankfull width = Entrenchment ratio

Bankfull depth = Entrenchment ratio

Bankfull width = Entrenchment ratio

Bankfull depth = Entrenchment ratio

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Bankfull width = Entrenchment ratio

Bankfull depth = Entrenchment ratio

Bankfull width = Entrenchment ratio

Bankfull depth = Entrenchment ratio

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLANDSITE #S):

WA-14

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.1	1		
B. Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Habitat	M	0.7	1		*
D. General Fish Habitat	NA	—	—		
E. Flood Attenuation	H	0.9	1		
F. Short and Long Term Surface Water Storage	L	0.2	1		
G. Sediment/Nutrient/Toxicant Removal	L	0.3	1		
H. Sediment/Shoreline Stabilization	M	0.5	1		*
I. Production Export/food Chain Support	M	0.6	1		*
J. Groundwater Discharge/Recharge	M	0.4	1		*
K. Uniqueness	H	0.8	1		
L. Recreation/Education Potential (bonus points)	H	0.2	NA		
Totals		4.8	10	4.8/1316	
Percent of Possible Score			48%	34.3%	

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 Natural Heritage Program Species Habitat; or
 Score of 9 or 1 functional point for General Wildlife Habitat; or
 "High" to "Exceptional" ratings for both General Fish 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 II)
 "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: (circle appropriate category based on the criteria outlined above) I II III IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Teleside Valley Floor 2. MDT Project #: 300-081 Control #: WA 15
 3. Evaluation Date: 09 Dec 11 yr. 08 4. Evaluator(s): ALF, JES 5. Wetland(s) #: WA 15
 6. Wetland Location(s): I. Legal: T 43 N 0° S R 9 E of W.S. 34 II. Approx. Stationing of Mileposts: Main road keeps located between Hwy 145 & San Miguel River to west of the Valley Floor. 5000 ft. West of section 10.
 III. Wetland(s): W1030003 Watershed Name: Upper Calaveras Delta, San Miguel County

7. a. Evaluating Agency: _____ 8. Wetland size: (total acres) 1.13 (visually estimated) (measured, e.g. by GPS [if applies])
 b. Purpose of Evaluation: 1. Wetlands potentially affected by MDT project 2. Mitigation wetlands: pre-construction 3. Mitigation wetlands: post-construction 9. Assessment area (AA): (cases, see instructions on determining AA) 1.13 (visually estimated) (measured, e.g. by GPS [if applies])
 4. Other: _____

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Binon)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	POW	A	SI	12%
D	PEM	A	SI	47%
D	PSS	A	SI	42%

Abbreviations: (see manual for definitions)
 HGM Classes: Riverine (R), Depositional (D), Slope (S), Mineral Soil Flak (MSF), Organic Soil Flak (OSF), Lacustrine Fringe (LF).
 Cowardin Classes: Root Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Emergent Wetland (EM), Scattered Wetland (SS), Forested Wetland (FO).
 Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Diked (PD), Farmed (F), Artificial (A).
 Water Regimes: Permanent/Perennial (PP), Seasonal/Intermittent (SI), Temporary/Ephemeral (TE).

11. Estimated relative abundance: (of similarly classified sites within the same Major Watershed/Deposited Basin, see definitions) (Circle one) Unknown Rare Common Abundant

12. General condition of AA: see man page this will not be all covered as regular wetlands
 I. Disturbance: (use matrix below to determine [circle] appropriate response - see instructions for Montana field notes and aquatic nuisance vegetation species (AVNS) lists)

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA
AA occurs and is managed in predominantly natural state; it is not grazed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or AVNS covers less than 5%.	Managed in predominantly natural state; it is not grazed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or AVNS cover is 5-15%.
AA not cultivated, but may be moderately grazed or logged or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrologic alteration; contains low levels of disturbance; noxious weed or AVNS cover is 5-20%.	Grazed or managed in predominantly natural state; it is not grazed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or AVNS cover is 20-30%.
AA is cultivated, or has been subject to hydrologic alteration; contains high levels of disturbance; noxious weed or AVNS cover is 30%.	Land not cultivated or heavily grazed or logged; subject to substantial fill placement, grading, or building activity; noxious weed or AVNS cover is 30%.

Comments: (types of disturbance, intensity, season, etc.): partly agriculture and irrigation

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

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management preventing (assess) existence of additional vegetated classes?	Modified Rating
23 (or 2 if 1 is forested) classes	H	NA	NA
1 class, but not a monoclinal class	M	NA	L
1 class, monoclinal (1 species comprises 30% of total cover)	L	NA	NA

Comments: soils up h. g
- carex/PEM veg lower
- open water but dries up, no vegetation mod (some aquatic)

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

II. Rating (use the conclusions from I above and the matrix below to arrive at [circle] the functional points and rating)

Highest Habitat Level	doctrinary	susprimary	doctrsecondary	subsecondary	doctrincidental	subincidental	None
Functional Points and Rating	1H	9H	8M	7M	3L	1L	0L

Sources for documented use (e.g. observations, records, etc.):

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

II. Rating (use the conclusions from I above and the matrix below to arrive at [circle] the functional points and rating)

Highest Habitat Level	doctrinary	susprimary	doctrsecondary	subsecondary	doctrincidental	subincidental	None
Functional Points and Rating	1H	9H	7M	6M	2L	1L	0L

Sources for documented use (e.g. observations, records, etc.):

14C. General Wildlife Habitat Rating:

I. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (based on any of the following [check]):
 - observations of abundant wildlife (during any period)
 - abundance of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (based on any of the following [check]):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - interviews with local biologists with knowledge of the AA
 Low (based on any of the following [check]):
 - few or no wildlife observations during peak use periods
 - little to no wildlife sign
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

II. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be entered in grid, the most diverse present vegetation categories are as follows: P/P = permanent/perennial; S/S = seasonal/semi-perennial; T/E = temporary/ephemeral; S/T = seasonal/semi-perennial; and A = absent (see responses in further definitions of these terms)

Species diversity (see #13)	High				Moderate				Low			
	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven
Class cover distribution (all measured classes)	P/P	S/S	T/E	A	P/P	S/S	T/E	A	P/P	S/S	T/E	A
Direction of surface water (1/2 10% of AA)	P/P	S/S	T/E	A	P/P	S/S	T/E	A	P/P	S/S	T/E	A
Low disturbance at AA (see #12)	E	E	E	E	H	H	H	H	M	M	M	M
Moderate disturbance at AA (see #12)	H	H	H	H	M	M	M	M	H	H	H	H
High disturbance at AA (see #12)	M	M	M	M	L	L	L	L	L	L	L	L

III. Rating (use the conclusions from I and II above and the matrix below to arrive at [circle] the functional points and rating)

Evidence of wildlife use (I)	Wildlife habitat features rating (II)			
	Exceptional	High	Moderate	Low
Substantial	1E	9H	8M	7M
Moderate	9H	7M	6M	3L
Low	9M	7M	3L	1L

Observed water flow, abundant insects, Reminds me of vernal pools, amphibians? reptiles?

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

Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines to the user manual to complete the matrix

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

Duration of surface water in AA	Permanent/Perennial		Seasonal/Intermittent		Temporary/Ephemeral	
	Optimal	Adequate	Poor	Optimal	Adequate	Poor
Agency rating / existing / assessed / known / suspected / functional cover / animal / seasonal	O	S	O	S	O	S
FWP Tier I fish species	1E	9H	8H	7M	6M	5M
FWP Tier II or Native Game fish species	9H	8H	7M	6M	5M	4M
FWP Tier III or Introduced Game fish	8H	7M	6M	5M	4M	3L
FWP Non-Game Tier IV or No fish species	5M	5M	4M	4M	3L	2L

Sources used for identifying fish sp. potentially found in AA:
 a) Is fish use of the AA significantly reduced by a culvert, dam, or other man-made structure or activity or is the waterbody included on the current final MDCQ 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 plants or animal species (see Appendix E) occur in fish habitat? Y N If yes, reduce score in I above by 0.1.
 b) Does the AA contain a documented spawning area or other critical habitat feature (i.e. sandbar/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 II above.
 Comments:

III. Final Score and Rating:

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

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

Estimated or Calculated Entrenchment (Risserger 1994, 1999)	Slightly entrenched - C	Moderately entrenched - B	Entrenched A, F, G stream types
% of floccled wetland estimated as forested or/and/or scrublands	75%	25-75%	25-75%
AA contains no outlet or restricted outlet	9H	9H	9M
AA contains unrestrict outlet	9H	9H	9M
Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (Food-prone width)/(bankfull width)	9H	9H	9M
Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.	9H	9H	9M



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

Stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type
ER = 2-2.2	ER = 1.41 - 2.2	ER = 1.0 - 1.4				

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or point 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, circle NA here and proceed to 14G.)

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

Estimated maximum area of water contained in wetlands (sum of all areas subject to overbank, in-channel, or point flow)	P/P	S/S	T/E	P/P	S/S	T/E
Duration of surface water stored in wetlands (in days)	9H	9H	9H	9H	9H	9H
Wetlands in AA flood or pond > 5 and < 10 years	9H	9H	7M	9M	9M	9M
Wetlands in AA flood or pond < 5 and < 10 years	9H	9H	7M	9M	9M	9M

Estimated maximum area of water contained in wetlands (sum of all areas subject to overbank, in-channel, or point flow) 1.1 to 5 acre feet

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLANDSITE #(S): **WA-15**

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	1		
B. MT Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Habitat	M	0.5	1		*
D. General Fish Habitat	UK	-	-		
E. Flood Attenuation	UA	-	-		
F. Short and Long Term Surface Water Storage	L	0.6	1		*
G. Sediment/Nutrient/Toxicant Removal	M	0.5	1		*
H. Sediment/Shoreline Stabilization	NA	-	-		
I. Production Export/Food Chain Support	L	0.3	1		
J. Groundwater Discharge/Recharge	M	0.7	1		*
K. Uniqueness	L	0.8	1		
L. Recreation/Education Potential (bonus points)	H	0.2	NA		
Totals		3.3	8	3.3/8 = 33%	
Percent of Possible Score				33%	

Category I Wetland: (must satisfy one of the following criteria, otherwise go to Category II)
 - Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or
 - Score of 1 functional point for Flood Attenuation and answer to Question 14E; 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 III)
 - Score of 1 functional point for MT Natural Heritage Program Species 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: (circle appropriate category based on the criteria outlined above) **I** **II** **III** **IV**

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Teal Valley Farm 2. Project #: 800-081 3. Contract #: WA-16
 4. Evaluation Date: Nov 11, 2008 5. Evaluator(s): Eileen 6. Wetland Site #s: WA-16
 7. Wetland Location(s): Legal: T4200 S, R 9 E of 0 S 34 8. Wetland Site #s: WA-16
 9. Approx. Stationing or Milepost: Quarter Section 10. Wetland Site #s: WA-16
 11. Watershed: 14030003 Watershed Name, County: Upper Colorado - Yellowstone, San Juan

7. a. Evaluating Agency: _____
 b. Wetlands potentially affected by MDT project: _____
 1. Mitigation wetlands: pre-construction
 2. Mitigation wetlands: post-construction
 3. Other: _____

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Bibson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
	R	UB	PP	100%

Abbreviations: (see manual for definitions)
 HGM Classes: Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF).
 Cowardin Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-Hidden Wetland (ML), Emergent Wetland (EM), Scud-Shrub Wetland (SS), Forested Wetland (FO), Modified: Excavated (E), Impounded (I), Diked (D), Partly Diked (PD), Farmed (F), Artificial (A)
 Water Regimes: Permanent/Perennial (PP), Seasonal/Intermittent (SI), Temporary/Ephemeral (TE)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)
 (Circle one) Unknown Rare Common Abundant
 12. General condition of AA: Disturbance
 13. Disturbance: use matrix below to determine (circle appropriate response - see instructions for Montana-related noxious weed and aquatic nuisance vegetation species (ANVS) lists)

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA
AA occurs and is managed in predominantly natural state; if not grazed, hayed, logged, or otherwise controlled, does not contain roads or occupied buildings and noxious weed or ANVS cover is 50%; cultivated, but may be moderately grazed or hayed or selectively logged; or has been subjected to relatively minor clearing, till placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is 20%.	Managed in predominantly natural state; if not grazed, hayed, logged, or otherwise controlled, does not contain roads or occupied buildings and noxious weed or ANVS cover is 50%; cultivated, but may be moderately grazed or hayed or selectively logged; or has been subjected to relatively minor clearing, till placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is 20%.
AA consists of newly grazed or logged subject to relatively intensive disturbance; high root or building density; or noxious weed or ANVS cover is >30%.	Land not cultivated, but may be moderately grazed or hayed or selectively logged, or has been subjected to minor clearing, contains roads or buildings; noxious weed or ANVS cover is 50%.
AA consists of heavily grazed or logged subject to substantial till placement, grading, clearing, or hydrological alteration; high root cover is >30%.	Land cultivated or heavily grazed or logged, subjected to substantial till placement, grading, clearing, or hydrological alteration; high root cover is >30%.

Comments: (types of disturbance, intensity, season, etc.) The channel is completely diverted for irrigation.
 ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Discydictya chaetognis, thistle
 iii. Provide brief descriptive summary of AA and surrounding land use/habitat: Formerly grazing land

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

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management (preventing invasive) existence of additional vegetated classes?	Modified Rating
23 (or 2 if 1 is forested) classes	H	NA	NA
2 (or 1 if forested) classes	M	NA	NA
1 class, but not a monoculture	L	NO	NA
1 class, monoculture (1 species comprises 20% of total cover)	U	YES	NA

Comments: Irrigation diverts all water in summer at least and completely changes hydrology (i.e. no water flowing into S.M. river) and veg (i.e. timothy, thistle w/in channel)

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Treatment or Endangered Plants or Animals:
 1. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

Canada Lakes (Mississippi)

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

Highest Habitat Level	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H
Functional Points and Rating	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H
Sources for documented use (e.g. observations, records, etc.):										

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in 14A above)
 1. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

Bald eagle, golden eagle, prairie falcon, black swallows

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

Highest Habitat Level	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H
Functional Points and Rating	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H
Sources for documented use (e.g. observations, records, etc.):										

14C. General Wildlife Habitat Rating:
 i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following (check)):
 - abundant wildlife signs such as scat, tracks, nest structures, game trails, etc.
 - interviews with local biologists with knowledge of the AA
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

Moderate (based on any of the following (check)):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

Low (based on any of the following (check)):
 - few or no wildlife observations during peak use periods
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #1-3. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; SI = seasonal/intermittent; TE = temporary/ephemeral; and A = absent/see instructions for further definitions of these terms)

Structural diversity (see #13)	High			Moderate			Low					
	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even			
Class cover distribution (all vegetated classes)	P/P	SI	TE	A	P/P	SI	TE	A	P/P	SI	TE	A
Duration of surface water (n > 10% of AA)	E	E	E	H	E	H	E	H	M	E	H	M
Low disturbance at AA (see #12)	H	H	H	H	H	H	H	H	M	H	M	M
Moderate disturbance at AA (see #12)	H	H	H	H	H	H	H	H	M	H	M	M
High disturbance at AA (see #12)	M	M	M	M	M	M	M	M	L	M	L	L

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

Evidence of wildlife use (i)	Exceptional			High			Moderate			Low		
	1E	2E	3E	4E	5E	6E	7E	8E	9E	10E	11E	12E
Substantial												
Moderate												
Low												

Comments: A couple of birds and potentially a migratory corridor (as is) Division of water divides the ability of fish to channel so within dependent species.

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "corroborate" such that the AA could be used by fish (i.e., fish use is predicted by management or other barrier, etc.). If the AA is not used by fish, fish use is not corroborated due to habitat constraints, or is not desired from a management perspective (such as fish entrapment in a canal), then circle NA here and proceed to 14E.)
 Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

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

Duration of surface water in AA	Permanent/Perennial		Seasonal/Intermittent		Temporary/Ephemeral	
	Optimal	Adequate	Optimal	Adequate	Optimal	Adequate
Aquatic rating / resting / essential cover	O	S	O	S	O	S
Thermal cover optimal / suboptimal	O	S	O	S	O	S
PFP Tier I fish species	1E	2E	3E	4E	5E	6E
PFP Tier II or Native Game fish species	3H	4H	5H	6H	7H	8H
PFP Tier III or Introduced Game fish	4H	5H	6H	7H	8H	9H
PFP Non-Game Tier IV or No fish species	5M	6M	7M	8M	9M	10M

2. Sources used for identifying fish species potentially found in AA:
 a. Method used (NOI, etc.) Method used cannot exceed 1 or be less than 0.1
 b. Method used (NOI, etc.) Method used cannot exceed 1 or be less than 0.1
 c. Method used (NOI, etc.) Method used cannot exceed 1 or be less than 0.1
 d. Method used (NOI, etc.) Method used cannot exceed 1 or be less than 0.1

3. 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 1 or the above.

iii. Final Score and Rating: 0.1 Comments: Generally, water is diverted onto the riparian area, but some water is diverted into the riparian area. Flood attenuation applies only to wetlands subject to flooding via in-channel or overbank flow. Wetlands in AA are not flooded from in-channel or overbank flow. circle NA (type and proceed to 14E.)

1. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating)

Estimated or Calculated Entrenchment (Rosen 1994, 1999)	Slightly entrenched - C	Moderately entrenched - D	Entrenched - A, F, G stream
% of floodable wetland classified as forested and/or scrubshrub	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	2H	3H
AA contains unrestricted outlet	2H	3H	4H
Entrenchment ratio = (see User's Manual for additional guidance. Entrenchment ratio = (bed-race depth)/(bankfull width)	2H	3H	4H
Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.	2H	3H	4H



14E. 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, circle NA here and proceed to 14G.)

1. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; SI = seasonal/intermittent; and TE = 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 feet		
	P/P	SI	TE	P/P	SI	TE	P/P	SI	TE
Duration of surface water at wetlands within the AA	H	H	H	H	H	H	H	H	H
Wetlands in AA flood or pond > 5 out of 10 years	H	H	H	H	H	H	H	H	H
Wetlands in AA flood or pond < 5 out of 10 years	H	H	H	H	H	H	H	H	H

Comments: There is no water in wetlands. There might be in the winter season diverted throughout the growing season.

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:
 AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

CANADA LARK SPARROW

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating.)

Highest Habitat Level	doDprimary	doSprimary	doCsecondary	doSsecondary	doCincidental	doSincidental	None
Functional Points and Rating	1H	9H	8M	7M	3L	1L	0L

Sources for documented use (e.g. observations, records, etc.):

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in 14A above)
 AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

Bald Eagle, Golden Eagle, Prairie Falcon, Black Sucker (S3)

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating.)

Highest Habitat Level	doCprimary	doSprimary	doCsecondary	doSsecondary	doCincidental	doSincidental	None
S1 Species:	1H	8H	7M	6M	2L	1L	0L
Functional Points and Rating							
S2 and S3 Species:	9H	7M	6M	5M	2L	1L	0L

Sources for documented use (e.g. observations, records, etc.):

14C. General Wildlife Habitat Rating:
 I. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following (check)):
 - observations of abundant wildlife on high species diversity (during any period)
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA

Minimal (based on any of the following (check)):
 - little to no wildlife observations during peak use periods
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

Moderate (based on any of the following (check)):
 - observations of scattered wildlife groups or individual or relatively few species during peak periods
 - common occurrences of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial, SI = seasonal/intermittent, TE = temporary/temporal, and A = absent (see instructions for further definitions of these terms).)

Structural diversity (see #13)	High				Moderate				Low			
	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven
Class cover distribution (all vegetated classes)	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Duration of surface water (at least 70% of AA)	E	E	E	H	E	E	H	H	E	H	H	M
Low disturbance at AA (see #12)	E	E	E	H	E	E	H	H	E	H	H	M
Moderate disturbance at AA (see #12)	H	H	H	H	H	H	M	M	H	H	M	M
High disturbance at AA (see #12)	M	M	M	L	M	M	L	L	M	M	L	L

iii. Rating (Use the conclusions from I and II above and the matrix below to arrive at (circle) the functional points and rating.)

Evidence of wildlife use (i)	Exceptional				High				Moderate				Low			
	9H	8M	7M	3L	9H	8M	7M	3L	9H	8M	7M	3L	9H	8M	7M	3L
Substantial																
Moderate																
Minimal																

Comments:

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by managed culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapment in a canal], then circle NA here and proceed to 14E.)
 Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

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

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

Sources used for identifying fish sp. potentially found in AA:
 i. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)
 a) US Fish use of the AA significantly reduced by a culvert, dam, or other man-made structure or activity or is the waterbody included on the current final NCEC list of waterbodies in need of TMDL development with listed FFWA impaired uses including cold or warm water fishery or aquatic life support, or equal pulsed flow or stream species loss Appendix 1 of the user manual. Score in above by 5
 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 If yes, add 0.1 to the adjusted score in I for the above.

ii. Final Score and Rating: 4M Comments:

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

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

Estimated or Calculated Entrenchment Ratio (ER) (Rosen 1994, 1996)	Slightly entrenched - D. E stream types	Moderately entrenched - B stream types	Entrenched - A, F, G stream types
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	9H	8M
AA contains unrestricted outlet	9H	8H	5M
Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width)	9H	8H	7M
Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.	3L	2L	2L



Flood-prone width	Bankfull width	Entrenchment ratio	Rating
Slightly Entrenched	ER = 2.2		
Moderately Entrenched	ER = 1.41 - 2.2		
Entrenched	ER = 1.0 - 1.4		

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, circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial, SI = seasonal/intermittent, and TE = temporary/temporal (see instructions for further definitions of these terms).)

Duration of surface water at wetlands within the AA	>5 acre feet				1.1 to 5 acre feet				.51 acre foot			
	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Wetlands in AA flood or pond 2.5 out of 10 years	1H	9H	8H	7M	9H	8H	7M	6M	5M	4M	3L	2L
Wetlands in AA flood or pond < 2.5 out of 10 years	9H	8H	7M	6M	5M	4M	3L	2L	1L	1L	1L	1L

Comments:

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLANDSITE #S: WA-17

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed Rare Species Habitat	L	0.1	1		
B. MT Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Habitat	M	0.7	1		
D. General Fish Habitat	M	0.4	1		*
E. Flood Attenuation	M	0.5	1		
F. Short and Long Term Surface Water Storage	M	0.6	1		
G. Sediment/Nutrient/Toxicant Removal	L	0.2	1		
H. Sediment/Shoreline Stabilization	H	0.9	1		*
I. Production Export/Food Chain Support	M	0.7	1		*
J. Groundwater Discharge/Recharge	H	1	1		*
K. Uniqueness	L	0.3	1		
L. Recreation/Education Potential (bonus points)	H	0.2	NA		
Totals:		5.7	11	57% (62%)	
Percent of Possible Score				52%	

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
 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 Fish Habitat; or
 "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; 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 II)
 "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: (circle appropriate category based on the criteria outlined above) I II **III** IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Elkridge Valley Floor 2. MDT Project #: 300-081 3. Wetland Site #: WA18 4. Control #: WA18

3. Evaluation Date: Mo 09 Day 11 yr 08 4. Evaluator(s): A.E. Fiers 5. Wetland Site #: WA18

6. Wetland Location(s): Legal: T43 N25 R09 E of OS 34
Approx. Starting or Mileposts: (County) See Map
Map: USGS 7.5' Quad: T43N25R09E
 III. Watershed: 19030003 Watershed Name: Upper Colerado - Delaney San Mateo

7. a. Evaluating Agency: _____ 8. Wetland size: (total acres) 2.41 (usually estimated) (measured, e.g. by GPS (if applies))

b. Purpose of Evaluation:
 1. Wetlands potentially affected by MDT project
 2. Mitigation wetlands, pre-construction
 3. Mitigation wetlands, post-construction
 4. Other: _____

9. Assessment area (AA): (acres) 2.41 (usually estimated) (measured, e.g. by GPS (if applies))

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Benson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	PEN	TE	PP	12%
D	PEN	TE	TE	57%
D	PBS	TE	SI	49%
D	PBS	TE	TE	13%
R	VB	SI	SI	12%
D	PFO	SI	SI	7%

Abbreviations: (see manual for definitions)
 HGM Classes: Rhyelike (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF)
 Cowardin Classes: Root Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Mess-Flow Wetland (ML), Emergent Wetland (EM), Sub-Shrub Wetland (SS), Forested Wetland (FO)
 Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Diked (PD), Fanned (F), Artificial (A)
 Water Regimes: Permanent/Perennial (PP), Seasonal/Intermittent (SI), Temporary/Ephemeral (TE)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)
 (Circle one) Unknown Common Abundant

12. General condition of AA: Relatively good, but with some common habitat loss due to agriculture and some loss of riparian habitat.

13. Disturbance: (use a rating to determine if/and appropriate response - see instructions for Modified/High Disturbance codes and aquatic nuisance vegetation species) (ANVS) (18%)

Proportion/all conditions adjacent to (within 500 feet of) AA

Conditions within AA	High Disturbance	Moderate Disturbance	Low Disturbance
AA not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to recovery under low levels of disturbance; moderate weed or ANVS cover is 5-20%.	high disturbance	moderate disturbance	low disturbance
AA not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to recovery under low levels of disturbance; moderate weed or ANVS cover is 20-50%.	high disturbance	moderate disturbance	low disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration (e.g. road or building density, or road/water or ANVS cover is 50-80%).	high disturbance	moderate disturbance	high disturbance

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

iii. Provide brief descriptive summary of AA and surrounding land usability: wet meadow at toe of gradual slope and near a stream

iv. Present/natural disturbance: low edge of meadow borders stream that is overtopped by stream

14. Structural diversity: (based on number of "Cowardin" vegetated classes present (do not include unvegetated classes), see #10 above)

Existing # of Cowardin Vegetated Classes in AA	Initial Rating	Is current management preventing (passive) existence of additional vegetated classes?	Modified Rating
23 (or 21 if forested classes)	H	NA	NA
2 (or 1 if forested classes)	M	NA	NA
1 class, but not a monoculture	L	NO	L
1 class, monoculture (1 species comprises 20% of total cover)	L	NA	NA

Comments: _____

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

AA is Documented (D) or Suspected (S) to contain (Circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S
Canada Lynx (Lynx canadensis)

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

AA is Documented (D) or Suspected (S) to contain (Circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S
Bald Eagle, Golden Eagle, Ferruginous Hawk, Black Kite

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

Highest Habitat Level	do/dprimary	su/sprimary	do/dsecondary	su/ssecondary	do/dincidental	su/sincidental	None
Functional Points and Rating	1H	9H	8M	7M	3L	1L	0L
S1 Species:							
Functional Points and Rating	1H	8H	7M	6M	2L	1L	0L
S2 and S3 Species:							
Functional Points and Rating	9H	7M	5M	5M	2L	1L	0L

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

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

Moderate (based on any of the following [check]):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - require adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

Minimal (based on any of the following [check]):
 - few or no wildlife observations during peak use periods
 - little to no wildlife sign
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features: (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class, cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S1 = seasonal/perennial; TE = temporary/perennial; and A = adjacent face restrictions for further definitions of these terms.)

Structural diversity (see #13)	High				Moderate				Low			
	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven
Class cover distribution (all vegetated classes)	P/P	SM	TE	A	P/P	SM	TE	A	P/P	SM	TE	A
Duration of surface water in: < 10% of AA	P/P	SM	TE	A	P/P	SM	TE	A	P/P	SM	TE	A
Low disturbance at AA (see #12)	E	E	E	E	H	H	H	H	M	M	M	M
Abundant disturbance at AA (see #13)	H	H	H	H	M	M	M	M	L	L	L	L
High disturbance at AA (see #13)	M	M	M	M	L	L	L	L	L	L	L	L

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

Evidence of wildlife use (i)	Exceptional				High				Moderate				Low			
	1E	9H	8M	7M	3L	1L	0L	1E	9H	8M	7M	3L	1L	0L		
Substantial																
Moderate																
Minimal																

Comments: (15) observed plenty of scat, birds, small mammals.

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

Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

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

14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetland in AA are hydrobanded from in-channel or overbank flow, circle NA here and proceed to 14F.)

14F. Final Score and Rating: N/A

Comments: It is a riparian wetland with a creek from San Miguel and some riparian wetlands. We were protected there would be some potential for fish habitat.

Estimated or Calculated Entrenchment (Rosgen, 1994, 1996)	Slightly Entrenched - D, E stream types	Moderately Entrenched - C, B stream types	Entrenched - A, F, G stream types
% of channel wetland classified as forested and/or scrubland	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	9H	8M
Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width). Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.	9H	8H	7M



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

14H. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S1 = seasonal/perennial; TE = temporary/perennial [see instructions for further definitions of these terms])

Estimated minimum 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			
	P/P	SM	TE	A	P/P	SM	TE	A	P/P	SM	TE	A
Duration of surface water at wetlands within the AA	1H	9H	8H	7M	9H	8H	7M	6M	5M	4M	3L	2L
Wetlands in AA flood or pond > 5 and of 10 years	9H	8H	7M	6M	5M	4M	3L	2L	1L	0L	0L	0L

Comments: 10% by some flooding from stream nearby and storm wet

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

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

Sediment, nutrient, and toxicant input levels within AA	Retention			Removal		
	High	Moderate	Low	High	Moderate	Low
AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or toxicants or compounds at levels such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.	Yes	Yes	Yes	Yes	Yes	Yes
Waterbody on NIDCG list of wetland/riparian areas 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.	No	No	No	No	No	No

14H. Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks of 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, circle NA here and proceed to 14I.)

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

% Cover of wetland streambank or shoreline by species with stability ratings of 2-6 (see Appendix E)	Retention			Removal		
	High	Moderate	Low	High	Moderate	Low
Permanent / Perennial	Yes	Yes	Yes	Yes	Yes	Yes
Seasonal / Interim	No	No	No	No	No	No

14I. Production Export/Chain Support: (Use the matrix below to arrive at [circle] the functional points and rating)

General Fish Habitat Rating (14D.III)	General Wildlife Habitat Rating (14C.III)
EH	M
M	M
L	M
N/A	H

14J. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1). Vegetated Upland Buffer (VUB): Area with a 30% plant cover; 15% noxious weed or AVMS cover; and that is not subjected to periodic mechanical mowing or clearing (unless for weed control). a) Is there an average ≥ 50 foot-wide vegetated upland buffer around $\geq 75\%$ of the AA circumference? Y N If yes, add 0.1 to the score in II above and adjust rating accordingly.

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

14K. Groundwater Discharge/Recharge: (Check the appropriate indicators in I & II below)

Final Score and Rating: FM Comments:

- I. Discharge Indicators
- The AA is a slope wetland
 - Springs or seeps are known or observed
 - Vegetation growing during dormant season/drought
 - 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
- II. Recharge Indicators
- Permeable substrate present without underlying impeding layer
 - Wetland contains field but no outlet
 - Stream is a known losing stream; discharge volume decreases
 - Other:

14K. Uniqueness:

Criteria	Discharge or Recharge			Insufficient Data/Information		
	P/P	S/L	T/E	1H	7M	8H
Groundwater Discharge or Recharge						
Insufficient Data/Information						

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

Replacement potential	AA contains fen, bog, warm springs or native (>80 yr-old) forested wetland or plant association listed as "S1" by the MTNHP			AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association listed as "S2" by the MTNHP		
	1H	9H	8H	1H	9H	8H
Estimated relative abundance (#1)	1H	9H	8H	1H	9H	8H
Low disturbance at AA (#12)	1H	9H	8H	1H	9H	8H
Moderate disturbance at AA (#12)	1H	9H	8H	1H	9H	8H
High disturbance at AA (#12)	1H	9H	8H	1H	9H	8H

14M. Recreation/Education Potential: (Attords bonus points if AA provides recreation or education opportunity)

I. Is the AA a known or potential rec'd site: (circle) Y N (If Yes, continue with the evaluation; if No then circle NA here and proceed to the overall summary and rating page)

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

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

Known or Potential Recreation or Education Area	Potential
Public ownership with general public access (no permission required)	2H
Private ownership with general public access (no permission required)	1SH
Private or public ownership without general public access, or requiring permission for public access	1M
	0.5L

General Site Notes

MA18 is a PEM wetland located at the toe of a graded slope and adjacent to a stream channel that is heavily affected by vegetation along its edge. The area is partially accreted and is gradually being saturated, some ponding or flooding occurs during peak flows.

Stream shows signs of being in a poor condition. It is very little water flow in Sept 9, on Sept 11 there was a peak and water is in sheet flow.

When stream flows into the sun toward river there is an elevated (1) abundant algal bloom in water. This area has been a stream for many years and has a very low flow. It is a low water stream and it is in a poor condition currently due to being a poor habitat area.

Vegetated area along stream side of wet stream. This area is saturated and stream runs west to alluvial forested area and stream is perennially good. Monitor the fish used to diversify a channel.

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Average)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.1	1		
B. MT Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Habitat	M	0.7	1		*
D. General Fish Habitat	M	0.4	1		
E. Flood Attenuation	M	0.5	1		
F. Short and Long Term Surface Water Storage	M	0.6	1		*
G. Sediment/Nutrient/Toxicant Removal	H	0.9	1		*
H. Sediment/Shoreline Stabilization	M	0.6	1		*
I. Production Export/Food Chain Support	M	0.7	1		
J. Groundwater Discharge/Recharge	M	0.7	1		
K. Uniqueness	M	0.4	1		
L. Recreation/Education Potential (bonus points)	H	0.1	NA		
Totals:		5.9	11	5.9 x 20.1 = 117.28	
Percent of Possible Score				54%	

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
 "High" to "Exceptional" ratings for both General Fish 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: (circle appropriate category based on the criteria outlined above) I II III IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Rolling Hills Valley Floor 2. Project #: 300-081 Control #: _____
 3. Evaluation Date: 1 Day 11/1/08 4. Evaluator(s): D. Seeger 5. Wetland/Site #(s): WA-19
 6. Wetland Location(s): Legal: T4S(N)R9E of R9S35
Approx. Stationing or Mileposts: 0.5 miles south of
Watershed: 140300003 Watershed Name: Upper Colorado - Dolores, San Juan

7. a. Evaluating Agency: _____ 8. Wetland size: (total acres) 3.28 (visually estimated)
 b. Purpose of Evaluation: 1. Wetlands potentially affected by MDT project
2. Mitigation wetlands: pre-construction
3. Mitigation wetlands: post-construction
 9. Assessment area (AA): (acres) 3.28 (visually estimated)
 See instructions on determining AA) 3.28 (measured, e.g. by GPS (if applies))
 Other: _____

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Emerson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	PSS		PP	39%
D	PEM		PP	21%

Abbreviations: (see manual for definitions)
 HGM Classes: Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF);
 Cowardin Classes: Rock Bottom (RB), Unconsolidated Bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Shrub Wetland (SW), Emergent Wetland (EM), Scud-Shrub Wetland (SS), Forested Wetland (FO), Striped Wetland (ST), Farmed (F), Artificial (A), Modified (MD), Excavated (E), Impounded (I), Diked (D), Partly Diked (PD), Farmed (F), Artificial (A), Water Regimes: Permanent / Perennial (PP), Seasonal / Intermittent (SI), Temporary / EpheMERAL (TE)

11. Estimated relative abundance: (if similarly classified sites within the same major Montana Watershed Basin, see definitions)
 (Circle one) Rare Common Abundant

12. General condition of AA:
 1. Disturbance: (use matrix below to determine (circle) appropriate response - see instructions for Montana-tiled noxious weed and aquatic nuisance vegetation species (ANVS) lists)
Low disturbance

Conditions within AA	Predominant conditions adjacent to within 500 feet of AA
AA occurs and is managed in predominantly natural state, is not grazed, harrowed, logged, or otherwise converted; does not contain 45%+ occupied buildings; and noxious weed or ANVS cover is 45%.	Managed in predominantly natural state; no grazing, harrowed, logged, or otherwise converted; does not contain 45%+ occupied buildings; and noxious weed or ANVS cover is 45%.
AA not cultivated, but may be moderately grazed or harrowed or selectively logged; or has been subject to relatively minor clearing, till placement, or hydrological alteration; contains few ANVS; and noxious weed or ANVS cover is 20%.	Land not cultivated, but may be moderately grazed or harrowed or selectively logged; or has been subject to minor clearing, till placement, or hydrological alteration; contains few ANVS; and noxious weed or ANVS cover is 20%.
AA cultivated or heavily grazed or converted; subject to relatively substantial till placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is 30%.	Land cultivated or heavily grazed or converted; subject to relatively substantial till placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is 30%.

Comments: (types of disturbance, intensity, season, etc.):
 II. Prominent noxious, aquatic nuisance, & other exotic vegetation species:
 III. Provide brief descriptive summary of AA and surrounding land use/habitat: Wetland is located adjacent to highway 155, mostly composed of riparian or riverine habitat.

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

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management preventing (passive) existence of additional vegetated classes?	Modified Rating
23 (or 2 if 1 forested) classes	H	NA	NA
2 (or 1 if forested) classes	M	NO	L
1 class, but not a monoculture	L	NA	NA

14. Class, monoculture (1 species comprises 30% of total cover)

Class	Rating
1 class, monoculture (1 species comprises 30% of total cover)	NA

Comments: _____

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

ii. Rating (use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

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

Sources for documented use (e.g. observations, records, etc.):

148. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in 144 above)

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) S
 No usable habitat S

ii. Rating (use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
Functional Points and Rating	1H	9H	7M	6M	2L	1L	0L

S1 Species:
 S2 and S3 Species:
 Functional Points and Rating: .9H .7M .6M .5M .2L .1L .0L

14C. General Wildlife Habitat Rating:

I. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (based on any of the following (check)):
 - observations of abundant wildlife at a high species diversity (during any period)
 - abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA

Moderate (based on any of the following (check)):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

Low (circle one based on any of the following (check)):
 - observations of few or no wildlife observations during peak use periods
 - little to no wildlife sign
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover the composite AA (see #10). Abbreviators for surface water durations are as follows: P/P = Permenant/Perennial; S/I = Seasonal/Intermittent; T/E = Temporary/ephemeral; and A = seasonal (see instructions for further definitions of these terms)

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

iii. Rating (use the conclusions from I and II above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife uses (i)	Wildlife habitat features rating (ii)		
	Exceptional	High	Moderate
Substantial	1E	9H	8H
Moderate	9H	7M	5M
Minimal	9M	4M	2L

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

Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

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

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

ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)
 a) Use of the AA significantly reduced by a culvert, dam, or other man-made structure or activity or is the watershed included on the current final or proposed list of impaired watersheds? Y N If yes, reduce score in I above by 0.1
 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

iii. Final Score and Rating: NA Comments:

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

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

Estimated or Calculated Entrenchment Ratio (EER) (1994, 1996)	Slightly entrenched - C	Moderately entrenched - D	Entrenched - A, F, G stream types
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	9H	6M
AA contains unrestricted outlet	9H	8H	5M
Entrenchment ratio (EER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width) / (bankfull width)	9H	8H	7M
Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.	3L	3L	2L



C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type

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 (circle)? 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, circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. Abbreviators 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		
	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	9H	8H	7M	9H	8H	7M
Wetlands in AA flood or pond < 5 out of 10 years	9H	8H	7M	9M	8M	7M	9M	8M	7M

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): WA-19

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	1		
B. Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Habitat	H	0.9	1		
D. General Fish Habitat	NA	—	0		
E. Flood Attenuation	NA	—	0		
F. Short and Long Term Surface Water Storage	H	0.8	1		
G. Sediment/Nutrient/Toxicant Removal	H	0.9	1		*
H. Sediment/Shoreline Stabilization	NA	—	0		
I. Production Export/Food Chain Support	H	1.0	1		*
J. Groundwater Discharge/Recharge	H	1.0	1		*
K. Uniqueness	H	1.0	1		*
L. Recreation/Education Potential (bonus points)	H	0.2	NA		
Totals:		6.0	8	60 x 0.25 = 15%	
Percent of Possible Score				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
 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 Fish Habitat; or
 "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; 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 II)
 "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: (circle appropriate category based on the criteria outlined above) **I** II III IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Telluride Valley Floor 2. Project #: 300-081 Control #: _____
 3. Evaluation Date: 9 Day 11 yr. 08 4. Evaluator(s): KRIS SOKOL 5. Wetland/Site #(s): WA-202
 6. Wetland Location(s): Legal: T 48 N 07 S R 1 E or 03 34
II. Approx. Stationing or Mileposts: (KARSON SECTION)
P 70 / P 70 N CONCRETE BOX SIGN CONTAINING GRADE + CORNER STAKE, EAST OF BOUNDARY CORNER
III. Watershed: 14 03 00 03 Watershed Name/County: UPPER CHICOPEE - DAVENPORT, SPOON MOUNTAIN

7. a. Evaluating Agency: _____ 8. Wetland size: (total acres) 38.45 (visually estimated)
 b. Purpose of Evaluation: 1. Wetlands potentially affected by MDT project 9. Assessment area (AA): (acres) 38.45 (visually estimated)
 2. Mitigation wetlands, pre-construction see instructions on determining AA) 38.45 (measured, e.g. by GPS (if applies))
 3. Mitigation wetlands, post-construction
 4. Other _____

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Bismont)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	PEM	ST	ST	13%
	PFO	ST	ST	36 1/3%
	PFO	PP	PP	25%
	PSS	PP	PP	25%

Abbreviations: (see manual for definitions)
 HGM Classes: Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF);
 Cowardin Classes: Rock Bottom (RB), Unconsolidated Bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss Wetland (MU), Emergent (EM), Shrub-Shrub Wetland (SS), Forested Wetland (FW), Strand (S), Diked (D), Parly Diked (PD), Farmed (F), Artificial (A)
 Water Regimes: Permanent/Perennial (PP), Seasonal/Intermittent (SI), Temporary/Ephemeral (TE)

11. Estimated relative abundance: (if similarly classified sites within the same Major Montana Watershed Basin, see definitions) (Circle one) Common Abundant

12. General condition of AA: Disturbance (use matrix below to determine (circle) appropriate response - see instructions for Montana-related noxious weed and aquatic nuisance vegetation species (ANVS) lists)

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA
AA occurs and is managed in predominantly natural state; is not grazed, mowed, logged, or otherwise converted; does not contain roads or buildings; and noxious weed or ANVS cover is 51%.	Land not cultivated but may be moderately disturbed by mowing, logging, or other disturbance; roads or buildings; and noxious weed or ANVS cover is 25%.
AA not cultivated; during the moderate disturbance or moderate disturbance, it has been subjected to relatively minor disturbance; it is permanent or hydrological alteration contains few roads or buildings; and noxious weed or ANVS cover is 25%.	Land cultivated or recently grazed or logged; roads or buildings; and noxious weed or ANVS cover is 25%.
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; light road or building density; or noxious weed or ANVS cover is 25%.	Land cultivated or recently grazed or logged; roads or buildings; and noxious weed or ANVS cover is 25%.

13. Structural Diversity: (based on number of Cowardin vegetated classes present (do not include unvegetated classes); see (R to above))

14. Prominent noxious aquatic nuisance, & other exotic vegetation species: _____

15. Provide brief descriptive summary of AA and surrounding land use/habitat: Wetland adjacent to road, mostly forested, with some grassy areas. Noxious weed species present include: Yellow Flag, Canada Thistle, and others. Some structural diversity.

Existing # of "Cowardin" Vegetated Classes in AA

Class	Initial Rating	Is current management preventing (passive) existence of additional vegetated classes?	Modified Rating
23 (or 2 if 1 is forested) classes	(H)	NA	NA
2 (or 1 if forested) classes	M	NA	NA
1 class, but not a monoculture	L	NO	L
1 class, monoculture (1 species comprises 20% of total cover)	L	NA	NA

Comments: _____

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

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

Sources for documented use (e.g. observations, records, etc.):

14B. Habitat for plant or animals rated \$1, \$2, or \$3 by the Montana Natural Heritage Program: (not including species listed in 14A above)

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
Functional Points and Rating	1H	.8H	.7M	.6M	.2L	.1L	0L

S2 and S3 Species: .9H .7M .5M .5M .2L .1L

Functional Points and Rating: .9H .7M .5M .5M .2L .1L

14C. General Wildlife Habitat Rating:

i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial based on any of the following (check):
 - observations of abundant wildlife #s or high species density (during any period)
 - abundant wildlife sign such as tracks, nests, structures, game trails, etc.
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (based on any of the following (check):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as tracks, nests, structures, game trails, etc.
 - adequate signpost upland food sources
 - interviews with local biologists with knowledge of the AA
 Low (based on any of the following (check):
 - few or no wildlife observations during peak use periods
 - little to no wildlife sign
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; SI = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent (see instructions for further definitions of these terms))

Structural diversity (see #13)	High			Moderate			Low		
	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even
Class cover distribution (all vegetated classes)	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even
Duration of Surface Water (AA #10)	P/P	SI	A	P/P	SI	T/E	A	P/P	SI
Low disturbance at AA (see #13)	E	E	E	E	E	E	E	E	E
Moderate disturbance at AA (see #13)	H	H	H	H	H	H	H	H	H
High disturbance at AA (see #13)	M	M	M	M	M	M	M	M	M

iii. Rating (Use the conclusions from I and II above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife use (i)	Exceptional	High	Moderate	Low
Substantial	1E	9H	8M	7M
Moderate	9H	7M	5M	3L
Minimal	6M	4M	2L	1L

14D. General Fish Habitat Rating: (Assess the function if the AA is used by fish or the existing situation is "conceivable" such that the AA could be used by fish (i.e., fish use is predicted by periodic covert or other barrier, etc.). If the AA is not used by fish, fish habitat is not restorable due to habitat constraints, or is not produced from a management perspective [such as fish entrapment in a canal], then circle NA here and proceed to 14E.)

Type of Fishery: Cold Water (CW) ___ Warm Water (WW) ___ Use the CW or WW guidelines in the user manual to complete the matrix

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

Duration of surface water in AA	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
Aquatic Insect / Resting / Egg Case Cover	Optimal	Adequate	Poor
Thermal cover optimal / Suboptimal	O S	O S	O S
PMP Tier I fish species	1E 9H	8H 7M	6M 5M
PMP Tier II or Native Game fish species	9H 8H	7M 6M	5M 4M
PMP Tier III or Introduced Game fish	8H 7M	6M 5M	4M 3L
PMP Non-Game Tier IV or No fish species	5M 5M	4M 4M	3L 2L

Sources used for identifying fish sp. potentially found in AA: 1 or less than 0.1
 1-10 percent of existing AA
 11-25 percent of existing AA
 26-50 percent of existing AA
 51-75 percent of existing AA
 76-90 percent of existing AA
 91-100 percent of existing AA
 MDCI 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

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 II above

iii. Final Score and Rating: NA Comments:

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

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

Estimated or Calculated Entrenchment (Rosser 1994, 1996)	Slightly entrenched - C	Moderately entrenched - D	Entrenched - A, F
Estimated or Calculated Entrenchment (ER) = 2.2	ER = 2.2	ER = 1.41 - 2.2	ER = 1.0 - 1.4
Estimated or Calculated Entrenchment (ER) = 2.2	75% 25-75%	75% 25-75%	75% 25-75%
AA contains no outlet or restricted outlet	1H 9H	8H 7M	6M 5M
AA contains unrestricted outlet	9H 8H	7M 6M	5M 4M
Flood-prone width - estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.	3L 2L	2L 1L	1L 1L



ii. Are 3-10 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 (circle)? 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, circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; SI = 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	1.1 to 5 acre feet	51 acre feet
Duration of surface water at wetlands within the AA	P/P	SI
Wetlands in AA flood or pond 2-5 out of 10 years	9H	8H
Wetlands in AA flood or pond < 5 out of 10 years	8H	7M
Comments: 50% of wetland area is P/P, 20% is SI. Reduced flood water from canal structure causes in addition to groundwater 3 from a high groundwater table.	7M	6M
	5M	4M
	3L	2L
	2L	1L

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

- 1. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 - D S
 - Secondary habitat (list species) D S
 - Incidental habitat (list species) D S
 - No usable habitat S

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

Highest Habitat Level	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H
Functional Points and Rating	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H

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

- 1. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 - D S
 - Secondary habitat (list species) D S
 - Incidental habitat (list species) D S
 - No usable habitat S

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

Highest Habitat Level	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H
Functional Points and Rating	1H	2H	3H	4H	5H	6H	7H	8H	9H	10H

14C. General Wildlife Habitat Rating:

- i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 - Substantial (based on any of the following (check)):
 - observations of abundant wildlife as of high species diversity (during any period)
 - presence of extensive, thriving habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 - Moderate (based on any of the following (check)):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA
 - Low (based on any of the following (check)):
 - little or no wildlife observations during peak use periods
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = Permanent/Perennial; S1 = Seasonal/Intermittent; TE = Temporary/Ephermal; and A = absent (see instructions for further definitions of these terms)

Structural diversity (see #13)	High			Moderate			Low					
	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even			
Class cover distribution (all vegetated classes)	P/P	S1	TE	A	P/P	S1	TE	A	P/P	S1	TE	A
Duration of surface water in 2 10% of AA	E	E	E	H	E	E	H	E	H	E	H	M
Low disturbance at AA (see #21)	H	H	H	H	H	H	H	H	H	H	H	M
Moderate disturbance at AA (see #21)	M	M	M	M	M	M	M	M	M	M	M	L
High disturbance at AA (see #21)	L	L	L	L	L	L	L	L	L	L	L	L

iii. Rating (Use the conclusions from i and ii above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife use (i)	Exceptional	High	Moderate	Low
Substantial	1E	2E	3E	4E
Moderate	5E	6E	7E	8E
Minimal	9E	10E	11E	12E

Comments:

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "concernable" such that the AA could be used by fish i.e., fish use is precluded from a management perspective such as fish entrapment in a canal, then circle NA here and proceed to 14E)

Type of Fishery: Cold Water (CW) ___ Warm Water (WW) ___ Use the CW or WW guidelines in the wet manual to complete the matrix

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

Water in AA	Permanent/Perennial	Seasonal/Intermittent	Temporary/Ephermal
Duration of surface water in AA	Optimal	Adequate	Poor
Aquatic hiding / resting / escape cover	O	S	O
Thermal cover optimal / suboptimal	O	S	O
FWP Tier I fish species	1E	2E	3E
FWP Tier II or Native Game fish species	4E	5E	6E
FWP Tier III or Introduced Game fish	7E	8E	9E
FWP Non-Game fish or No fish species	10E	11E	12E

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

- a) Use of the AA significantly reduced by a culvert, dam, or other man-made structure or activity or is the waterbody included on the current final or final EIS for the project as a result of a proposed action or activity that would result in the loss of aquatic resources or the loss of habitat for native fish or introduced game fish? Y N If yes, add 0.1 to the adjusted score in 1 or 1a above.
- 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 1 or 1a above.

iii. Final Score and Rating: 1.3

Comments: Quality of water is poor due to low flow and high turbidity. Fish habitat is poor due to low flow and high turbidity. Fish habitat is poor due to low flow and high turbidity.

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

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

Estimated or Calculated Entrenchment Ratio (ER) (1994, 1996)	Slightly entrenched - D, E stream types	Moderately entrenched - B stream types	Entrenched - A, F, G stream types
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	2H	3H
AA contains unrestricted outlet	4H	5H	6H
Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width)	7H	8H	9H
Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.	10H	11H	12H



Flood-prone width	Bankfull width	Entrenchment ratio
1	2	2 x Bankfull Depth

Stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type
Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram

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 (circle)? Y N

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, circle NA here and proceed to 14G)

i. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S1 = seasonal/intermittent; and TE = temporary/ephermal (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	S1	TE
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	2H	3H
Wetlands in AA flood or pond < 5 out of 10 years	4H	5H	6H

Comments:

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #S): WA-21

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Average)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.1	1		
B. Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Habitat	H	0.9	1		*
D. General Fish Habitat	M	0.3	1		
E. Flood Attenuation	UA	-	-		
F. Short and Long Term Surface Water Storage	H	1	1		*
G. Sediment/Nutrient/Toxicant Removal	H	1	1		*
H. Sediment/Shoreline Stabilization	UA	-	-		
I. Production Export/Food Chain Support	H	1	1		*
J. Groundwater Discharge/Recharge	H	1	1		
K. Uniqueness	M	0.4	1		
L. Recreation/Education Potential (bonus points)	H	0.2	NA		
Totals:		6.0	9	60.4%	
Percent of Possible Score		66.7%		60.4%	

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
 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
 "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; 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 II)
 "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: (circle appropriate category based on the criteria outlined above) I II III IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Telma de Valley Floor 2. Project #: 300-081 Contour #: WA-21
 3. Evaluation Date: 9 Day 11 yr. 08 4. Evaluator(s): DK, JG, ST, R, E, S, 3S
 5. Wetlands/Site #s): WA-21
 6. Wetland Location(s): Legal: T 46N R 9 E S 3S
 7. Approx. Stationing or Mileposts: Eastern Section
 8. Watershed: 2003 Watershed Name: Upper Bobcat - Bobcat, San Miguel

7. a. Evaluating Agency: _____ 8. Wetland size: (total acres) 1.48 (visually estimated) or 1.48 (measured, e.g. by GPS (if applies))
 b. Purpose of Evaluation:
 1. Wetlands potentially affected by MDT project
 2. Mitigation wetlands; pre-construction
 3. Mitigation wetlands; post-construction
 4. Other _____ 9. Assessment area (AA): (acres, (visually estimated) or 1.48 (measured, e.g. by GPS (if applies)) see instructions on determining AA)

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brierson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	POW	E	PP	100%

Abbreviations: (see manual for definitions)
 HGM Classes: Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF);
 Cowardin Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shrub Wetland (SW), Emergent Wetland (EM), Shrub Wetland (SS), Forested Wetland (FO), Modified (M), Excavated (E), Impounded (I), Diked (D), Pansy Drained (PD), Fanned (F), Artificial (A)
 Water Regimes: Permanent/Perennial (PP), Seasonal/Intermittent (SI), Temporary/Ephemeral (TE)

11. Estimated relative abundance: (if similarity classified, sites within the same Major Montana Watershed Basin, see definitions) (Circle one) Common Abundant

12. General condition of AA: Disturbance (use matrix below to determine (circle) appropriate response - see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) lists) Predominant conditions adjacent to (within 500 feet of) AA

Conditions within AA	Managed in predominantly native state	Managed in predominantly non-native state	Managed in predominantly native state, but not currently managed	Managed in predominantly non-native state, but not currently managed
AA occurs and is managed in predominantly native state; it not grazed, mowed, or otherwise converted; some native common species are present; and noxious weed of ANVS cover is <15%.	high disturbance	low disturbance	moderate disturbance	high disturbance
AA not cultivated, but may be moderately grazed or mowed or selectively logged; or has been subject to relatively minor disturbance; the proportion of non-native vegetation remains low (<15%); and noxious weed of ANVS cover is <20%.	high disturbance	low disturbance	moderate disturbance	high disturbance
AA cultivated or heavily grazed or mowed; subject to relatively substantial till placement, grading, clearing or hydrological alteration; high road or building density; or noxious weed of ANVS cover is >25%.	high disturbance	low disturbance	moderate disturbance	high disturbance

13. Provide brief descriptive summary of AA and surrounding land use/habitat: Artificial ponds - excavated adjacent to Telma de Valley Floor. Wetland area is adjacent to road. Noxious weed is present in wetland area.

14. Structure Diversity: (based on number of Cowardin vegetated classes present (do not include unvegetated classes); see #10 above)

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management (preventive) existence of additional vegetated classes?	Modified Rating
3 (or 2 if 1 is forested) classes	H	NA	NA
2 (or 1 if forested) classes	M	NA	NA
1 class, but not a monoculture	M	NO	L
1 class, monoculture (1 species comprises 20% of total cover)	L	NA	NA

Comments: _____

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

II. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

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

Sources for documented use (e.g. observations, records, etc.):

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

II. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

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

Sources for documented use (e.g. observations, records, etc.):

14C. General Wildlife Habitat Rating:

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

Substantial (based on any of the following [check]):
 - observations of abundant wildlife (s or high species diversity (during any period))
 - abundant wildlife sign such as tracks, nests, structures, game trails, etc.
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA

Marginal (based on any of the following [check]):
 - few or no wildlife observations during peak use periods
 - little to no wildlife sign
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - moderate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

II. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #1-3. Percent cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their seasonal/phenological. TE = temporary/ephemeral, and A = absent (see instructions for further definitions of these terms))

Structural diversity (see #1-3)	Even			Uneven			Moderate			Low		
	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Class cover distribution (all vegetated classes)	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Duration of surface water $\geq 10\%$ of AA	E	E	E	E	E	E	E	E	E	E	E	E
Low disturbance at AA (see #12)	H	H	H	H	H	H	H	H	H	H	H	H
Moderate disturbance at AA (see #12)	H	H	H	H	H	H	H	H	H	H	H	H
High disturbance at AA (see #12)	M	M	M	M	M	M	M	M	M	M	M	M

III. Rating (Use the conclusions from I and II above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife use (I)	High			Moderate			Low		
	Exceptional	High	Moderate	High	Moderate	Low	High	Moderate	Low
Substantial	TE	9H	8H	7M	7M	7M	7M	7M	7M
Moderate	9H	9M	5M	3L	3L	3L	3L	3L	3L
Minimal	6M	4M	2L	2L	2L	2L	2L	2L	2L

Comments: Few individuals of waterfowl observed.

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "credible" such that the AA could be used by fish i.e., fish uses is produced by periodic current or other barrier, etc.). If the AA is not used by fish, fish uses is not restorable due to habitat constraints, or is not desired from a management perspective (such as fish trapped in a canal), then circle NA here and proceed to 14E).

Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

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

Duration in AA	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
Aquatic habitat / nesting / aquatic cover	Optimal	Adequate	Poor
Thermal cover optimal / Suboptimal	O S	O S	O S
PMP Tier I fish species	1E	9H	8H
PMP Tier II or Native Game fish species	9H	8H	7M
PMP Tier III or Introduced Game fish	8H	7M	6M
PMP Non-Game fish or No fish species	5M	5M	4M

Sources used for identifying fish sp. potentially found in AA:
 a) Is fish habitat in AA? b) Is habitat score ≥ 1 or ≥ 2 (if less than 0.3) c) Is habitat in AA? d) Is habitat score ≥ 1 or ≥ 2 (if less than 0.3) e) Is habitat in AA? f) Is habitat score ≥ 1 or ≥ 2 (if less than 0.3) g) Is habitat in AA? h) Is habitat score ≥ 1 or ≥ 2 (if less than 0.3) i) Is habitat in AA? j) Is habitat score ≥ 1 or ≥ 2 (if less than 0.3) k) Is habitat in AA? l) Is habitat score ≥ 1 or ≥ 2 (if less than 0.3) m) Is habitat in AA? n) Is habitat score ≥ 1 or ≥ 2 (if less than 0.3) o) Is habitat in AA? p) Is habitat score ≥ 1 or ≥ 2 (if less than 0.3) q) Is habitat in AA? r) Is habitat score ≥ 1 or ≥ 2 (if less than 0.3) s) Is habitat in AA? t) Is habitat score ≥ 1 or ≥ 2 (if less than 0.3) u) Is habitat in AA? v) Is habitat score ≥ 1 or ≥ 2 (if less than 0.3) w) Is habitat in AA? x) Is habitat score ≥ 1 or ≥ 2 (if less than 0.3) y) Is habitat in AA? z) Is habitat score ≥ 1 or ≥ 2 (if less than 0.3) AA contains unrestricted outlet

14E. Flood Attenuation: (Fishes only to wetlands subjected to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F).

I. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating)

Estimated or Calculated Entrenchment (Fossner 1994, 1996)	Slightly entrenched - C	Moderately entrenched - D	Entrenched - A, F, G stream types
% of non-geared wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%
AA contains unrestricted outlet	Y	N	N



Food-prone width	Bankfull Depth	Bankfull Depth	Flood-prone Width
ER = >2.2	ER = 1.41 - 2.2	ER = 1.0 - 1.4	

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 (circle)? 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, circle NA here and proceed to 14G).

I. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial, SI = seasonal/intermittent, and TE = 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	51 acre foot
Duration of surface water at wetlands within the AA	P/P	SI	T/E
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	8H	8H
Wetlands in AA flood or pond ≤ 5 out of 10 years	9H	8H	7M

Comments: Wetland areas is open water/perennially flooded, but some wetlands are not regularly flooded. Wetland depth is not sufficient to hold water into the adjacent wetland complex.

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

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

Segment, nature, and extent 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.	AA contains no or restricted outlet	AA contains unrestricted outlet	TMU body or other CULST of wetlands in need of 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	Yes $\geq 70\%$	No $< 70\%$	Yes $\geq 70\%$	No $< 70\%$
Evidence of flooding/pooling in AA	Yes $\geq 70\%$	No $< 70\%$	Yes $\geq 70\%$	No $< 70\%$
AA contains no or restricted outlet	Yes $\geq 70\%$	No $< 70\%$	Yes $\geq 70\%$	No $< 70\%$
AA contains unrestricted outlet	Yes $\geq 70\%$	No $< 70\%$	Yes $\geq 70\%$	No $< 70\%$

14H. Production/Export/Retention and Removal: (Applies only if AA occurs on or within the banks of 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, circle **NA** here and proceed to 14I.)

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

% cover of wetland/vegetation or shoreline of species with stability ratings of 26 (see Appendix F)	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
> 65%	1H	9H	7M
35-64%	7M	6M	5M
< 35%	3L	2L	1L

14I. Production/Export/Retention and Removal: (Applies only if AA occurs on or within the banks of 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, circle **NA** here and proceed to 14I.)

General Fish Habitat Rating (14D III)	General Wildlife Habitat Rating (14C III)
EH	M
H	M
M	M
L	M
NA	M

1. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = average of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14I); 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/L, 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		
	High	Moderate	Low	High	Moderate	Low	High	Moderate	Low
B	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
C	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
P/P	1H	7M	8H	5M	6M	7M	4M	5M	3L
S/L	9H	6M	7M	4M	5M	6M	3L	4M	2L
T/E	8H	5M	6M	3L	4M	5M	2L	3L	1L

14J. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) Vegetated Upland Buffer (VUB): Areas with > 30% plant cover, 5 ft or more of depth, or a minimum of 2 ft of soil depth. If there is a VUB, circle **Y** if the VUB is vegetated, **N** if not, and 1 to the score in # above and adjust rating accordingly.

14K. Final Score and Rating: 3L Comments:

14L. Groundwater Discharge/Recharge: (check the appropriate indicators in I & II below)

- I. Discharge Indicators
 - The AA is a slope wetland
 - Springs or seeps are known or observed
 - Vegetation growing during dormant season/drought
 - Wetland occurs at the toe of a natural slope
 - Sleeps 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
- II. Recharge Indicators
 - Permeable substrate present without underlying impeding layer
 - Wetland contains inlet but no outlet
 - Stream is a known losing stream, discharge volume decreases
 - Other: _____

14K. Uniqueness: 1. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Criteria	P/P	S/L	T/E	None
Groundwater Discharge or Recharge	1H	7M	4M	1L
Insufficient Data/Information	1H	7M	4M	1L

14L. Recreation/Education Potential: (ifonds "bonus" points if AA provides recreation or education opportunity) I. Is the AA a known or potential rec'd site? (circle **Y**) **N** (if "Yes" continue with the evaluation; if "No" then circle **NA** here and proceed to the overall summary and rating page)

Estimated relative abundance (#1)	Low disturbance at AA (#12)	Moderate disturbance at AA (#12)	High disturbance at AA (#12)
rate	common	abundant	abundant
1H	9H	8H	8H
9H	8H	7M	7M
8H	7M	6M	6M

14M. Recreation/Education Potential: (ifonds "bonus" points if AA provides recreation or education opportunity) I. Is the AA a known or potential rec'd site? (circle **Y**) **N** (if "Yes" continue with the evaluation; if "No" then circle **NA** here and proceed to the overall summary and rating page)

Known or Potential Recreation or Education Area	Known	Potential
Public ownership 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

General Site Notes

Use non-metric PVC panels placed in the talus. No water or fine gravel in the panels. Surface area has no outlet. Discharge panel has a channel where flow is observed. There was no structural integrity / flow answer. Currently surrounded by riparian grass.

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): WA-22

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Average)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.1	1		
B. CB Natural Heritage Program Species Habitat	L	0	1		
C. General Wildlife Habitat	L	0.1	1		
D. General Fish Habitat	M	0.3	1		*
E. Flood Attenuation	NA	-	-		
F. Short and Long Term Surface Water Storage	H	0.8	1		*
G. Sediment/Nutrient/Toxicant Removal	M	0.7	1		*
H. Sediment/Shoreline Stabilization	NA	-	-		
I. Production Export/Food Chain Support	L	0.3	1		
J. Groundwater Discharge/Recharge	H	1	1		*
K. Uniqueness	L	0.2	1		
L. Recreation/Education Potential (bonus points)	H	0.2	NA		
Totals		3.7	9	\$341.48	
Percent of Possible Score		41%	100%		

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
 Percent of 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 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: (circle appropriate category based on the criteria outlined above) I II III **IV**

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Telluride Valley Floor 2. ^{ERC} Project #: 800-081 3. Control #: _____
 3. Evaluation Date: May 11, 2008 4. Evaluator(s): D. Keeseler 5. Wetland/Site #(s): WA-23
 6. Wetland Location(s): L. Legal: T 48 S 9 E 6 S 35 T ___ N or S R ___ E or W S ___
 H. Approx. Stationing or Mileposts: Easton section
 I. San Xavier River adjacent to Telluride Keelen S
 III. Watershed: 44030003 Watershed Name: Upper Colorado - Dolores, San Miguel

7. a. Evaluating Agency: _____ 8. Wetland size: (total acres) 4.84 (visually estimated)
 b. Purpose of Evaluation: _____ 9. Assessment area (AA): (acres, (visually estimated)
 1. Wetlands potentially affected by MDT project see instructions on determining AA) 4.84 (measured, e.g. by GPS (if applies))
 2. Mitigation wetlands: pre-construction
 3. Mitigation wetlands: post-construction
 4. Other: _____

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Binson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
R	R5B		ST	60%
R	R1B3		PP	

Abbreviations: (see manual for definitions)
 HGM Classes: Riverine (R), Depressions (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF),
 Cowardin Classes: Root Bottom (RB), Unconsolidated Bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-Vegeted Wetland (M), Emergent Wetland (EM), Scud-Shrub Wetland (SS), Forested Wetland (FO),
 Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Diked (PD), Farmed (F), Artificial (A)
 Water Regimes: Permanent/Perennial (PP), Seasonal/Intermittent (SI), Temporary/Ephemeral (TE)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)
 (Circle one) Rare Abundant

12. General condition of AA:
 I. Disturbance: (use matrix below to determine (circle) appropriate response - see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) lists)

Conditions within AA	Prevalent conditions adjacent to (within 500 feet of) AA
AA occurs and is managed in predominantly natural state, in not grazed, mowed, or otherwise converted; does not contain sediments, excavated buildings, and noxious weed or ANVS cover is < 5%.	Managed in predominantly natural state, but may be moderately disturbed by grazing, mowing, or other activities; contains low levels of noxious weed or ANVS cover is < 5%.
AA not cultivated, but may be moderately grazed or mowed or otherwise disturbed; contains low levels of noxious weed or ANVS cover is < 5%.	Land not cultivated, but may be moderately grazed or mowed; contains low levels of noxious weed or ANVS cover is < 5%.
AA cultivated and managed in pasture, grazing or forage; subject to relatively substantial in placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is < 20%.	Land cultivated or heavily grazed or mowed; contains low levels of noxious weed or ANVS cover is < 20%.

Comments: (types of disturbance, intensity, season, etc.):
 ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species:
 iii. Provide brief descriptive summary of AA and surrounding land use/habitat: LAH replaced by railroad grade to upper road heavily grazed/reduced area from the lower section. No cultivated area.
 13. Structural Diversity: (based on number of Cowardin vegetated classes present (do not include unvegetated classes); see #10 above)

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management preventing (passive) existence of additional vegetated classes?	Modified Rating
23 (or 2 if 1 is forested) classes	H	NA	NA
2 (or 1 if forested) classes	M	NA	NA
1 class, but not a monoculture	L	NO	L

14. Class, moniculture (1 species comprises 20% of total cover)

Class	Monoculture
L	NA
M	YES
H	NA

Comments: _____

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

- I. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat D S

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

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

Sources for documented use (e.g. observations, records, etc.):

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

- I. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat D S

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

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

Sources for documented use (e.g. observations, records, etc.):

14C. General Wildlife Habitat Rating:

- I. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (based on any of the following (check):
 - abundance of abundant wildlife or of high species diversity (during any period)
 - abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (based on any of the following (check):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA
 Low (based on any of the following (check):
 - few or no wildlife observations during peak use periods
 - little to no wildlife sign
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover in the comments area) distributed the most and least present. Vegetated classes must be within 20% of each other in terms of their percent composition. L = Temporary/ephemeral, and A = Assisted (see instructions for further definitions of these terms)

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

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

Evidence of wildlife use (i)	Exceptional		High		Moderate		Low	
	1E	9H	8M	7M	3L	1L	0L	0L
Sustained	1E	9H	8M	7M	3L	1L	0L	0L
Moderate	1E	9H	8M	7M	3L	1L	0L	0L
Minimal	1E	9H	8M	7M	3L	1L	0L	0L

Comments: (use #13, #14, #15, #16, #17, #18, #19, #20, #21, #22, #23, #24, #25, #26, #27, #28, #29, #30, #31, #32, #33, #34, #35, #36, #37, #38, #39, #40, #41, #42, #43, #44, #45, #46, #47, #48, #49, #50, #51, #52, #53, #54, #55, #56, #57, #58, #59, #60, #61, #62, #63, #64, #65, #66, #67, #68, #69, #70, #71, #72, #73, #74, #75, #76, #77, #78, #79, #80, #81, #82, #83, #84, #85, #86, #87, #88, #89, #90, #91, #92, #93, #94, #95, #96, #97, #98, #99, #100, #101, #102, #103, #104, #105, #106, #107, #108, #109, #110, #111, #112, #113, #114, #115, #116, #117, #118, #119, #120, #121, #122, #123, #124, #125, #126, #127, #128, #129, #130, #131, #132, #133, #134, #135, #136, #137, #138, #139, #140, #141, #142, #143, #144, #145, #146, #147, #148, #149, #150, #151, #152, #153, #154, #155, #156, #157, #158, #159, #160, #161, #162, #163, #164, #165, #166, #167, #168, #169, #170, #171, #172, #173, #174, #175, #176, #177, #178, #179, #180, #181, #182, #183, #184, #185, #186, #187, #188, #189, #190, 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#523, #524, #525, #526, #527, #528, #529, #530, #531, #532, #533, #534, #535, #536, #537, #538, #539, #540, #541, #542, #543, #544, #545, #546, #547, #548, #549, #550, #551, #552, #553, #554, #555, #556, #557, #558, #559, #560, #561, #562, #563, #564, #565, #566, #567, #568, #569, #570, #571, #572, #573, #574, #575, #576, #577, #578, #579, #580, #581, #582, #583, #584, #585, #586, #587, #588, #589, #590, #591, #592, #593, #594, #595, #596, #597, #598, #599, #600, #601, #602, #603, #604, #605, #606, #607, #608, #609, #610, #611, #612, #613, #614, #615, #616, #617, #618, #619, #620, #621, #622, #623, #624, #625, #626, #627, #628, #629, #630, #631, #632, #633, #634, #635, #636, #637, #638, #639, #640, #641, #642, #643, #644, #645, #646, #647, #648, #649, #650, #651, #652, #653, #654, #655, #656, #657, #658, #659, #660, #661, #662, #663, #664, #665, #666, #667, #668, #669, #670, #671, #672, #673, #674, #675, #676, #677, #678, #679, #680, #681, #682, #683, #684, #685, #686, #687, #688, #689, #690, #691, #692, #693, #694, #695, #696, #697, #698, #699, #700, #701, #702, #703, #704, #705, #706, #707, #708, #709, #710, #711, #712, #713, #714, #715, #716, #717, #718, #719, #720, #721, #722, #723, #724, #725, #726, #727, #728, #729, #730, #731, #732, #733, #734, #735, #736, #737, #738, #739, #740, #741, #742, #743, #744, #745, #746, #747, #748, #749, #750, #751, #752, #753, #754, #755, #756, #757, #758, #759, #760, #761, #762, #763, #764, #765, #766, #767, #768, #769, #770, #771, #772, #773, #774, #775, #776, #777, #778, #779, #780, #781, #782, #783, #784, #785, #786, #787, #788, #789, #790, #791, #792, #793, #794, #795, #796, #797, #798, #799, #800, #801, #802, #803, #804, #805, #806, #807, #808, #809, #810, #811, #812, #813, #814, #815, #816, #817, #818, #819, #820, #821, #822, #823, #824, #825, #826, #827, #828, #829, #830, #831, #832, #833, #834, #835, #836, #837, #838, #839, #840, #841, #842, #843, #844, #845, #846, #847, #848, #849, #850, #851, #852, #853, #854, #855, #856, #857, #858, #859, #860, #861, #862, #863, #864, #865, #866, #867, #868, #869, #870, #871, #872, #873, #874, #875, #876, #877, #878, #879, #880, #881, #882, #883, #884, #885, #886, #887, #888, #889, #890, #891, #892, #893, #894, #895, #896, #897, #898, #899, #900, #901, #902, #903, #904, #905, #906, #907, #908, #909, #910, #911, #912, #913, #914, #915, #916, #917, #918, #919, #920, #921, #922, #923, #924, #925, #926, #927, #928, #929, #930, #931, #932, #933, #934, #935, #936, #937, #938, #939, #940, #941, #942, #943, #944, #945, #946, #947, #948, #949, #950, #951, #952, #953, #954, #955, #956, #957, #958, #959, #960, #961, #962, #963, #964, #965, #966, #967, #968, #969, #970, #971, #972, #973, #974, #975, #976, #977, #978, #979, #980, #981, #982, #983, #984, #985, #986, #987, #988, #989, #990, #991, #992, #993, #994, #995, #996, #997, #998, #999, #1000)

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

- Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix.

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

Duration of surface water in AA	Permanent / Perennial		Seasonal / Intermittent		Temporary / Ephemeral	
	Optimal	Adequate	Poor	Optimal	Adequate	Poor
Aquatic hiding / resting / escape cover	O	S	O	S	O	S
Thermal cover optimal / suboptimal	O	S	O	S	O	S
FWP Tier I fish species	1E	9H	8H	7M	6M	5M
FWP Tier II or Native Game fish species	9H	8H	7M	6M	5M	4M
FWP Tier III or Introduced Game fish	8H	7M	6M	5M	4M	3L
FWP Non-Game Tier IV	5M	5M	4M	4M	4M	3L

- Sources used for identifying fish sp. potentially found in AA:
 a. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)
 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 1 or 1a above.
 c. 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 1 or 1a above.
 d. 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 1 or 1a above.
 e. 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 1 or 1a above.
 f. 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 1 or 1a above.
 g. 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 1 or 1a above.
 h. 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 1 or 1a above.
 i. 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 1 or 1a above.
 j. 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 1 or 1a above.
 k. 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 1 or 1a above.
 l. 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 1 or 1a above.
 m. 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 1 or 1a above.
 n. 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 1 or 1a above.
 o. 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 1 or 1a above.
 p. 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 1 or 1a above.
 q. 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 1 or 1a above.
 r. 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 1 or 1a above.
 s. 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 1 or 1a above.
 t. 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 1 or 1a above.
 u. 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 1 or 1a above.
 v. 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 1 or 1a above.
 w. 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 1 or 1a above.
 x. 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 1 or 1a above.
 y. 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 1 or 1a above.
 z. 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 1 or 1a above.
 aa. 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 1 or 1a above.
 ab. 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 1 or 1a above.
 ac. 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 1 or 1a above.
 ad. 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 1 or 1a above.
 ae. 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 1 or 1a above.
 af. 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 1 or 1a above.
 ag. 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 1 or 1a above.
 ah. 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 1 or 1a above.
 ai. 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 1 or 1a above.
 aj. 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 1 or 1a above.
 ak. 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 1 or 1a above.
 al. 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 1 or 1a above.
 am. 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 1 or 1a above.
 an. 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 1 or 1a above.
 ao. 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 1 or 1a above.
 ap. 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 1 or 1a above.
 aq. 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 1 or 1a above.
 ar. 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 1 or 1a above.
 as. 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 1 or 1a above.
 at. 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 1 or 1a above.
 au. 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 1 or 1a above.
 av. 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 1 or 1a above.
 av. 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 1 or 1a above.
 aw. 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 1 or 1a above.
 ax. 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 1 or 1a above.
 ay. 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 1 or 1a above.
 az. 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 1 or 1a above.
 ba. 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 1 or 1a above.
 bb. 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 1 or 1a above.
 bc. 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 1 or 1a above.
 bd. 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 1 or 1a above.
 be. 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 1 or 1a above.
 bf. 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 1 or 1a above.
 bg. 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 1 or 1a above.
 bh. Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc - specify in comments

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

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

AA contains no or restricted outlet	Yes		No		Yes		No	
	1H	3H	7M	9M	3L	5M	4M	2L
AA contains no or restricted outlet	1H	3H	7M	9M	3L	5M	4M	2L

14H. Production/Shoreline Stabilization: (Applies only if AA occurs on or within the banks of 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, circle **NA** here and proceed to 14I.)

I. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating). Permanent/Perennial. Seasonal/Intermittent. Temporary/Ephemeral.

% Cover of wetland vegetation in AA	Yes		No		Yes		No	
	1H	3H	7M	9M	3L	5M <th>4M</th> <th>2L</th>	4M	2L
≥ 65%	1H	3H	7M	9M	3L	5M	4M	2L
35-64%	3H	5M	7M	9M	3L	5M	4M	2L
< 35%	3H	5M	7M	9M	3L	5M	4M	2L

14I. Production Export/Food Chain Support:

General Fish Habitat Rating (14D III)	General Wildlife Habitat Rating (14C JII)
EH	M
M	M
M	M
L	L
NA	H

II. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = average of vegetated wetland in the AA; Factor B = level of biological activity rating from 14I); Factor C = whether or not the AA contains a refuge or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where PIP, SI, and TE 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			
	HbH	Moderate	Low	HbH	Moderate	Low	HbH	Moderate	Low	
B	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
PIP	1H	3H	5M	7M	9M	3L	5M	4M	2L	2L
SI	3H	5M	7M	9M	3L	5M	4M	2L	3L	2L
TE	3H	5M	7M	9M	3L	5M	4M	2L	3L	2L
A	8H	5M	6M	3L	4M	5M	4M	2L	2L	1L

III. Modified Rating: (NOTE: Modified score cannot exceed 1 or be less than 0.1). Vegetated Upland Buffer (VUB): Areas with ≥ 30% plant cover, 5-15% woody cover, or ≥ 20% cover, and that is not subjected to periodic mechanical mowing or clearing (unless beyond control).

IV. Final Score and Rating: 3M Comments:

- 14J. Groundwater Discharge/Recharge:** (check the appropriate indicators in I & II below)
- The AA is a slope wetland
 - Springs or seeps are known or observed
 - Vegetation growing during dormant season/drought
 - Wetland occurs at the toe of a natural slope
 - Seeps are present at the wetland edge
 - AA permanently flooded during drought periods
 - Wetland contains an outlet, but no inlet
 - Shallow water table and the site is saturated to the surface

III. Rating (use the information from I and II above and the table below to arrive at [circle] the functional points and rating)

Criteria	PIP	SI	TE	None
Groundwater Discharge or Recharge	1H	7M	4M	1L
Influent/Dam/Information	1H	7M	4M	1L

14K. Uniqueness:

Replacement potential	rate	common	abundant	rate	common	abundant	rate	common	abundant
Estimated relative abundance (#1)	1H	3H	5M	7M	9M	3L	5M	4M	2L
Low disturbance at AA (#12)	3H	5M	7M	9M	3L	5M	4M	2L	2L
Moderate disturbance at AA (#12)	3H	5M	7M	9M	3L	5M	4M	2L	2L
High disturbance at AA (#20)	3H	5M	7M	9M	3L	5M	4M	2L	2L

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

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

Known or Potential Recreation or Education Area	Known	Potential
Public ownership 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

General Site Notes

Used road across site. No fence on west side of the road. Road is in excellent condition. No vegetation between road and wetland. Road is paved. Wetland is in excellent condition. No signs of disturbance. Wetland is in excellent condition. No signs of disturbance. Wetland is in excellent condition. No signs of disturbance.

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #S: WA-23

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Average)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.1	1		
B. MT Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Habitat	M	0.5	1		
D. General Fish Habitat	M	0.4	1		
E. Flood Attenuation	M	0.6	1		*
F. Short and Long Term Surface Water Storage	L	0.3	1		
G. Sediment/Nutrient/Toxicant Removal	L	0.2	1		
H. Sediment/Shoreline Stabilization	M	0.7	1		*
I. Production Export/Food Chain Support	M	0.7	1		*
J. Groundwater Discharge/Recharge	H	1.0	1		*
K. Uniqueness	L	0.2	1		
L. Recreation/Education Potential (bonus points)	H	0.2	NA		
Totals:		5.0	11	45%	
Percent of Possible Score				50 x 45 = 22.5%	

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
 Percent of 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
 "High" to "Exceptional" ratings for both General Fish 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 II)
 "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: (circle appropriate category based on the criteria outlined above) I II III **III** IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Telluride Valley Plan 2. MDT Project #: 300-081 Control #: EC
 3. Evaluation Date: 9 Day 11 2002 4. Evaluator(s): D. Krueger 5. Wetlands/Site #s: WA-24
 6. Wetland Location(s): Legal: T4, Q or S; R 9 E of Qs 33 34 17 N or S; R E or W; S
II. Approx. Stationing or Mileposts: Creston Section
PS/PEM COVERED AREA
 7. Watershed: 19030003 Watershed Name: Upper Coltraco - Doree - San Wuyger

7. a. Evaluating Agency: _____
 b. Purpose of Evaluation:
 1. Wetlands potentially affected by MDT project
 2. Mitigation wetlands: pre-construction
 3. Mitigation wetlands: post-construction
 4. Other: _____
 9. Assessment area (AA): (acres, see instructions on determining AA) 8.89 (measured, e.g. by GPS if applies)
8.89 (visually estimated)

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Bifurc)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
	RSS		ST	52%
	PEM		RP	30%
	PSS		TE	19%

Abbreviations: (see manual for definitions)
 HGM Classes: R: Riverine, RB: Riparian, R2: Depositional (D), S: Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF)
 Cowardin Classes: R2B: Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Mass-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)
 Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Diked (PD), Fanned (F), Artificial (A)
 Water Regimes: Permanent/Perennial (PP), Seasonal/Intermittent (SI), Temporary/Ephemeral (TE)
 11. Estimated relative abundance: (if similarly classified sites within the same Major Watershed Basin, see definitions)
 (Circle one) Unknown Rare Common Abundant

12. General condition of AA:
 I. Disturbance: (use matrix below to determine [circle appropriate response] - see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (AMVS) lists)
 Conditions within AA
 AA score is: 50%

Conditions within AA	Prevalent conditions adjacent to (within 500 feet of) AA	AA score is: 50%
Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or AMVS cover is 25% or less.	Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or AMVS cover is 25% or less.	low disturbance
Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or AMVS cover is 25% or less. BUT may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor disturbance; fill placement; or hydrological alteration; contains few roads or buildings; noxious weed or AMVS cover is 25-50%.	Land not cultivated; but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor disturbance; fill placement; or hydrological alteration; contains few roads or buildings; noxious weed or AMVS cover is 25-50%.	moderate disturbance
Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or AMVS cover is 25% or less. BUT may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor disturbance; fill placement; or hydrological alteration; contains few roads or buildings; noxious weed or AMVS cover is 25-50%.	Land cultivated or heavily grazed or logged; subjected to substantial fill placement; grading, or other hydrological alteration; or noxious weed or AMVS cover is 25-50%.	high disturbance

13. Provide brief descriptive summary of AA and surrounding land use/habitat:
PS/PEM cover is 49% of total area. 50% of total area is forested. 1% of total area is agricultural. 40% of total area is pasture. 1% of total area is developed. 1% of total area is water. 1% of total area is wetland. 1% of total area is other.
 ii. Prominent noxious aquatic nuisance & other exotic vegetation species:
None
 iii. Provide brief descriptive summary of AA and surrounding land use/habitat:
PS/PEM cover is 49% of total area. 50% of total area is forested. 1% of total area is agricultural. 40% of total area is pasture. 1% of total area is developed. 1% of total area is water. 1% of total area is wetland. 1% of total area is other.

Existing # of "Cowardin" Vegetated Classes in AA

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management preventing (passive) existence of additional vegetated classes?	Modified Rating
23 (or 21 if forested classes)	H	NA	NA
2 (or 1 if forested classes)	M	NA	NA
1 class, but not a monoculture	L	NA	L
1 class, monoculture (1 species comprises 50% of total cover)	L	NA	NA

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

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds substantially impeded. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEC list of vulnerable in need of TMDL development for probable causes related to 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.			
	Yes	No	Yes	No	Yes	No	Yes	No
% cover of wetland vegetation in AA	Yes	No	Yes	No	Yes	No	Yes	No
Evidence of flooding/pooling in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains no or restricted outlet	Yes	No	Yes	No	Yes	No	Yes	No
AA contains unrestricted outlet	Yes	No	Yes	No	Yes	No	Yes	No

14I. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) (H = high, M = moderate, or L = low)

% Cover of wetland streambank or shoreline by species with stability ratings of 25 (See Appendix F)	Duration of surface water adjacent to rooted vegetation			
	Permanent / Perennial	Seasonal / Intermittent	Temporary / EpheMERAL	None
≥ 65%	1H	7M	9H	7M
35-64%	7M	7M	6M	2L
< 35%	3L	3L	2L	1L

Comments: *14I. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)*

14J. Production Export/food Chain Support

Level of Biological Activity (synthesis of wildlife and fish habitat ratings (level))	General Wildlife Habitat Rating (LWC III)	General Fish Habitat Rating (LFD III)
High	EH	M
Medium	H	M
Low	L	L

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

Known or Potential Recreation or Education Area	Known		Potential	
	2H	1SH	1M	0SL
Public ownership or public easement with general public access (no permission required)				
Private ownership with general public access (no permission required)				
Private or public ownership without general public access, or requiring permission for public access				

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

14L. Uniqueness

Replacement potential	AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association listed as "S2" by the MTNHP				AA does not contain previously cited rare types or associations and structural diversity (#13) is low-moderate			
	1H	9H	8H	7M	1H	9H	8H	7M
Estimated relative abundance (#17)	rare	common	abundant	abundant	rare	common	abundant	abundant
Low disturbance at AA (#12)	1H	9H	8H	7M	1H	9H	8H	7M
Moderate disturbance at AA (#12)	8H	8H	7M	6M	8H	8H	7M	6M
High disturbance at AA (#12)	8H	7M	6M	4M	3L	4M	4M	2L

Comments: *14L. Uniqueness: (AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association listed as "S2" by the MTNHP)*

14M. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)

Vegetated component > 2.5 acres	Vegetated component 1-5 acres				Vegetated component < 1 acre			
	High	Moderate	Low	None	High	Moderate	Low	None
Yes	Yes	No	Yes	No	Yes	No	Yes	No
No	No	Yes	No	Yes	No	Yes	No	Yes

Final Score and Rating: *1.0M* Comments: *34% of wetland cover is TLE wetland regime.*

- Discharge indicators
- Recharge indicators
- Permeable substrate present without underlying impeding layer
- Wetland contains nitrate but no outlet
- Stream is a known "losing" stream, discharge volume decreases
- Seeps are present at the toe of a natural slope
- Seeps are present at the wetland edge
- AA permanently flooded during drought periods
- Wetland contains an outlet, but no inlet
- Shallow water table and the site is saturated to the surface

14N. General Site Notes

INDICATING SITE - adjacent hydrology - drainage flow from proposed outlet site is mainly TLE, Delta predominantly received around the drainage.

Known or Potential Recreation or Education Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	2H	1SH
Private ownership with general public access (no permission required)	1SH	1M
Private or public ownership without general public access, or requiring permission for public access	1M	0SL

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #S: WA-25

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	1		
B. MT Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Program Species Habitat	M	0.5	1		*
D. General Fish Habitat	NA	--	--		
E. Flood Attenuation	NA	--	--		
F. Short and Long Term Surface Water Storage	M	0.5	1		*
G. Sediment/Nutrient/Toxicant Removal	H	0.9	1		*
H. Sediment/Shoreline Stabilization	L	0.3	1		
I. Production Export/Food Chain Support	M	0.6	1		*
J. Groundwater Discharge/Recharge	M	0.4	1		
K. Uniqueness	L	0.1	1		
L. Recreation/Education Potential (bonus points)	H	0.2	NA		
Totals:		3.7	9		
Percent of Possible Score		41%		3.7 x 34.9 = 129.17	

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
 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 Fish Habitat; or
 "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or
 Percent of possible 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 II)
 "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: (circle appropriate category based on the criteria outlined above) I II III IIII

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Tolliver on Valley Blvd 2. Project #: 300-081 Contour #: _____
 3. Evaluation Date: 9 Dec 11 10:08 4. Evaluator(s): D. K. S. R. 9 E. O. S. S. S. 5. Wetland/Site #s: WA-25
 6. Wetland Location(s): Legal: T4S R9W S19E S1S. Approx. Stationing or Mitigation: 0.157 to 0.30023. Wetland/Site #s: WA-25
 7. Wetland Use: Open Pasture - Pasture
 8. Wetland Size: (total acres) 0.17 (measured, e.g. by GPS [if applies])
 9. Assessment area (AA): (acres, see instructions on determining AA) 0.17 (measured, e.g. by GPS [if applies])
 10. Wetland Name, County: Open Pasture - Pasture Watershed Name, County: Open Pasture - Pasture

7. a. Evaluating Agency: _____
 b. Purpose of Evaluation:
 1. Wetlands potentially affected by MDT project
 2. Mitigation wetlands, pre-construction
 3. Mitigation wetlands, post-construction
 4. Other _____

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Imeson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	PERM	RP	100%	

Abbreviations: (see manual for definitions)
 HGM Classes: Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF).
 Cowardin Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-rich Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO), Modified: Excavated (E), Impounded (I), Diked (D), Partly Diked (PD), Farmed (F), Artificial (A).
 Water Regimes: Permanent/Seasonal (RP), Seasonal/Intermittent (SP), Temporary/Ephemeral (TE), Intermittent (SI).
 (Circle one) Unknown Rare Abundant

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)
 (Circle one) Unknown Rare Abundant

12. General condition of AA:
 I. Disturbance: (use matrix below to determine [circle] appropriate response - see instructions for Montana Field noxious weed and aquatic nuisance vegetation species (ANVS) lists)

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA
Managed or predominantly natural state; not grazed, hayed, logged, or otherwise converted; does not contain ANVS cover > 50%.	Land not cultivated, but may be moderately grazed or hayed or actively logged, or otherwise converted; does not contain ANVS cover > 50%.
Managed or predominantly natural state; not grazed, hayed, logged, or otherwise converted; does not contain ANVS cover > 50%.	Land cultivated or heavily grazed or logged, or otherwise converted; contains ANVS cover > 50%.
Managed or predominantly natural state; not grazed, hayed, logged, or otherwise converted; does not contain ANVS cover > 50%.	Land cultivated or heavily grazed or logged, or otherwise converted; contains ANVS cover > 50%.

Comments: Types of disturbance, intensity, season, etc. observed by correct quadrat was observed in this plot. S. complex is not present in any quadrat.

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

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management preventing (assess) 7 additional vegetated classes?	Modified Rating
23 (or 2 if 1 is forested) classes	H	NA	NA
2 (or 1 if forested) classes	M	NA	NA
1 class, but not a monoculture	L	NO	L
1 class, monoculture (1 species comprises 20% of total cover)	NA	NA	NA

Comments: _____

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

- 14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:
 I. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat. Circle one appropriate

ii. Rating (use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

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

Sources (or documented use (e.g. observations, records, etc.)):

- 14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program (not including species listed in 14A above)
 I. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat. Circle one appropriate

ii. Rating (use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

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

Sources (or documented use (e.g. observations, records, etc.)):

14C. General Wildlife Habitat Rating:
 i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (based on any of the following (check)):
 - observations of abundant wildlife or high species diversity (during any period)
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (based on any of the following (check)):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA
 Low (based on any of the following (check)):
 - few or no wildlife observations during peak use periods
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their seasonal/intermittent. T/E = temporary/ephemeral, and A = absent (see instructions for further definitions of these terms))

Structural diversity (see #13)	Even			Uneven			Moderate			Low		
	PIP	SI	T/E	PIP	SI	T/E	PIP	SI	T/E	PIP	SI	T/E
Class cover distribution (all vegetated classes)	PIP	SI	T/E	PIP	SI	T/E	PIP	SI	T/E	PIP	SI	T/E
Duration of surface water in >10% of AA	E	E	H	E	H	E	H	E	H	M	E	H
Low disturbance at AA (see #12)	E	E	H	E	H	E	H	E	H	M	E	H
Moderate disturbance at AA (see #12)	H	H	H	H	H	H	M	H	H	M	H	M
High disturbance at AA (see #12)	M	M	L	M	L	M	L	M	L	L	L	L

iii. Rating (uses the conclusions from I and II above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife use (i)	Exceptional			High			Moderate			Low		
	1E	9H	7M	9H	8M	5M	3L	2L	1L	1L	1L	1L
Substantial	1E	9H	7M	9H	8M	5M	3L	2L	1L	1L	1L	1L
Moderate	9H	7M	5M	3L	2L	1L	1L	1L	1L	1L	1L	1L
Minimal	9M	4M	3L	2L	1L	1L	1L	1L	1L	1L	1L	1L

- 14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, rip-rap areas (not restorable due to habitat constraints, or is not decided from a management perspective [such as fish entrapment in a canal, then circle NA here and proceed to 14E.)
- Type of Fishery: Cold Water (CW) ___ Warm Water (WW) ___ Use the CW or WW guidelines in the user manual to complete the matrix

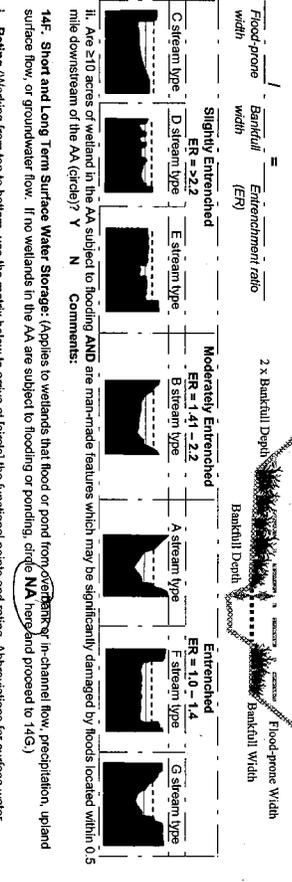
i. Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at (circle) the functional points and rating)

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

- Sources used for identifying fish sp. potentially found in AA:
 I. 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 incised 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 no 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.
 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 the above.

iii. Final Score and Rating: _____ Comments: _____

- 14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.)
- i. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating)
- | Estimated or Calculated Entrenchment (Rosgen, 1994, 1998) | Slightly entrenched - C | Moderately entrenched - D | Entrenched - A, F |
|--|-------------------------|---------------------------|-------------------|
| % of flooded wetland classified as forested and/or scrubshrub | 75% | 25-75% | <25% |
| AA contains no outlet or restricted outlet | 1H | 9H | 8H |
| AA contains unrestricted outlet | 9H | 8H | 5M |
| Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) | 9H | 8H | 7M |
| Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevations intersects the floodplain on each side of the stream. | 9H | 8H | 5M |



- 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, circle NA here and proceed to 14G.)
- i. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial, SI = seasonal/intermittent, and T/E = temporary/ephemeral (see instructions for further definitions of these terms))
- | Estimated maximum acre (not to water contained in wetlands) | 5-5 acre feet | | | 1.1 to 5 acre feet | | | 51 acre foot | | |
|---|---------------|----|-----|--------------------|----|-----|--------------|----|-----|
| | PIP | SI | T/E | PIP | SI | T/E | PIP | SI | T/E |
| Duration of surface water ponding | 9H | 9H | 8H | 8H | 8H | 7M | 7M | 5M | 4M |
| Wetlands in AA flood or pond > 5 and < 10 years | 9H | 8H | 7M | 7M | 5M | 4M | 3L | 2L | 1L |
| Wetlands in AA flood or pond < 5 out of 10 years | 9H | 8H | 7M | 7M | 5M | 4M | 3L | 2L | 1L |

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

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

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.	≥ 70%			< 70%			≥ 70%			< 70%		
	Yes	No	NA									
AA contains no or restricted outlet	1H	3H	7M	7M	5M	4M	3L	2L	2L	2L	2L	1L
AA contains unrestricted outlet	3H	7M	6M	4M	5M	4M	3L	2L	2L	2L	2L	1L

Comments: 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 WDEQ list of waterbodies in need of TMDL development for probable causes related to 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.

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, circle **NA** here and proceed to 14I.)

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

% cover of wetland streambank or shoreline by species with stability ratings of 28 (see Appendix F)	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
	1H	3H	7M	3H	5M	4M	3L	2L	1L
≥ 65%	1H	3H	7M	3H	5M	4M	3L	2L	1L
35-64%	3L	7M	6M	3L	5M	4M	3L	2L	1L
< 35%	3L	7M	6M	3L	5M	4M	3L	2L	1L

Comments:

14I. Production Export/Food Chain Support:

Level of Biological Activity (Synthesis of wildlife and fish habitat ratings [circle])	General Wildlife Habitat Rating (14C.iii)			Vegetated component 1-5 acres			Vegetated component < 1 acre		
	EH	H	M	EH	H	M	EH	H	M
Rating (14D.iii)	EH	H	M	EH	H	M	EH	H	M
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1. Rating (Working from top to bottom, use the matrix below to arrive at [circle] 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.1); Factor C = whether or not the AA contains a source or sink of sediment, nutrients, or toxicants in the AA, where P/F: 9H, 9M, 9L and 7E are as previously defined, and A = "absent" (see instructions for further definitions of these terms).

14J. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) **Vegetated Upland Buffer (VUB):** Area with ≥ 30% plant cover, 5' or less noxious weed or ANV cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control). **14K. Wetland** (NOTE: Wetland area is based on an average of 30-foot-wide vegetating upland buffer around ≥ 75% of the AA circumference. Y = Yes, add 0.1 to the score in # above and adjust rating accordingly. N = No, subtract 0.1 to the score in # above.)

14L. Groundwater Discharge/Recharge: (check the appropriate indicators in I & II below)

- I. Discharge Indicators**
 - The AA is a slope wetland
 - Springs or seeps are known or observed
 - Vegetation growing during dormant season/drought
 - Wetland occurs at the toe of a natural slope
 - Seeps are present at the wetland edge
 - AA permanently flooded during drought periods
 - Wetland contains an outlet, but no inlet
 - Shallow water table and the site is saturated to the surface
 - Other: _____
- II. Recharge Indicators**
 - Permeable substrate present without underlying impeding layer
 - Wetland contains inlet but no outlet
 - Stream is a known "losing" stream; discharge volume decreases
 - Other: _____

14K. Wetland (Use the information from I and II above and the table below to arrive at [circle] the functional points and rating.)

Criteria	Discharge or Recharge at AA Wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM			None
	1H	7M	4M	
Groundwater Discharge or Recharge	1H	7M	4M	1L
Insufficient Data/Information				

Comments:

14L. Uniqueness:

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

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

1. Is the AA a known or potential rec'd. site? (circle **Y** **N**) (If "Yes" continue with the evaluation; if "No" then circle **NA** here and proceed to the overall summary and rating page.)

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

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

Known or Potential Recreation or Education Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	2H	1.5H
Private ownership with general public access (no permission required)	1.5H	1M
Private or public ownership without general public access, or requiring permission for public access	1M	0.5L

General Site Notes

A canopy forest on the eastern side of the bike path located at the intersection of the road is a large riparian willow complex in the riparian habitat site.

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:
 AA is Documented (D) or Suspected (S) to contain (Circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

Coccoloba corymbosa

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	docprimary	susprimary	docsecondary	sussecondary	docincidental	susincidental	None
Functional Points and Rating	1H	9H	8M	7M	3L	1L	0L

Sources for documented use (e.g. observations, records, etc.)

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in 14A above)
 I. AA is Documented (D) or Suspected (S) to contain (Circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

Bald eagle, Golden Eagle, prairie falcon, black stilt (S3)

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	docprimary	susprimary	docsecondary	sussecondary	docincidental	susincidental	None
S1 Species:							
Functional Points and Rating	1H	8H	7M	6M	2L	1L	0L
S2 and S3 Species:							
Functional Points and Rating	9H	7M	6M	5M	2L	1L	0L

Sources for documented use (e.g. observations, records, etc.)

14C. General Wildlife Habitat Rating:
 I. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]):
 - Observations of abundant wildlife or high species diversity (during any period)
 - Presence of extremely limiting habitat features not available in the surrounding area
 - Interviews with local biologists with knowledge of the AA

Minimal (based on any of the following [check]):
 - Little to no wildlife observations during peak use periods
 - Sparse adjacent upland food sources
 - Interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
 - Observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - Common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - Adequate adjacent upland food sources
 - Interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition. The = temporary/ephemeral, and A = absent [see instructions for further definitions of these terms])

Structural diversity (see #13)	High				Moderate				Low			
	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven
Class cover distribution (all vegetated classes)	PIP	SI	TE	A	PIP	SI	TE	A	PIP	SI	TE	A
Duration of surface water in = 10% of AA (see #12)	E	E	E	H	E	E	H	E	H	E	H	M
Low disturbance at AA (see #12)	E	E	E	H	E	E	H	E	H	E	H	M
Moderate disturbance at AA (see #12)	H	H	H	H	M	M	M	M	M	M	M	L
High disturbance at AA (see #12)	M	M	M	M	L	L	L	L	L	L	L	L

iii. Rating (Use the conclusions from I and II above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife uses (I)	Wildlife habitat features rating (II)			
	Exceptional	High	Moderate	Low
Substantial	1E	9H	8M	7M
Moderate			5M	3L
Minimal		6M	4M	1L

Comments:

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

Type of Fishery: Cold Water (CW) ___ Warm Water (WW) ___ Use the CW or WW guidelines in the user manual to complete the matrix

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

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

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 wetland/riparian on the current final MDCD list of wetlands in need of TMDL development with Usual Probable Impaired Uses including cold or warm water fishery or aquatic life support, or 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

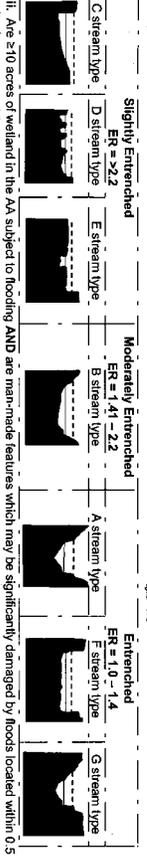
b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc. - specify in comments) for native fish or introduced game fish? Y N If yes, add 0.1 to the adjusted score in I or the above.

iii. Final Score and Rating: Comments:

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

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

Estimated or Calculated Flood Protection (Kosser 1994, 1996)	Slightly attenuated - C		Moderately attenuated - D		Entrenched - A, F, G stream types	
	75% <th>25-75% <th>75% <th>25-75% <th>75% <th>25-75% </th></th></th></th></th>	25-75% <th>75% <th>25-75% <th>75% <th>25-75% </th></th></th></th>	75% <th>25-75% <th>75% <th>25-75% </th></th></th>	25-75% <th>75% <th>25-75% </th></th>	75% <th>25-75% </th>	25-75%
% of flooded wetland classified as forested and/or scrub/shrub	1H	3H	6M	7M	4M	3L
AA contains no outlet or restricted outlet	9H	8H	5M	4M	3L	2L
AA contains unrestricted outlet	9H	8H	5M	4M	3L	2L
Enrichment ratio (ER) estimation - see User's Manual for additional guidance. Enrichment ratio = (Wood-pone width)/(bankfull width)						
Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.						



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 (circle)? Y N Comments:

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that food 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 circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. Advancements for surface water durations are as follows: PIP = permanent/perennial, and TE = temporary/ephemeral (see instructions for further definitions of these terms). 1.1 to 5 acre feet

Duration of surface water at wetlands within the AA	>5 acre feet				1.1 to 5 acre feet				51 acre foot			
	PIP	SI	TE	A	PIP	SI	TE	A	PIP	SI	TE	A
Wetlands in AA flood or pond ≥ 5 and of 10 years	9H	8H	7M	6M	5M	4M	3L	2L	3L	2L	1L	0L
Wetlands in AA flood or pond < 5 out of 10 years												

Comments:

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat _____
Carolina parakeet

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	doctrinary	susprimary	do2secondary	sus2secondary	do3incidental	sus3incidental	None
Functional Points and Rating	1H	9H	8M	7M	3L	1L	0L

Sources for documented use (e.g. observations, records, etc):

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat _____
Caliche geyser, golden oak, pocket geyser, Solon, black sulfur

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	doctrinary	susprimary	do2secondary	sus2secondary	do3incidental	sus3incidental	None
Functional Points and Rating	1H	9H	7M	6M	2L	1L	0L
S1 Species:							
S2 and S3 Species:	9H	7M	6M	5M	2L	1L	0L

Sources for documented use (e.g. observations, records, etc):

14C. General Wildlife Habitat Rating:

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

Substantial (based on any of the following (check)):
 - observations of abundant wildlife at or high species diversity (during any period)
 - abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - interviews with local biologists with knowledge of the AA
Moderate (based on any of the following (check)):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA
Low (based on any of the following (check)):
 - few or no wildlife observations during peak use periods
 - little to no wildlife sign
 - no adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; SI = seasonal/intermittent; TE = temporary/ephemeral; and A = absent (see instructions for further definitions of these terms):

Structural diversity (see #13)	Even		Uneven		Even		Uneven		Even	
	SI	TE	P/P	SI	TE	A	P/P	SI	TE	A
Class cover distribution (all vegetated classes)										
Duration of surface water in > 10% of AA	P/P	SI	TE	P/P	SI	TE	A	P/P	SI	TE
Low disturbance at AA (see #12)	E	E	E	E	E	E	E	E	E	E
Moderate disturbance at AA (see #12)	H	H	H	H	H	H	H	H	H	H
High disturbance at AA (see #12)	M	M	M	M	M	M	M	M	M	M

iii. Rating (Use the conclusions from I and II above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife uses (I)	Exceptional		High		Moderate		Low	
	1E	9H	8M	7M	5M	3L	2L	1L
Substantial								
Moderate								
Minimal								

Observation of bear sign, salmon, smelt observed, least structures + show smelt numbers (5/gunnies) in addition to high numbers of birds behavior.

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

Type of Fishery: Cold Water (CW) _____ Warm Water (WW) _____ Use the CW or WW guideline in the user manual to complete the matrix

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

1. Modified Rating (NOTE: Modified score cannot exceed 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 MDCD list of waterbodies in need of TMDL development with listed Probable Impaired Uses including cold or warm water/fishery or aquatic life support, or no aquatic invertebrate plant or animal species (see Appendix E) occur in fish habitat? **Y** **N** If yes, reduce score in I above by 0.1.

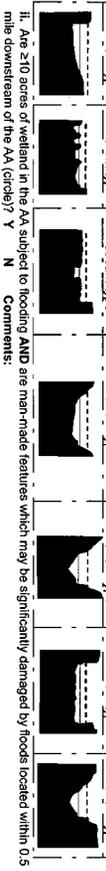
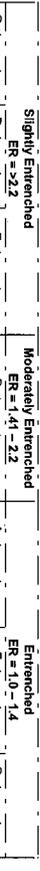
b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc. - specify in comments) for native fish or introduced game fish? **Y** **N** If yes, add 0.1 to the adjusted score in I or II above.

iii. Final Score and Rating: _____ Comments: _____

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

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

Estimated or Calculated Entrenchment (Rosen 1994, 1999)	Slightly entrenched - C		Moderately entrenched - B		Entrenched - A, F	
	D	E	D	E	D	E
% of flooded wetland designated as forested wetland (SW/SL/SH)	75%	25-70%	42.5%	75%	25-75%	42.5%
AA contains no outlet or restricted outlet	1H	9H	6M	8H	7M	5M
AA contains unrestricted outlet	9H	8H	5M	7M	6M	4M
Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width)						
Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.						



ii. Are 210 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 (circle)? 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, circle NA here and proceed to 14G.)

1. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; SI = seasonal/intermittent; and TE = temporary/ephemeral (see instructions for further definitions of these terms):

Estimated maximum acre feet of water contained in wetlands during the AA that are subject to periodic ponding or ponding	>5 acre feet		1.1 to 5 acre feet		≤1 acre feet	
	P/P	SI	TE	P/P	SI	TE
Wetlands in AA food or pond > 2.0M of 10 years	1H	9H	8H	8H	6M	5M
Wetlands in AA food or pond < 2.0M of 10 years	9H	8H	7M	7M	5M	4M

Comments: _____

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

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

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

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

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

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

S1 Species:	1H	9H	7M	6M	2L	1L	0L
S2 and S3 Species:	9H	7M	8M	5M	2L	1L	0L

14C. General Wildlife Habitat Rating:

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

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

Highest Habitat Level	dec/primary	sus/primary	dec/secondary	sus/secondary	dec/incidental	sus/incidental	None
Functional Points and Rating	1H	9H	7M	6M	2L	1L	0L

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

- abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- observed wildlife sign such as scat, tracks, nest structures, game trails, etc.
- interviews with local biologists with knowledge of the AA

Moderate (based on any of the following (check)):

- observers of scattered wildlife groups or individuals or relatively few species during peak periods
- common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- interviews with local biologists with knowledge of the AA

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

14D. 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 circle NA type and proceed to 14E.)

Evidence of wildlife use (i)	Exponential	High	Moderate	Low
Substantial	1E	9H	8H	3M
Moderate			5M	2L
Minimal			2L	1L

Kind of Elk commonly observed in this area. Several wet habitat

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

- Type of Fishery: Cold Water (CW) ___ Warm Water (WW) ___ Use the CW or WW guidelines in the user manual to complete the matrix

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

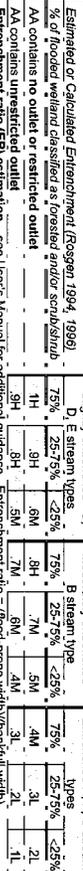
- 1. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)
 - a) Is fish use of the AA significantly reduced by a culvert, dike or other man-made structure or activity or is the waterbody included on the current final MDCD list of waterbodies in need of TMDL development with listed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

- ii. Final Score and Rating:
 - Final Score: 1.0
 - Rating: 1L

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

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

Estimated or Calculated Enrichment (Rosgen 1994, 1996)	Slightly Enriched - C	Moderately Enriched - D	Enriched - E	Flood-prone Width
% of floodable wetland classified as floodable or overbank wetland	75%	25-75%	<25%	
AA contains no outlet or restricted outlet	1H	9H	6M	
AA contains unrestricted outlet	9H	9H	6M	
Enrichment ratio (ER) estimation - see User's Manual for additional guidance. Enrichment ratio = (flood-prone width)/(bankfull width)	ER = 1.0 - 1.4	ER = 1.4 - 2.2	ER = 2.2 - 4.0	



- ii. Final Score and Rating:
 - Final Score: 1.0
 - Rating: 1L

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 circle NA type and proceed to 14G.)

Evidence of wildlife use (i)	Exponential	High	Moderate	Low
Substantial	1E	9H	8H	3M
Moderate			5M	2L
Minimal			2L	1L

Kind of Elk commonly observed in this area. Several wet habitat

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in Instructions):
 Primary or critical habitat (list species) D
 Secondary habitat (list species) S
 Incidental habitat (list species) S
 No usable habitat S

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	do/cprimary	su/sprimary	do/csecondary	su/ssecondary	do/cincidental	su/sincidental	None
Functional Points and Rating	1H	9H	8M	7M	3L	1L	0L

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in Instructions):
 Primary or critical habitat (list species) D
 Secondary habitat (list species) S
 Incidental habitat (list species) S
 No usable habitat S

ii. Rating (Use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	do/cprimary	su/sprimary	do/csecondary	su/ssecondary	do/cincidental	su/sincidental	None
Functional Points and Rating	1H	9H	7M	6M	2L	1L	0L

14C. General Wildlife Habitat Rating:

Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (based on any of the following (check):
 - abundant wildlife signs such as scat, tracks, nest structures, game trails, etc.
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (based on any of the following (check):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife signs such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA
 Low (based on any of the following (check):
 - few or no wildlife observations during peak use periods
 - little to no wildlife sign
 - sparse adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered as high) distributed the most and best patch conditions are as follows: P/P = permanent/perennial; S/T = seasonal/temporary/ephemeral; and A = absent (see instructions for further definitions of these terms)

Class cover distribution (all vegetated classes)	High			Moderate			Low			
	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even	
Duration of surface water in $\frac{1}{2}$ hrs of AA	P/P	S/T	(A) P/P	S/T	T/E	A	P/P	S/T	T/E	A
Low disturbance at AA (see #12)	E	E	E	H	E	H	M	E	H	M
Moderate disturbance at AA (see #12)	H	H	(H) H	H	H	M	H	M	H	M
High disturbance at AA (see #12)	M	M	L	M	L	L	M	L	L	L

iii. Rating (Use the conclusions from I and II above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife use (i)	Exceptional	High	Moderate	Low
Substantial	1E	9H	8M	7M
Moderate	9H	7M	5M	3L
Minimal	6M	4M	2L	1L

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "concernable" such that the AA could be used by fish i.e., fish use is predicted by perched culvert or other barrier, etc.; if the AA is not used by fish, you may not be able to restore due to habitat constraints, or is not predicted from a management perspective (such as fish entrapment in a canal, then circle NA here and proceed to 14E).

Type of Fishery: Cold Water (CW) ___ Warm Water (WW) ___ Use the CW or WW guidelines in the user manual to complete the matrix

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

Duration of surface water in AA	Perennial / Perennial	Adequate	Poor	Seasonal / Intermittent	Adequate	Poor	Temporary / Ephemeral	Adequate	Poor
Aquatic hiding / resting / escape cover	O	S	O	S	O	S	O	S	O
Thermal cover optimum / suboptimal	O	S	O	S	O	S	O	S	O
FMP Tier I fish species	1E	9H	8H	7M	6M	5M	4M	3L	2L
FMP Tier II or Native Game fish species	9H	8H	7M	6M	5M	4M	3L	2L	1L
FMP Tier III or Introduced Game fish	8H	7M	6M	5M	4M	3L	2L	1L	0L
FMP Non-Game fish or No fish species	5M	4M	3L	2L	1L	0L	0L	0L	0L

Sources used for identifying fish sp. potentially found in AA:
 - In the adjusted rating AA Site: Modified score cannot exceed 1 or be less than 0.1
 - In the adjusted rating AA Site: Modified score cannot exceed 1 or be less than 0.1
 - MFCO 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 1 above by 0.1

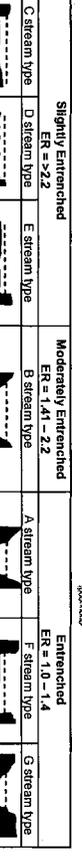
b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.) - specify in comments for native fish or introduced game fish? Y N If yes, add 0.1 to the adjusted score in 1 or the above ___

iii. Final Score and Rating: ___ Comments: ___

14E. Flood Attenuation? (Applies only to wetlands subjected to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to 14F.)

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

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



ii. Are 310 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 (circle)? 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, circle NA here and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/T = seasonal/temporary; 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/T	T/E
Wetlands in AA flood or pond 2.5 out of 10 years	1H	9H	8H
Wetlands in AA flood or pond 5 out of 10 years	9H	8H	7M
Wetlands in AA flood or pond < 5 out of 10 years	9H	8H	7M

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLANDSITE #S1: Cottonwood Forest (A31)

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.1	1		
B. MT Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Habitat	H	0.9	1		
D. General Fish Habitat	NA	NA			
E. Flood Attenuation	NA				
F. Short and Long Term Surface Water Storage	NA				
G. Sediment/Nutrient/Toxicant Removal	NA				
H. Sediment/Shoreline Stabilization	NA				
I. Production Export/Food Chain Support	H	0.8	1		
J. Groundwater Discharge/Recharge	M	0.4	1		
K. Uniqueness	H	0.9	1		
L. Recreation/Education Potential (bonus points)	H	0.2	NA		
Totals:					
Percent of Possible Score		3.4	67%		

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
 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 Fish Habitat; or
 "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; 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 II)
 "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: (circle appropriate category based on the criteria outlined above) I II III IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Yellowstone Village Floor 2 MDT Project # 2008-1 Contro # --- (A33)
 2. Evaluation Date: 9 Day 11 Nov 08 4. Evaluator(s): Gregg Anderson 5. Wetlands/site #(s): Grass Meadows
 6. Wetland Location(s): 1. Legal: T-2 Nor/S-R E or W/S T-1 Nor/S-R E or W/S
 II. Approx. Stationing or Mileposts: _____
 III. Watershed: 14-030003 Watershed Name: Upper Cottonwood - Downey Seen Watershed

7. a. Evaluating Agency: _____ 8. Wetland size: (total acres) 180.42 (visually estimated) (measured, e.g. by GPS (if applies))
 b. Purpose of Evaluation:
 1. Wetlands potentially affected by MDT project
 2. Mitigation wetlands: pre-construction
 3. Mitigation wetlands: post-construction
 4. Other: _____ 9. Assessment area (AA): (acres, see instructions on determining AA) 180.42 (visually estimated) (measured, e.g. by GPS (if applies))

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Binson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
<u>Grass Herb.</u>			<u>NA</u>	

Abbreviations: (see manual for definitions)
 HGM Classes: Riverine (R), Depositional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF);
 Cowardin Classes: Rock Bottom (RB), Unconsolidated Bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-River Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)
 Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Diked (PD), Farmed (F), Artificial (A)
 Water Regimes: Permanent/Perennial (PP), Seasonal/Intermittent (SI), Temporary/Ephemeral (TE)
 (Circle one) Rate: Abundant

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions) Common

12. General condition of AA:
 I. Disturbance: (use matrix below to determine (circle) appropriate response - see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) lists)

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA
AA occurs and is managed in predominantly natural state, is not grazed, mowed, logged, or otherwise disturbed; does not contain signs of occupied buildings, and noxious weed or ANVS cover is < 5%.	Managed in predominantly natural state, is not grazed, mowed, logged, or otherwise disturbed; does not contain signs of occupied buildings, and noxious weed or ANVS cover is < 5%.
AA not cultivated, but may be moderately grazed or mowed or otherwise disturbed; no signs of occupied buildings, and noxious weed or ANVS cover is 5-25%.	Land not cultivated, but may be moderately grazed or mowed or otherwise disturbed; no signs of occupied buildings, and noxious weed or ANVS cover is 5-25%.
AA is heavily disturbed, including logging, mowing, or other activities; no signs of occupied buildings, and noxious weed or ANVS cover is > 25%.	Land is heavily disturbed, including logging, mowing, or other activities; no signs of occupied buildings, and noxious weed or ANVS cover is > 25%.

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present (do not include unvegetated classes), see #11 (above))

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management preventing (class) 7 existence of additional vegetated classes?	Modified Rating
23 (or 2 if 1 is forested) classes	H	NA	NA
2 (or 1 if forested) classes	M	NA	NA
1 class, but not a monoculture	L	NO	L
1 class, monoculture (1 species comprises > 80% of total cover)	L	NA	NA

Comments: Reviews per downgraded

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

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

ii. Rating (Use the conclusions from i above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	do/dominant	sus/sus	do/secondary	sus/secondary	do/intermittent	sus/intermittent	None
Functional Points and Rating	1H	3H	5M	7M	3L	1L	0L

Sources for documented use (e.g. observations, records, etc.):

148. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in 144 above)

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

ii. Rating (Use the conclusions from i above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	do/dominant	sus/sus	do/secondary	sus/secondary	do/intermittent	sus/intermittent	None
Functional Points and Rating	1H	3H	7M	5M	2L	1L	0L

Sources for documented use (e.g. observations, records, etc.):

149. General Wildlife Habitat Rating:

- 1. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 - Substantial (based on any of the following (check)):
 - abundant numbers of abundant wildlife (high species diversity (during any period))
 - abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 - Moderate (based on any of the following (check)):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA
 - Low (Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; T/E = temporary/ephemeral; and A = absent (see instructions for further definitions of these terms):

Structural diversity (see #13)	High				Moderate				Low			
	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven	Even	Uneven
Class cover distribution (all vegetated classes)	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Low distance at AA (see #12)	E	E	E	H	E	E	E	H	E	E	E	H
High distance at AA (see #12)	H	H	H	H	H	H	H	H	H	H	H	H
High distance at AA (see #12)	M	M	M	M	M	M	M	M	M	M	M	M

iii. Rating (Use the conclusions from i and ii above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife use (i)	Exceptional			High			Moderate			Low		
	1E	3H	5M	1H	3H	5M	1H	3H	5M	1L	3L	5L
Substantial												
Moderate												
Minimal												

140. General Fish Habitat Rating: (Assess the function if the AA is used by fish or the existing situation is acceptable such that the AA could be used by fish (i.e., fish use is precluded by periodic culvert or other barrier, etc.); if the AA is not used by fish, fish use is not precluded due to habitat constraints, or is not desired from a management perspective (such as fish entrapment in a canal), then circle NA here and proceed to 14E.)

Type of Fishes: Cold Water (CW) ___ Warm Water (WW) ___ Use the CW or WW guidelines in the user manual to complete the matrix

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

Duration of surface water in AA	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
	Adequate	Subadequate	Poor	Adequate	Subadequate	Poor	Adequate	Subadequate	Poor
Agentic habitat / resting / passage cover	O	S	O	S	O	S	O	S	O
Thermal cover optimal / suboptimal	O	S	O	S	O	S	O	S	O
FWP Tier I fish species	1E	3H	5M	7M	5M	3L	1L	3L	1L
FWP Tier II or Native Game fish species	3H	5M	7M	5M	3L	1L	3L	1L	1L
FWP Tier III or Introduced Game fish	3H	5M	7M	5M	3L	1L	3L	1L	1L
FWP Non-Game fish	5M	3L	1L	3L	1L	1L	1L	1L	1L

- 1. 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)
 - iii. Is fish use of the AA significantly reduced by a culvert, dam, or other man-made structure or activity or is the waterbody included on the current final MDCS list of waterbodies in need of TMDL attention with listed Fishable Impaired Uses including cold or warm water fishery or aquatic life support, or to equate waterbody point or animal species (see Appendix E) occur in fish habitat? Y N If yes, reduce score in 1 above by 0.1
- 2. 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 1 of the above.

iii. Final Score and Rating: _____ Comments: _____

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

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

Estimated or Calculated Entrenchment Ratio (ER) (1994, 1996)	Slightly entrenched - D. E stream types	Moderately entrenched - B stream types	Entrenched A, F, G stream types
% of flooded wetland classified as forested and/or scrubshrub	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	3H	5M
Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width). Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth deviation intersects the floodplain on each side of the stream.	3H	5M	7M
	5M	3L	1L



Flood-prone width	Bankfull Depth	Entrenchment ratio	Bankfull Depth	Bankfull Width
ER = 2.2	Slightly Entrenched	ER = 1.41 - 2.2	Moderately Entrenched	ER = 1.0 - 1.4

- ii. Are 2-10 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 (circle)? Y N Comments: _____
- 14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed to 14G.)

1. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating. See instructions 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 feet		
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	3H	5M	3H	5M	7M	3L	1L	1L
Wetlands in AA flood or pond < 5 out of 10 years	3H	5M	7M	5M	3L	1L	3L	1L	1L

146. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, circle NA here and proceed to 141.)

I. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)		II. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)		III. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)	
AA contains no or restricted outlet	AA contains unrestricted outlet	AA contains no or restricted outlet	AA contains unrestricted outlet	AA contains no or restricted outlet	AA contains unrestricted outlet
Yes	No	Yes	No	Yes	No
1H	3H	1H	3H	1H	3H
2H	4H	2H	4H	2H	4H
3H	5H	3H	5H	3H	5H
4H	6H	4H	6H	4H	6H
5H	7H	5H	7H	5H	7H
6H	8H	6H	8H	6H	8H
7H	9H	7H	9H	7H	9H
8H	10H	8H	10H	8H	10H
9H	11H	9H	11H	9H	11H
10H	12H	10H	12H	10H	12H
11H	13H	11H	13H	11H	13H
12H	14H	12H	14H	12H	14H
13H	15H	13H	15H	13H	15H
14H	16H	14H	16H	14H	16H
15H	17H	15H	17H	15H	17H
16H	18H	16H	18H	16H	18H
17H	19H	17H	19H	17H	19H
18H	20H	18H	20H	18H	20H
19H	21H	19H	21H	19H	21H
20H	22H	20H	22H	20H	22H
21H	23H	21H	23H	21H	23H
22H	24H	22H	24H	22H	24H
23H	25H	23H	25H	23H	25H
24H	26H	24H	26H	24H	26H
25H	27H	25H	27H	25H	27H
26H	28H	26H	28H	26H	28H
27H	29H	27H	29H	27H	29H
28H	30H	28H	30H	28H	30H
29H	31H	29H	31H	29H	31H
30H	32H	30H	32H	30H	32H
31H	33H	31H	33H	31H	33H
32H	34H	32H	34H	32H	34H
33H	35H	33H	35H	33H	35H
34H	36H	34H	36H	34H	36H
35H	37H	35H	37H	35H	37H
36H	38H	36H	38H	36H	38H
37H	39H	37H	39H	37H	39H
38H	40H	38H	40H	38H	40H
39H	41H	39H	41H	39H	41H
40H	42H	40H	42H	40H	42H
41H	43H	41H	43H	41H	43H
42H	44H	42H	44H	42H	44H
43H	45H	43H	45H	43H	45H
44H	46H	44H	46H	44H	46H
45H	47H	45H	47H	45H	47H
46H	48H	46H	48H	46H	48H
47H	49H	47H	49H	47H	49H
48H	50H	48H	50H	48H	50H
49H	51H	49H	51H	49H	51H
50H	52H	50H	52H	50H	52H
51H	53H	51H	53H	51H	53H
52H	54H	52H	54H	52H	54H
53H	55H	53H	55H	53H	55H
54H	56H	54H	56H	54H	56H
55H	57H	55H	57H	55H	57H
56H	58H	56H	58H	56H	58H
57H	59H	57H	59H	57H	59H
58H	60H	58H	60H	58H	60H
59H	61H	59H	61H	59H	61H
60H	62H	60H	62H	60H	62H
61H	63H	61H	63H	61H	63H
62H	64H	62H	64H	62H	64H
63H	65H	63H	65H	63H	65H
64H	66H	64H	66H	64H	66H
65H	67H	65H	67H	65H	67H
66H	68H	66H	68H	66H	68H
67H	69H	67H	69H	67H	69H
68H	70H	68H	70H	68H	70H
69H	71H	69H	71H	69H	71H
70H	72H	70H	72H	70H	72H
71H	73H	71H	73H	71H	73H
72H	74H	72H	74H	72H	74H
73H	75H	73H	75H	73H	75H
74H	76H	74H	76H	74H	76H
75H	77H	75H	77H	75H	77H
76H	78H	76H	78H	76H	78H
77H	79H	77H	79H	77H	79H
78H	80H	78H	80H	78H	80H
79H	81H	79H	81H	79H	81H
80H	82H	80H	82H	80H	82H
81H	83H	81H	83H	81H	83H
82H	84H	82H	84H	82H	84H
83H	85H	83H	85H	83H	85H
84H	86H	84H	86H	84H	86H
85H	87H	85H	87H	85H	87H
86H	88H	86H	88H	86H	88H
87H	89H	87H	89H	87H	89H
88H	90H	88H	90H	88H	90H
89H	91H	89H	91H	89H	91H
90H	92H	90H	92H	90H	92H
91H	93H	91H	93H	91H	93H
92H	94H	92H	94H	92H	94H
93H	95H	93H	95H	93H	95H
94H	96H	94H	96H	94H	96H
95H	97H	95H	97H	95H	97H
96H	98H	96H	98H	96H	98H
97H	99H	97H	99H	97H	99H
98H	100H	98H	100H	98H	100H
99H	101H	99H	101H	99H	101H
100H	102H	100H	102H	100H	102H
101H	103H	101H	103H	101H	103H
102H	104H	102H	104H	102H	104H
103H	105H	103H	105H	103H	105H
104H	106H	104H	106H	104H	106H
105H	107H	105H	107H	105H	107H
106H	108H	106H	108H	106H	108H
107H	109H	107H	109H	107H	109H
108H	110H	108H	110H	108H	110H
109H	111H	109H	111H	109H	111H
110H	112H	110H	112H	110H	112H
111H	113H	111H	113H	111H	113H
112H	114H	112H	114H	112H	114H
113H	115H	113H	115H	113H	115H
114H	116H	114H	116H	114H	116H
115H	117H	115H	117H	115H	117H
116H	118H	116H	118H	116H	118H
117H	119H	117H	119H	117H	119H
118H	120H	118H	120H	118H	120H
119H	121H	119H	121H	119H	121H
120H	122H	120H	122H	120H	122H
121H	123H	121H	123H	121H	123H
122H	124H	122H	124H	122H	124H
123H	125H	123H	125H	123H	125H
124H	126H	124H	126H	124H	126H
125H	127H	125H	127H	125H	127H
126H	128H	126H	128H	126H	128H
127H	129H	127H	129H	127H	129H
128H	130H	128H	130H	128H	130H
129H	131H	129H	131H	129H	131H
130H	132H	130H	132H	130H	132H
131H	133H	131H	133H	131H	133H
132H	134H	132H	134H	132H	134H
133H	135H	133H	135H	133H	135H
134H	136H	134H	136H	134H	136H
135H	137H	135H	137H	135H	137H
136H	138H	136H	138H	136H	138H
137H	139H	137H	139H	137H	139H
138H	140H	138H	140H	138H	140H
139H	141H	139H	141H	139H	141H
140H	142H	140H	142H	140H	142H
141H	143H	141H	143H	141H	143H
142H	144H	142H	144H	142H	144H
143H	145H	143H	145H	143H	145H
144H	146H	144H	146H	144H	146H
145H	147H	145H	147H	145H	147H
146H	148H	146H	148H	146H	148H
147H	149H	147H	149H	147H	149H
148H	150H	148H	150H	148H	150H
149H	151H	149H	151H	149H	151H
150H	152H	150H	152H	150H	152H
151H	153H	151H	153H	151H	153H
152H	154H	152H	154H	152H	154H
153H	155H	153H	155H	153H	155H
154H	156H	154H	156H	154H	156H
155H	157H	155H	157H	155H	157H
156H	158H	156H	158H	156H	158H
157H	159H	157H	159H	157H	159H
158H	160H	158H	160H	158H	160H
159H	161H	159H	161H	159H	161H
160H	162H	160H	162H	160H	162H
161H	163H	161H	163H	161H	163H
162H	164H	162H	164H	162H	164H
163H	165H	163H	165H	163H	165H
164H	166H	164H	166H	164H	166H
165H	167H	165H	167H	165H	167H
166H	168H	166H	168H	166H	168H
167H	169H	167H	169H	167H	169H
168H	170H	168H	170H	168H	170H
169H	171H	169H	171H	169H	171H
170H	172H	170H	172H	170H	172H
171H	173H	171H	173H	171H	173H
172H	174H	172H	174H	172H	174H
173H	175H	173H	175H	173H	175H
174H	176H	174H	176H	174H	176H
175H	177H	175H	177H	175H	177H
176H	178H	176H	178H	176H	178H
177H	179H	177H	179H	177H	179H
178H	180H	178H	180H	178H	180H
179H	181H	179H	181H	179H	181H
180H	182H	180H	182H	180H	182H
181H	183H	181H	183H	181H	183H
182H	184H	182H	184H	182H	184H
183H	185H	183H	185H	183H	185H
184H	186H	184H	186H	184H	186H
185H	187H	185H	187H	185H	187H
186H	188H	186H	188H	186H	188H
187H	189H	187H	189H	187H	189H
188H	190H	188H	190H	188H	190H
189H	191H	189H	191H		

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

II. Rating (use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

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

Sources for documented use (e.g. observations, records, etc.):

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

II. Rating (use the conclusions from I above and the matrix below to arrive at (circle) the functional points and rating)

Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
Functional Points and Rating	1H	8H	7M	6M	2L	1L	0L

S1 Species: _____
 S2 and S3 Species: _____
 Functional Points and Rating: _____
 Sources for documented use (e.g. observations, records, etc.):

14C. General Wildlife Habitat Rating:

Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):
 Substantial (based on any of the following (check)):
 - abundance of animals and wildlife signs of high densities (during any period)
 - presence of extremely limiting habitat features not available in the surrounding area
 - interviews with local biologists with knowledge of the AA
 Moderate (based on any of the following (check)):
 - observations of scattered wildlife groups or individuals or relatively few species during peak periods
 - adequate adjacent upland food sources
 - interviews with local biologists with knowledge of the AA
 Low (based on any of the following (check)):
 - abundance of animals and wildlife signs of low densities (during any period)
 - presence of adjacent upland food sources
 - interviews with local biologists with knowledge of the AA

Class cover distribution (all vegetated classes)	Even			Uneven			Even			Uneven		
	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Duration of surface water in AA (see #10)	P	P	A	P	P	A	P	P	A	P	P	A
Low disturbance at AA (see #12)	E	E	H	E	E	H	E	E	H	E	E	H
Moderate disturbance at AA (see #13)	H	H	H	H	H	H	H	H	H	H	H	H
High disturbance at AA (see #14)	M	M	L	M	M	L	M	M	L	M	M	L

III. Rating (use the conclusions from I and II above and the matrix below to arrive at (circle) the functional points and rating)

Evidence of wildlife use (I)	Exceptional			High			Moderate			Low		
	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Substantial	1E	9H	8M	7M	5M	3L	2L	1L	0L	0L	0L	0L
Moderate	3H	8M	7M	6M	5M	4M	3L	2L	1L	0L	0L	0L
Minimal	5M	4M	3L	2L	1L	0L	0L	0L	0L	0L	0L	0L

Comments:

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

Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

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

Duration of surface water in AA	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
	Optimal	Adequate	Poor	Optimal	Adequate	Poor	Optimal	Adequate	Poor
Aquatic habitat / fishing / escape cover	O	S	O	O	S	O	O	S	O
Thermal cover optimal / suboptimal	O	S	O	O	S	O	O	S	O
FWP Tier I fish species	1E	9H	8H	7M	6M	5M	4M	3L	2L
FWP Tier II or Native Game fish species	9H	8H	7M	6M	5M	4M	3L	2L	1L
FWP Tier III or Introduced Game fish	8H	7M	6M	5M	4M	3L	2L	1L	0L
FWP Non-Game fish or No fish species	5M	4M	3L	2L	1L	0L	0L	0L	0L

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, dam, or other man-made structure or activity or is the waterbody impounded on the current final or former floodplain? Y N If yes, add 0.1 to the adjusted score in I above or equal the 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

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 above

III. Final Score and Rating: _____ Comments: _____

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

I. Rating (Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating)

Estimated or Calculated Entrenchment Ratio (ER) (Kossov 1994, 1996)	Slightly entrenched - C		Moderately entrenched - D		Entrenched - A, F, G stream types	
	D. E stream type	75%	25-75%	<25%	B stream type	25-75%
% of flooded wetland classified as forested and/or scrub/shrub	1H	9H	8H	7M	6M	5M
AA contains no outlet or restricted outlet	9H	8H	7M	6M	5M	4M
AA contains unrestricted outlet	9H	8H	7M	6M	5M	4M
Entrenchment ratio (ER) estimation - see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width)	9H	8H	7M	6M	5M	4M
Flood-prone width = estimated horizontal projection of where 2x maximum bankfull depth elevation intersects the floodplain on each side of the stream.	9H	8H	7M	6M	5M	4M



C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type

II. Are 2-10 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 (circle)? 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, circle NA here and proceed to 14G.)

I. Rating (Working from top to bottom, use the matrix below to arrive at (circle) 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		
	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond 2-5 out of 10 years	1H	9H	8H	7M	6M	5M	4M	3L	2L
Wetlands in AA flood or pond < 2 out of 10 years	9H	8H	7M	6M	5M	4M	3L	2L	1L

Comments:

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

I. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate or L = low])	Sediment, nutrient, and toxicant input levels within AA		AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.		Wetlands on MDEQ list of wetlands in need of sediment input or discharge causes related to 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.	
	Yes	No	Yes	No	Yes	No
% cover of wetland vegetation in AA	1H	2H	3H	4H	5H	6H
AA contains no or restricted outlet	7H	8H	9H	1H	2H	3H
AA contains unrestricted outlet	4H	5H	6H	7H	8H	9H

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks of 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, circle **NA** type and proceed to 14I.)

I. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)	Permanent / Perennial		Seasonal / Intermittent		Temporary / Ephemeral	
	Yes	No	Yes	No	Yes	No
% cover of wetland streambank or shoreline by species with stability ratings of 26 (see Appendix F)	1H	2H	3H	4H	5H	6H
% cover of wetland streambank or shoreline by species with stability ratings of 26 (see Appendix F)	7H	8H	9H	1H	2H	3H
% cover of wetland streambank or shoreline by species with stability ratings of 26 (see Appendix F)	4H	5H	6H	7H	8H	9H

14I. Production Export/Food Chain Support:

I. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])	General Wildlife Habitat Rating (14C III)		General Fish Habitat Rating (14D III)	
	Yes	No	Yes	No
Rating (14C III)	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H
	2H	3H	4H	5H
	6H	7H	8H	9H
	1H	2H	3H	4H
	5H	6H	7H	8H
	9H	1H	2H	3H
	4H	5H	6H	7H
	8H	9H	1H	2H
	3H	4H	5H	6H
	7H	8H	9H	1H

SECTION PERTAINING TO FUNCTIONS & VALUES ASSESSMENT

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

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

AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):
 Primary or critical habitat (list species) D S
 Secondary habitat (list species) D S
 Incidental habitat (list species) D S
 No usable habitat S

14C. General Wildlife Habitat Rating:

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

Highest Habitat Level	do/primary	sub/primary	doc/secondary	sub/secondary	doc/incidental	sub/incidental	None
S1 Species:	1H	3H	7M	6M	2L	1L	0L
Functional Points and Rating							
S2 and S3 Species:	9H	7M	6M	5M	2L	1L	0L
Functional Points and Rating							

Sources for documented use (e.g. observations, records, etc.):

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

Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

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

Duration in AA	Permanent / Perennial	Adequate	Poor	Optimal	Adequate	Poor	Optimal	Adequate	Poor
Aquatic habitat / resting / escape cover	O	S	O	S	O	S	O	S	O
Thermal cover optimal / suboptimal	O	S	O	S	O	S	O	S	O
Fish spawning habitat	1E	9H	8H	7M	6M	5M	4M	3L	2L
Fish for II or Native Game (SI) species	9H	8H	7M	6M	5M	4M	3L	2L	1L
Fish for III or Introduced Game fish	8H	7M	6M	5M	4M	3L	2L	1L	0L
Fish Non-Game Ther IV or No fish species	5M	5M	4M	4M	3L	2L	2L	1L	1L

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

1. Rating Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating)

Estimated or Calculated Entrenchment (Foster 1994, 1996)	Slightly entrenched - C	Moderately entrenched - B	Entrenched - A, F, G
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%
AA contains unrestricted outlet	H	H	H
Entire wetland is ERO estimation - see User's Manual for additional guidance. Entrenchment ratio = (fresh precipitation/bankfull width) / Flood-prone width - estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the topsoil on each side of the stream.	9H	8H	7M
Flood-prone width	Bankfull width	Bankfull Depth	Bankfull Width

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 subjected to flooding or ponding, circle **NA** here and proceed to 14G.)

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

Duration of surface water in AA	P/P	SI	TE	P/P	SI	TE	P/P	SI	TE
Estimated maximum acre feet of water contained in wetlands within the AA that are subjected to periodic flooding or ponding	1E	9H	8H	7M	6M	5M	4M	3L	2L
Duration of surface water at wetlands within the AA	1H	9H	8H	7M	6M	5M	4M	3L	2L
Wetlands in AA flood or pond > 5 out of 10 years	9H	8H	7M	7M	6M	5M	4M	3L	2L
Wetlands in AA flood or pond < 5 out of 10 years	9H	8H	7M	7M	6M	5M	4M	3L	2L

Comments: Surface provides a wildlife habitat for waterfowl ducks is not common in study area.

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

Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

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

Duration in AA	Permanent / Perennial	Adequate	Poor	Optimal	Adequate	Poor	Optimal	Adequate	Poor
Aquatic habitat / resting / escape cover	O	S	O	S	O	S	O	S	O
Thermal cover optimal / suboptimal	O	S	O	S	O	S	O	S	O
Fish spawning habitat	1E	9H	8H	7M	6M	5M	4M	3L	2L
Fish for II or Native Game (SI) species	9H	8H	7M	6M	5M	4M	3L	2L	1L
Fish for III or Introduced Game fish	8H	7M	6M	5M	4M	3L	2L	1L	0L
Fish Non-Game Ther IV or No fish species	5M	5M	4M	4M	3L	2L	2L	1L	1L

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

1. Rating Working from top to bottom, use the matrix below to arrive at (circle) the functional points and rating)

Estimated or Calculated Entrenchment (Foster 1994, 1996)	Slightly entrenched - C	Moderately entrenched - B	Entrenched - A, F, G
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%
AA contains unrestricted outlet	H	H	H
Entire wetland is ERO estimation - see User's Manual for additional guidance. Entrenchment ratio = (fresh precipitation/bankfull width) / Flood-prone width - estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the topsoil on each side of the stream.	9H	8H	7M
Flood-prone width	Bankfull width	Bankfull Depth	Bankfull Width

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 subjected to flooding or ponding, circle **NA** here and proceed to 14G.)

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

Duration of surface water in AA	P/P	SI	TE	P/P	SI	TE	P/P	SI	TE
Estimated maximum acre feet of water contained in wetlands within the AA that are subjected to periodic flooding or ponding	1E	9H	8H	7M	6M	5M	4M	3L	2L
Duration of surface water at wetlands within the AA	1H	9H	8H	7M	6M	5M	4M	3L	2L
Wetlands in AA flood or pond > 5 out of 10 years	9H	8H	7M	7M	6M	5M	4M	3L	2L
Wetlands in AA flood or pond < 5 out of 10 years	9H	8H	7M	7M	6M	5M	4M	3L	2L

Comments: Surface provides a wildlife habitat for waterfowl ducks is not common in study area.

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S) *Silver Sage Brush Grass*

(UASD) Silver Sage Brush Grass
Barred Sparrowhawk

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Average)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.1	1		
B. MT Natural Heritage Program Species Habitat	L	0.1	1		
C. General Wildlife Habitat	M	0.5	1		
D. General Fish Habitat	NA	—	—		
E. Flood Attenuation	NA	—	—		
F. Short and Long Term Surface Water Storage	NA	—	—		
G. Sediment/Nutrient/Toxicant Removal	NA	—	—		
H. Sediment/Shoreline Stabilization	NA	—	—		
I. Production Export/Food Chain Support	M	0.6	1		
J. Groundwater Discharge/Recharge	L	0.1	1		
K. Uniqueness	M	0.4	1		
L. Recreation/Education Potential (bonus points)	H	0.2	NA		
Totals:		2.0	6		
Percent of Possible Score		33 %			

Category I Wetland: (must satisfy **one** of the following criteria; otherwise go to Category II)
 Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or
 Score of 1 functional point for Uniqueness; or
 Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "Yes"; or
 Percent of possible score > 80% (round to nearest whole #).

Category II Wetland: (Criteria for Category I not satisfied and meets any **one** of the following criteria; otherwise go to Category IV)
 Score of 1 functional point for MT Natural Heritage Program Species Habitat; or
 Score of 9 or 1 functional point for General Wildlife Habitat; or
 "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, II, or IV are not satisfied and all of the following criteria are met; otherwise go to Category II)
 "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: (circle appropriate category based on the criteria outlined above) I II **III** IV

APPENDIX L

Effects of Recreation and Trails on Wildlife Summary of Scientific Research

Effects of Recreation and Trails on Wildlife

Summary of Scientific Research

INTRODUCTION

Outdoor recreational provides a broad range of community and individual benefits that are gained by interacting with the natural world. These benefits include solitude, natural quiet, opportunities to learn, opportunities to observe wildlife, exercise, social activity, and many others. Public access to natural areas is also important in fostering long-term public support for open space and wildlife habitat conservation (Gill 2007). However, all forms of public use, recreation, and trails in the natural environment inherently result in localized impacts to wildlife and habitat due to habitat fragmentation, startling or flushing of some species, and the introduction of conduits for non-native species and predators. Careful planning and management of recreational uses and facilities can minimize their impacts while maximizing the public benefits of recreation. This discussion provides an overview of some of the current scientific research and guidelines that may be useful in planning recreation uses and trails in the Study Area.

IMPACTS OF TRAILS AND RECREATION ON WILDLIFE

Large Mammals

In a study of responses of mule deer, pronghorn antelope, and bison to hikers and mountain biker on Antelope Island State Park in Utah, Taylor and Knight (2003) came to some of the following conclusions:

- Wildlife exhibited a 70% probability of flushing within 100 meters of trails
- Area of influence is greater for off-trail use than on-trail use
- Increased vegetative cover generally reduces wildlife response

Overall, pedestrians on trails have been shown to influence deer and elk behavior at

distances of between 30 and 400 meters, depending on location, cover, and other variables (Miller et al. 2001, Sisk 1989, Cassirer et al. 1992, Kucera 1976). In many urbanized or high-use areas, deer and elk are desensitized to human recreation and can habituate to predictable and recurrent use of recreational trails. Habituation to predictable and recurrent recreational use allows them to continue normal behaviors such as feeding, resting, and breeding (George and Crooks 2006, Stankowich 2008). A study of elk responses to cross-country skiers in Yellowstone National Park also found that predictability was a major influence in elk responses, which increased substantially when elk encountered humans in unusual locations (Cassirer et al. 1992).

Carnivores

Studies of responses to carnivores (such as bobcat, coyote, and black bear) have found that human use and trails can change their habitat use and behavior. Reed and Merenlender (2008) found protected areas with “quiet, nonconsumptive recreation” (hiking, biking, and horseback riding) had a five times lower density of bobcat and coyote use than similar areas that did not allow recreation. George and Crooks (2006) found that human activity appeared to shift bobcats toward more nocturnal activity. Black bears have also been reported to shift to nocturnal behavior in areas with heavy human use (Beecham and Rohlman 1994). In a study of black bears in Rocky Mountain National Park, McCutchen (1989) suggested that linear transportation corridors (trails and roads) were more tolerated by black bear than structures or facilities.

Birds

The sensitivity of birds to trails and recreational use varies by species and habitat type. In general, recreational trail use has the potential to displace breeding birds. Birds that utilize the interior habitat areas

are more vulnerable to habitat fragmentation due to trails or human use. This is due to flushing from nests (and exposure of eggs to predators and the elements) and overall habitat fragmentation which can increase nest predation, competition, and brood parasitism (Riffel et al. 1996, Miller et al. 1998, Miller et al. 2001).

The CDOW has recommended seasonal buffers to protect nesting raptors from human encroachment. For red-tailed hawk, CDOW recommends no new surface occupancy within 1/3 mile radius of active nests, and a restriction on encroachment within 1/3 mile radius of active nests between February 15 and July 15. However, CDOW notes that some individuals have adapted to human use and will tolerate human habituation to within 200 meters of their nest. For bald eagles, CDOW recommends no new surface occupancy within ¼ mile radius, and a seasonal restriction on human encroachment within ½ mile from October 15 through July 31 (CDOW 2008).

Amphibians

Trails or concentrated human use along the edges of water bodies and wetlands can fragment habitat for amphibians, impeding movement between breeding and foraging areas, and can also contribute to direct mortality if they are crushed underfoot (Livo 1996, Hammerson 1999, Smith and Keinath 2007).

IMPACTS OF DIFFERENT RECREATIONAL USES

The relative ecological impact of various trail uses is a sensitive topic. While there are a lot of opinion-based materials advocating for or against a particular user group, very little empirical scientific data addresses this subject in an objective manner. Assuming that a trail is already in place, the environmental effects of non-motorized recreational trail uses (including hiking, nature viewing, running, bicycling, and horseback riding) are generally

classified into three areas: physical impacts, vegetative impacts, and wildlife impacts.

Physical Impacts

Physical impacts include adjacent vegetation trampling, soil compaction or erosion. This aspect of trail impacts is the most widely studied, perhaps because it is the easiest to document in controlled experiments. Several studies have found that the physical impacts of both hikers and bicyclists are similar (Wilson and Seney 1994, Thurston and Reader 2001) while the physical impacts of equestrian use is greater (Wilson and Seney 1994, Marion 2006, Dehring and Mazzotti 1998).

The physical impacts of trail use vary by topography, soils, level of use, trail design and layout, and other factors. The initial construction of a trail is the greatest single impact to vegetation and soils – after that the differences in impacts are less meaningful. From a practical standpoint, the physical impacts are similar for most user groups, are usually limited to the immediate trail corridor, and can be mitigated or minimized by proper trail design and management.

Vegetative Impacts

Impact to vegetation due to trail use includes trail widening and braiding, social trail development, and noxious weed dispersal. Assuming that a trail is already in place, trampling and compaction may occur along the trail corridor. In high-use areas, or areas that are poorly designed, widening of the trail tread can occur, along with braiding and the development of parallel trails. In all of these instances, the impact footprint expands. Most of these impacts, however, are limited to within one to two meters of the trail tread (Jordan 2000). Again, it should be noted that a majority of the vegetative impacts occur during the initial trail construction.

Trail construction and use can also contribute to the dispersal of noxious weeds along a trail corridor. This primarily occurs

in two ways: 1) Soil disturbance during and after trail construction provides a foothold for weeds, and 2) trail users transport weed seeds along the trail corridor, introducing weed species to new areas.

How do various trail uses affect vegetative impacts? Few studies have compared vegetative impacts of hiking and mountain biking. After measuring 500 passes of test trails for hiking and mountain bikes, Thurston and Reader (2001) found no significant difference in vegetative impacts from the two uses. As one article (Lathrop 2008) pointed out, the trail itself is the attraction for most mountain bikers, which may limit the amount of off-trail use. Conversely, some hikers prefer to often wander off trail, considering their own incremental impact to be small.

In terms of noxious weed dispersal, it is fair to say that all users have the potential to carry and spread noxious weed seeds – whether it is from boot soles, tires, hooves, fur, or manure. All trail uses contribute to this problem. However, several studies have shown that equestrian use is a much greater contributor, primarily through the passing of weed seeds through manure (including Benninger-Traux et al. 1992). While some in the equestrian community dispute these findings, they are commonly accepted among most land managers and biologists.

Wildlife Impacts

The general types of impacts that result from recreational trails are described in detail above. Much less is known about the impacts of specific modes of travel on wildlife. Some of the studies that do differentiate between user groups are described as follows.

One of the most prominent empirical studies comparing the wildlife impacts of various trail uses is the one conducted on Antelope Island State Park in Utah (Taylor and Knight 2003). In addition to the general findings

described above, this study also found the following:

- There is little difference in wildlife response between hikers and mountain bikers
- Hikers retain their human form while mountain bikers do not. Typically, pedestrians induce a more intense wildlife response than do motorized vehicles.
- Mountain bikers may be less predictable than hikers because they travel at a faster speed and are less likely to be talking.
- While the impacts of individual encounters are similar, mountain bikers travel greater distances and are therefore more likely to have wildlife encounters or disturbances per unit of time.

George and Crooks (2006) observed that bobcats were displaced in response to bikers, hikers, and dogs, but were not displaced in response to equestrians and motorized vehicles. Stake (2000) studied the impacts of mountain biking on golden-cheeked warblers, after biking was introduced to a natural area. He found no impacts from the new activity on the species.

Hiking or walking for the purpose of viewing wildlife (including bird watching, nature viewing, and interpretation) is generally perceived as having little or no impact on wildlife. However, some researchers have found that hiking or nature viewing (humans on foot) may have a greater impact on wildlife (Stankowich 2008, Knight and Cole 1995a, Spahr 1990, Jordan 2000), for the following reasons:

- Wildlife viewers are more likely to travel off trail, and their movements are less predictable for wildlife
- Wildlife viewers are more likely to directly approach wildlife
- Viewers intentionally seek out rare or spectacular species
- Stopping, pointing, photography, and even eye contact may stress

some species or individuals,
including many birds

Winter Recreation

Winter recreational activities, including Nordic skiing and snowshoeing on both groomed and ungroomed trails, can also impact wildlife, primarily due to snow compaction and wildlife disturbance. The level of impact varies depending on the extent and intensity of activities.

Snow compaction occurs from both mechanized grooming equipment, and individual tracks over undisturbed snow, and can alter soil temperature and plant development in the immediate vicinity. Most studies on this topic are focused on snowmobiles, which can have similar physical impacts as grooming equipment. Besides the direct impacts on vegetation due to broken twigs or soil disturbance, snow compaction has been found to increase frost penetration into roots, delay spring thaw and subsequent plant growth and seed germination. These effects can result in localized changes in plant composition and diversity, and are generally reduced as snowpack depths increase (Fahey and Wardle 1998, Olliff et al. 1999). One study stated that wetlands maybe less vulnerable due to these impacts if there is solid ice cover (Keddy et al. 1979).

Wildlife species that are most directly affected by snow compaction are the small animals that live under the snow during the winter. These “subnivean fauna” include shrews, voles, pocket gophers, and mice that eat a variety of foods that are found on the ground surface or underground. Impacts to subnivean fauna from snow compaction include changes in temperature, decreased air space, and accumulations of toxic air under the snow. These small mammals are important prey species for raptors and mid-sized carnivores (e.g., marten, bobcat, fox, and weasel) (Olliff et al. 1999).

Larger mammals, including mid-sized carnivores and ungulates, are vulnerable to increased stress during the winter period, where the preservation of energy reserves can influence survival and fleeing from a perceived threat can expend those resources (Olliff et al. 1999, Knight and Cole 1995b).

Canada lynx are specialized deep-snow predators that depend on secluded habitat. An influx of human-created trails can fragment this habitat and may reduce their competitive advantage by improving access to a limited food supply to other predators. However, lynx have been known to adapt to predictable human activity, and may be more vulnerable to disturbances from non-motorized, dispersed activities (like cross-country skiing) than predictable motorized uses (like a road or highway) (Olliff et al. 1999).

IMPACTS OF DOMESTIC DOGS ON WILDLIFE

A recent study on the indirect effects of dogs on wildlife by Lenth et al. (2008) pointed out that “dogs are avid chasers, and through chasing could displace wildlife from their habitats, particularly when certain species, such as deer, perceive dogs as predators and avoid areas where they could be chased.”

This study found that:

- Most dogs were detected within five meters of trails, though some traveled up to 85 meters from trails. This finding is consistent with Bekoff and Meaney (1997) described below.
- Trails that allow off-leash dogs have a wider area of influence on mule deer and other species.
- Deer activity was reduced within 50 meters of trails that did not allow dogs; along trails that do allow dogs, this area of influence expanded up to 100 meters.
- Dog presence may disrupt small mammal, bird, and amphibian activity.

George and Crooks (2006) suggested that the impacts of dogs on native carnivores (coyote and bobcat) include the disruption of carnivore behavior due to chasing, barking, and scent making with urine and scat.

Miller et al. (2001) investigated the flushing responses of grassland and forest birds and mule deer to pedestrians, a pedestrian with a dog, and a dog alone. Findings included the following:

- Off-trail use elicits a greater flush response than on trail use, possibly due to habituation to activity along trails.
- In forested areas, flush distances for dogs on leash were greater than those for pedestrians alone.
- In grassland areas, flush distances for off-trail pedestrians alone were greater than off-leash dogs alone.

In a study focused more on human perceptions of dog behavior and management, Bekoff and Meaney (1997) observed about 800 dogs along open space trails. Some of their observations and findings included the following:

- Off-leash dogs generally traveled within 2-5 meters of the trail.
- When dogs did go far off trails, they were often lured off by people (i.e., throwing sticks, balls)
- Dogs rarely entered bodies of water.
- Dogs off-leash appeared to be “friendlier” than those on-leash
- Out of 800 observations, two “earnest chases” of wildlife were observed (deer and squirrel).

Bekoff and Ickes (1999) studied the interactions of dogs and prairie dogs in an open space area where a trail fragments prairie dog habitat. They found that dogs went off trail more often near prairie dog colonies - about 60% of the dogs barked at prairie dogs, ran towards burrows, chased prairie dogs, or chased and attempted to extract concealed individuals. They observed that the dogs “clearly influence” the behavior of prairie dogs, noting that the

prairie dogs disturbed by dogs were more vigilant and played less than undisturbed individuals, indicating a higher level of stress. This study points out that little is known about the effects of such intrusions on the health, mortality, or reproductive success of prairie dogs, suggesting that if they did have negative effects, this and other similar prairie dog colonies may be in danger.

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APPENDIX M

Case Studies – Dog Management Experiences from Other Communities

Case Studies

Dog Management

Experiences from Other Communities

TOWN OF BRECKENRIDGE

Over the past 10 years, the Town of Breckenridge has invested almost \$5 million to protect and manage the 226-acre Cucumber Gulch area at the base of the ski area. This area contains about 80 acres of wetlands and sensitive habitat for a variety of wildlife species, including the state-endangered boreal toad. Cucumber Gulch also supports a network of summer trails and groomed Nordic ski trails in the winter.

The Town has worked to balance recreational access with the preservation and enhancement of natural resources. Dog management has been a difficult management issue. Originally, dogs were allowed on leash on one of the trails. However, the trail and wetlands in Cucumber Gulch have become a destination for off-leash dog use, primarily by residents of nearby neighborhoods. Off-leash dogs have been attributed to habitat degradation, wildlife disturbance and mortality, and user conflicts. Signs and buck-rail fences to discourage this encroachment have not been effective, and in some cases have been vandalized.

Because of these persistent problems, no dogs are allowed within the core habitat areas at Cucumber Gulch. While it was initially met with resistance from some members of the public, the Town has found this approach to be more effective, easier to enforce, and less confusing for visitors. Additional efforts to improve dog management and habitat protection have included the development of more sophisticated and attractive signs, which give the area more of a distinct “identity” as a valued and sensitive natural area.

Based on recent experiences in Cucumber Gulch, some of the following recommendations may be useful for the Valley Floor:

- A combination of off-leash (voice control) areas in degraded/urban settings, on-leash trails, and ecological closures may be effective. These areas must be clearly defined.
- Different dog management areas need to be clearly defined by fences, streams, trails, etc. Otherwise signing and enforcement are very difficult.
- Absolute dog closures are warranted for ecological protection. However, closures must be clearly marked and explained with signs to minimize backlash.
- A combination of education and enforcement must be used to improve compliance with regulations.

Citations:

- Town of Breckenridge. 2003. Cucumber Gulch Recreation Master Plan. Prepared by ERO Resources Corporation.
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PITKIN COUNTY

Pitkin County owns and manages about 2,500 acres of open space and about 45 miles of trails. All dogs are banned from about 500 acres of land and about 2 miles of trails, due to wildlife sensitivity. Other areas have seasonal dog closures to protect sensitive wildlife habitat and migration corridors. Rangers estimate that the leash laws are violated as much as they are observed.

Chasing wildlife (elk, deer, and bears) and user conflicts, including bike accidents, are some of the impacts from off-leash dogs that have been observed. Dog waste pick-up and disposal is a continuous problem, particularly in areas close to Aspen. While chases and occasional killing of wildlife by dogs have been documented, these impacts have not resulted in any major shifts in wildlife populations, migration patterns, or behaviors.

The County has recently designated a voice control (off leash) area on Smuggler Mountain, with the intention of taking the pressure off of other areas where off-leash dogs are a problem. This designation is a practical solution, since the Smuggler Mountain Trail has historically been a de facto off leash area. From a user perspective, off-leash dogs are expected by other visitors, and the area lends itself to off-leash dog use (due to a wide trail/road bed and otherwise rugged topography).

Pitkin County has found that the physical presence of Rangers is the single most effective tool to help manage off-leash dogs (and other policy issues). A combination of education and enforcement has been effective in improving compliance, noting that education works only with the potential to receive a fine. Fines start at \$100, escalating to \$500 and \$1,000, resulting in very few repeat offenders. In most areas, people are given three warnings before receiving a fine. Chronic dog off leash offenders are tracked in a database.

Based on recent experiences in Pitkin County, some of the following recommendations may be useful for the Valley Floor:

- It is important to establish clear rules and limitations with a clear ecological rationale.
- It is not effective to allow a “test period” for a certain type of dog use, because once the use is established, it is nearly impossible to eliminate.
- It is impossible to restrict all dog violations, but if the majority of visitors comply with the rules, that is effective.
- An enforcement mechanism is critical to improving compliance.

Citation:

Tennenbaum, Gary. 2008. Land Steward. Pitkin County Open Space and Trails. Personal communication with Bill Mangle, Natural Resource Planner, ERO Resources Corporation. November 4 and December 4, 2008.

CITY OF BOULDER

Since the 1960's, the City of Boulder Mountain Parks Department (now Open Space and Mountain Parks Department (OSMP)) has allowed dogs off leash under "voice and sight control." In the mid-1990's, dog regulations were refined to establish specific requirements for voice and sight control, and identify areas where dogs were allowed off leash, and other areas where leashes are required to protect wildlife. Now, dogs off leash and under voice and sight control are allowed on most of its 143 miles of designated trails. In some areas, dogs are required to be on leash, or are prohibited altogether, due to sensitive wildlife habitat, management designations, or other considerations.

The management of dogs on City of Boulder open space is a sensitive topic for both dog owners and those without dogs. In the 2005 Visitor Master Plan, unwanted encounters with dogs, dogs harassing wildlife, and dogs harassing livestock were cited as some of the main areas of improvement for the open space system. The trail system is now subdivided into the following designations:

- Leash or Voice and Sight Control
- On-corridor Voice and Sight
- Leash Required
- No Dogs

While these multiple designations have provided a management framework that is responsive to natural resource conditions, some OSMP staff acknowledge that they are difficult to understand for casual visitors, and can be challenging to enforce.

The City recently implemented an education/dog tag program requiring dog owners watch a video demonstrating "voice and sight control," pay a fee, and attach a visible tag to the dog. This system has improved the public's awareness of what "voice and sight control" means, and has improved management of existing regulations. It has yet to be determined how well it will improve over the long term.

Based on recent experiences on City of Boulder open space, some of the following recommendations may be useful for the Valley Floor:

- Recognize that a lot of people love to recreate with their dogs, and value the connections and experiences that it brings.
- It is not realistic to expect that all visitors will understand dog regulations or the reasons for such regulations.
- It is important to clearly define and establish areas that are closed to dogs early in the process.
- Simple, easily understood regulations or management areas are the most effective.
- In locations where high use areas abut sensitive/closure areas, physical structures (e.g. pole fences) are an effective management tool.
- Clear regulations should also be established to provide a tool for enforcement.
- While dog management continues to be "trial and error," it is not effective to open up a use or area on a trial basis with the expectation that it could be closed down in the future.

Citation:

Armstead, Steve. 2008. Visitor Master Plan Implementation Coordinator. City of Boulder Open Space and Mountain Parks Department. Personal communication with Bill Mangle, Natural Resource Planner, ERO Resources Corporation. December 15, 2008.