

# Toston Missouri River Crossing Corridor Planning Study

## Environmental Scan



### Prepared For:

Montana Department of Transportation



### Prepared By:

Camp Dresser & McKee Inc.

Helena, Montana



March 30, 2010

# Table of Contents

## 3.0 Environmental Settings

3.1	Demographics .....	1
3.2	Development .....	3
3.3	Land Ownership.....	4
3.4	Surface Waters .....	6
3.5	Irrigation .....	8
3.6	Recreation .....	10
3.7	Cultural Resources & Tribes .....	10
3.8	General Vegetation.....	12
3.9	Wildlife .....	12
3.10	Sensitive Species.....	16
3.11	Aquatic Resources .....	19
3.12	Wetlands.....	19
3.13	Air Quality.....	22
3.14	Historic Properties .....	22
3.15	Noise .....	22
3.16	Land Use .....	22
3.17	Section 4(f) and 6(f) .....	24
3.18	Agricultural Properties .....	24
3.19	Floodplain .....	24
3.20	Hazardous Material .....	25
3.21	Geology and Soils .....	27
3.22	Noxious Weeds.....	30

## 4.0 References

References .....	30
------------------	----

## Figures

- Figure 1-1* Project Study Area
- Figure 3-1* Surface Waters and Floodplain
- Figure 3-2* Irrigation Systems
- Figure 3-3* Cultural Resources and Recreation
- Figure 3-4* Wildlife Corridor Areas
- Figure 3-5* Animal Species of Concern
- Figure 3-7* Potential Wetlands
- Figure 3-8* Land Use
- Figure 3-9* Hazardous Material in the Project Study Area
- Figure 3-10* Farmland and Soils

*Figure 3-11 Geology*

## **Tables**

*Table 3.1 Broadwater County Population and Employment Trends*

*Table 3.2 Broadwater County Age Distribution (1970 - 2000)*

*Table 3.3 Broadwater County Ethnic Composition (Year 2000)*

*Table 3.4 Broadwater County Employment Trends by Economic Sector (1970-2000)*

*Table 3.5 Broadwater County Income (Wage and Salary, All Industries)*

*Table 3.6 Surface Water Resources*

*Table 3.7 National Register of Historic Places (NRHP)*

*Table 3.8 Wildlife within the Corridor*

*Table 3.9 Species of Concern*

*Table 3.10 Aquatic Resources*

*Table 3.11 Section 4(f) Resources*

*Table 3.12 Noxious Weed Species*

### 3.0 Environmental Settings

In compliance with NEPA/MEPA regulations, all state actions and all federally funded projects require a level of analysis to determine whether improvement options can be developed to avoid, minimize, or mitigate potential impacts to sensitive resources within the Toston Missouri River corridor study area. An Environmental Scan report was prepared for this Corridor Study and addressed the elements within the study area.

The information in this section is gathered from the Environmental Scan prepared by MDT Environmental Services Bureau and is intended to be an overview of environmental settings including social, economic, and natural resources. All resource information contained in this environmental scan came from public sources and/or is based on review of aerial photographs. Accordingly, there have not been any “on-the-ground” field studies completed to delineate potentially affected resources. A great deal of information was obtained from the Montana Natural Heritage Program databases. Additionally, past Biological Resource Reports (BRR’s) and other reports/surveys were collected and reviewed from past studies within the US Highway 287 corridor. A complete list of the sources utilized to complete the environmental scan is included in Section 4.0 (References) of this document.

The level of analysis contained in this Corridor Study report is not intended to meet NEPA/MEPA requirements or provide a detailed account of all resources or potential impacts. This document is intended to reveal resources or areas of cultural environmental concern that would be a factor in future project development, permitting processes, and ultimately identify and allow for advanced mitigation prior to future development of a corridor improvement option.

#### 3.1 Demographics

There is a direct correlation in motor vehicle travel growth and population and economic growth. For the environmental scan, it is appropriate to present various socio-economic statistics to gain an understanding of historical trends in population, age, ethnicity, employment and income. This is presented for Broadwater County as a whole. Between 1970 and 2000, Broadwater County’s population grew by 1,859 persons. The number of jobs grew in the same time period by 1,040 jobs. The population and employment values for Broadwater County, for the period between 1970 and 2000, are shown in Table 3.1.

Year	Population *	Employment **
1970	2,526	1,060
1980	3,267	1,480
1990	3,318	1,560
2000	4,385	2,100
Change (1970-2000)	1,859	1,040

\* Source: U.S. Bureau of the Census, *Census of Population*

\*\* Source: NPA Date Services, Inc. - *DOCUMENTATION FOR REGIONAL ECONOMIC*

## PROJECTIONS SERIES (REPS) ECONOMIC DATABASE 2008 UPDATE

According to the U.S. Census Bureau, Broadwater County has experienced a population growth of 7.3% from 2000 to 2008. During the same time period, the county has seen a growth of 24.3% in private nonfarm employment.

In addition to overall population and employment growth, it is interesting to note the age composition of the county's residents. Between 1970 and 2000, the number of county residents under the age of 18 increased by 173 persons, residents age 18 to 64 increased by 1,287 persons, and residents 65 and older increased by 399 persons. The change in age composition for residents in Broadwater County can be seen in Table 3.2.

Year	<18	18-64	65+	Total
1970	932	1,274	320	2,526
1980	1,015	1,844	408	3,267
1990	955	1,820	543	3,318
2000	1,105	2,561	719	4,385
Change (1970 - 2000)	173	1,287	399	1,859

\* Source: U.S. Bureau of the Census, *Census of Population (1970, 1980, 1990 & 2000)*

Table 3.3 depicts the ethnic composition of those residents in Broadwater County during 2000. This information came from the year 2000 US Census Bureau Census of Population.

Ethnicity	Number of People	Percent of Population
White	4,255	97.04
Black or African American	12	0.27
American Indian	51	1.16
Asian	5	0.11
Native Hawaiian and Other Pacific islander	3	0.07
Some Other Race	15	0.35
Hispanic or Latino (of any race)	44	1.00
Total	4,385	100 percent

\* Source: U.S. Bureau of the Census, *Census of Population (Year 2000)*

Between 1970 and 2000, there was an increase in 1,040 jobs in Broadwater County. All economic sectors either increased or remained steady, with the exception of farm employment, which exhibited a drop of 40 jobs during the time period. Services, manufacturing, and farm employment remained the strongest employment industries for the year 2000, with 400, 370, and 320 jobs, respectively. The largest job increase during the thirty year period of analysis was the manufacturing sector, which

MARCH 30, 2010

recorded an increase of 270 jobs. A summary of economic trends and employment statistics are shown in Table 3.4.

Economic Sector	1970	1980	1990	2000	Change (1970 - 2000)
Farm	360	330	320	320	(40)
Agricultural Services & Forestry	10	20	20	90	80
Mining	20	10	50	80	60
Construction	30	90	70	100	70
Manufacturing	100	150	150	370	270
Transportation & Public Utilities	30	30	110	70	40
Wholesale Trade	0	60	40	50	50
Retail Trade	180	250	220	240	60
Finance, Insurance & Real Estate	30	70	80	80	50
Services	140	180	260	400	260
Federal & Civilian Government	20	50	40	50	30
Military	20	20	30	20	0
State & Local Government	120	210	160	190	70
Residual Employment - Not Allocatable	0	10	10	40	40
<b>Total Employment</b>	<b>1,060</b>	<b>1,480</b>	<b>1,550</b>	<b>2,100</b>	<b>1,040</b>

\* Source: NPA Date Services, Inc. - DOCUMENTATION FOR REGIONAL ECONOMIC PROJECTIONS SERIES (REPS) ECONOMIC DATABASE 2008 UPDATE

Lastly, it is interesting to note that overall income for all industries has increased steadily over the thirty year period. The individual income level (all wages and salaries) rose from \$10,640 in the year 1970 to \$30,120 in the year 2000. This information is shown in Table 3.5.

Year	1970
1970	\$10,640
1980	\$19,040
1990	\$18,050
2000	\$30,120
Change (1970-2000)	\$19,480

\* Source: NPA Date Services, Inc. - DOCUMENTATION FOR REGIONAL ECONOMIC PROJECTIONS SERIES (REPS) ECONOMIC DATABASE 2008 UPDATE

### **3.2 Development**

Future development is important to the corridor and improvement options that may be proposed. The Montana Business Assistance Connection (MBAC) and Gateway Economic Development District (GEDD), along with Broadwater County, own property that adjoins US 287 south of the Toston Fire Station. Plans for the 21-acre parcel of land are to subdivide 7 commercial lots to be used for small business growth in the area.

### ***3.3 Land Ownership***

Based on information gathered within the corridor, the primary land ownership is private. Figure 1-1 shows the study area. As presented in Figure 1-1, the study area not only includes predominately private land ownership, but also State of Montana and the original Toston townsite parcels.



Z:\GIS\Public\WDO\Toston\MXD\StudyArea\8x11\_20100201.mxd



- Toston Missouri River Crossing Corridor
  - Study Area Boundary
  - Land Outside of Study Area
  - Mile Post Reference Marker
  - Fishing Access Site
  - S-285
  - US-287
  - Off System Route
  - Railroad
- Land Ownership within Study Area
- Private Land
  - State of Montana
  - Original Toston Townsite
  - Missouri River

Sources: Base map information from the Natural Resource Information System (<http://nris.mt.gov/>). NAIP color aerial photography from 2005. Cadastral (land ownership) data from 11/8/2009. On system and off system routes and mile reference markers provided by the Montana Department of Transportation.

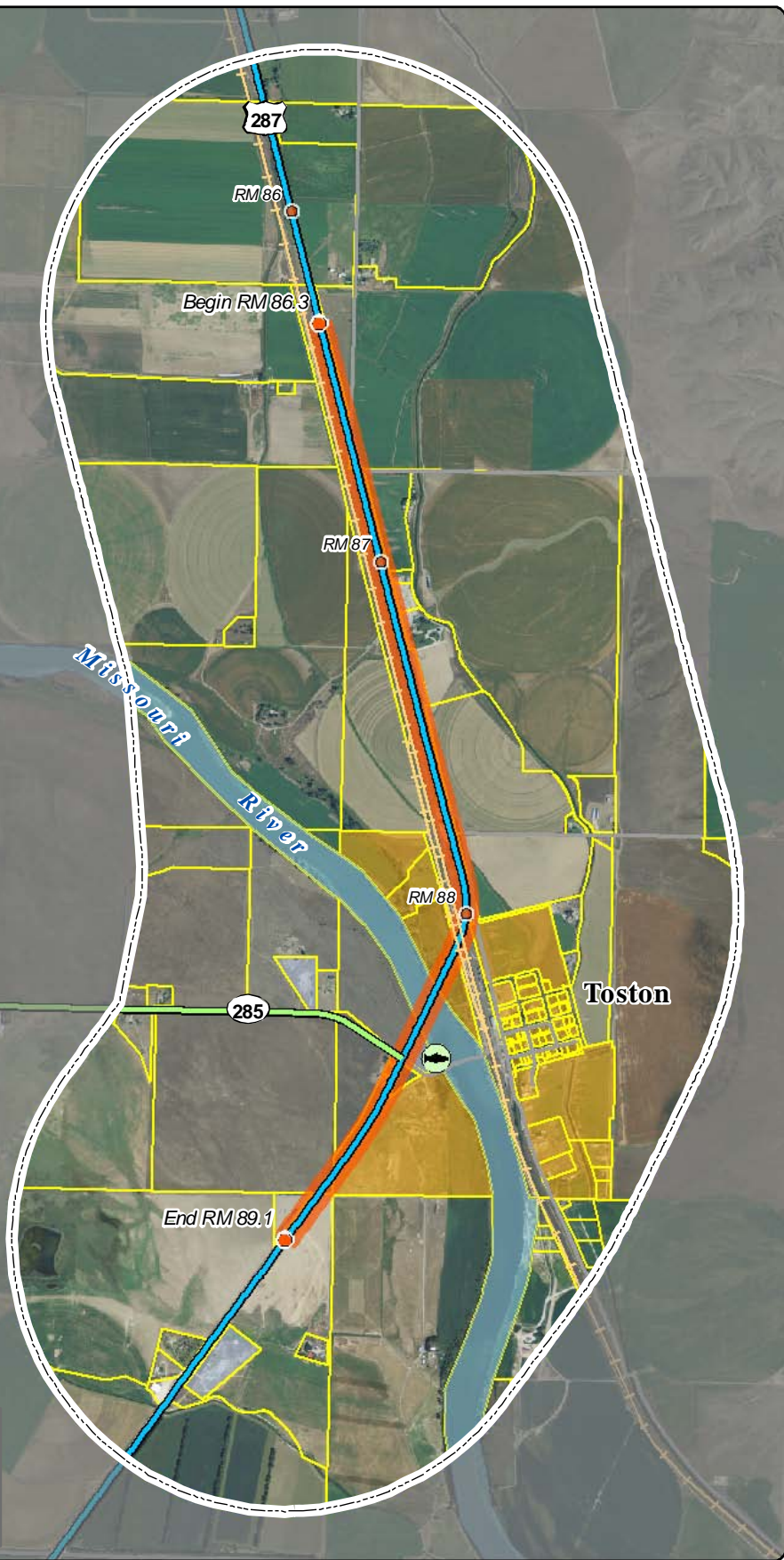


Figure 1-1  
Project Study Area  
Toston Missouri River Crossing Corridor



N  
  
February 1, 2010  
**DRAFT**

**Toston Missouri River  
Corridor Planning Study**















### 3.4 Surface Waters

According to available GIS data, several locations of surface waters were identified within the corridor study area. The major water body is the Missouri River that is crossed by US 287 at approximately Reference Post (RP) 88.2. Several tributaries to the Missouri River exist within and in proximity to the study area. Those tributaries include Dry Creek, joining the Missouri River north of the study area; Sixmile Creek, joining from the east; Sixteenmile from the southeast; Warm Springs Creek from the southwest; and multiple unnamed drainages from various locations adjacent to the study area. Figure 3-1 shows the surface waters within the study area. Table 3.6 identifies the surface waters that cross the existing US 287 corridor.

Approximate Reference Post (RP)	Description
85.7	Unnamed Irrigation Ditch Crossing
85.9	Big Springs Ditch Crossing
86.2	Unnamed Irrigation Ditch Crossing
86.8	Unnamed Irrigation Ditch Crossing
87.2	Sixmile Creek Crossing
87.7	Big Springs Ditch Crossing
88.2	Missouri River Crossing
88.9	Unnamed Irrigation Ditch Crossing
90.2	Big Springs Ditch (Historic) Crossing

According to the 2008 Water Quality Information summary from the Montana Department of Environmental Quality (DEQ), the Missouri River is considered an impaired waterbody. Section 303(d) of the Clean Water Act requires the State of Montana to develop a list of water bodies that do not meet water quality standards, hence an impaired water body. The Missouri River occurs on the revised 2002, 303(d) impaired water body list. The study area occurs within the Missouri-Sun-Smith watershed, within the Upper Missouri basin. As improvement options develop, the requirements of DEQ's Total Daily Maximum Loads (TMDL) standards and the Water Quality Restoration Plan will be considered. Consideration will also be given to stormwater and spill control on any bridge structures.

The Missouri River is a Section 10 Navigable Waterway. Section 10 of the Rivers and Harbors Appropriation Act of 1899 prohibits the obstruction or alteration of navigable waters of the United States. A Section 10 Permit is required if any work is to be done in, over, or under navigable waters of the United States. Coordination with the US Army Corps of Engineers (USACE) is essential to determine the appropriate type of permits needed for future development. USACE and the US Coast Guard bridge standards and requirements will need to be met for navigability requirements when considering potential improvement options and/or as projects are developed. As a project is forwarded from this study, resource agency coordination will include the US Army Corps of Engineers, Montana Fish, Wildlife & Parks (MFWP), and DEQ.

-  Toston Missouri River Crossing Corridor
-  Study Area Boundary
-  Land Outside of Study Area
-  Missouri River
-  Floodplain within Study Area
-  Mile Post Reference Marker
-  Fishing Access Site
-  S-285
-  US-287
-  Off System Route
-  Railroad
-  Ditch or Stream

Sources: Base map information from the Natural Resource Information System (<http://nris.mt.gov/>). NAIP color aerial photography from 2009. Floodplain information from the Federal Emergency Management Agency (FEMA) Q3 Flood Data from Flood Insurance Rate Maps (FIRMS). On system and off system routes and mile reference markers provided by the Montana Department of Transportation.



Figure 3-1  
Surface Waters and Floodplain  
Toston Missouri River Crossing Corridor



February 1, 2010

**DRAFT**

















Toston Missouri River  
Corridor Planning Study

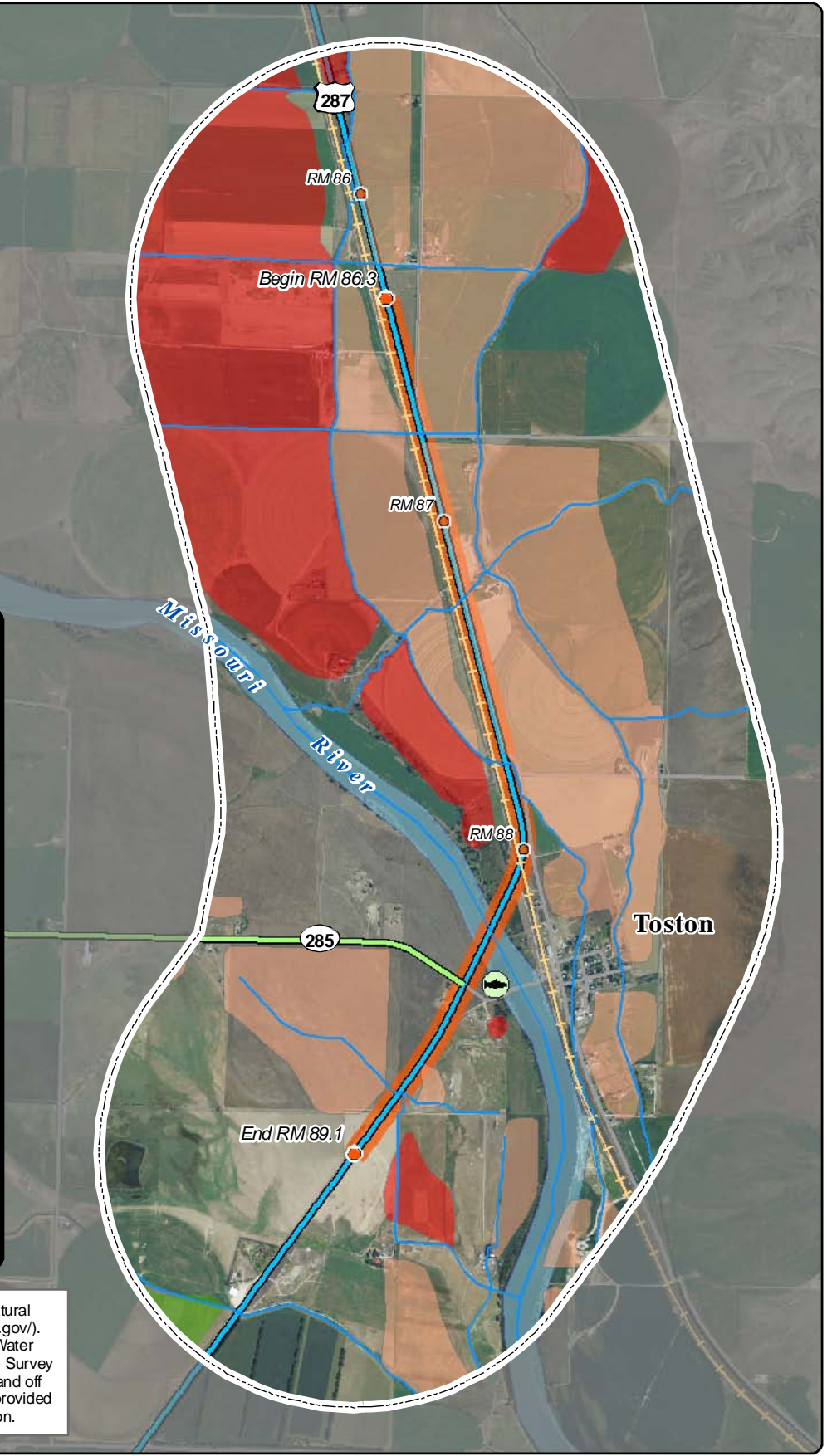
### ***3.5 Irrigation***

Based on the 1955 Water Resource Survey Report for Broadwater County, the corridor contains a high level of water use, commonly private irrigation or water user associations. Two major ditches exist within the corridor. The major ditches include Big Springs Ditch, which crosses from the east side to the west side of the highway north of Toston, and the Broadwater – Missouri Water Users Association East Side Canal which flows north on the east side of the highway. The historic Broadwater-Missouri Canal (Broadwater – Missouri Water Users Association West Side Canal) laterals the south end of the corridor. Figure 3-2 shows the irrigation systems within the corridor. Irrigation ditches are under local jurisdiction while the USCOE has jurisdiction on canals returning flow to the Missouri River. If irrigation ditches are impacted and/or designated for replacement as improvement options are developed, the ditches are considered self mitigating at this point.



-  Toston Missouri River Crossing Corridor
-  Study Area Boundary
-  Land Outside of Study Area
-  Mile Post Reference Marker
-  Fishing Access Site
-  S-285
-  US-287
-  Off System Route
-  Railroad
- Water Use within the Study Area
  -  Crow Creek Pump Unit
  -  Private Irrigation
  -  Broadwater - Missouri Water Users Association
  -  Missouri River
  -  Ditch or Stream


Sources: Base map information from the Natural Resource Information System (<http://nr.is.mt.gov/>). NAIP color aerial photography from 2009. Water use digitized from the 1955 Water Resource Survey Report for Broadwater County. On system and off system routes and mile reference markers provided by the Montana Department of Transportation.



**Figure 3-2**  
**Irrigation Systems**  
 Toston Missouri River Crossing Corridor

0      2,000      4,000      6,000  
 Feet

N  
  
 February 1, 2010  
**DRAFT**



**Toston Missouri River Corridor Planning Study**

### 3.6 Recreation

Recreational activities exist within the study area, predominantly due to the presence of the Missouri River. The Toston Fishing Access is located just southeast of the Missouri River Bridge, becoming a common access point for fishing and rafting expeditions. The fishing access site will be given consideration with particular interest to operational and environmental impacts as improvement options are developed. Figure 3-3 displays the location of the Toston Fishing Access site. As a project is forwarded from this study, stakeholder coordination will include MFWP, the Pat Barnes Missouri River Chapter of Trout Unlimited, and public outreach.

### 3.7 Cultural Resources & Tribes

The cultural resource file search with the Montana State Historic Preservation Office (SHPO) for Broadwater County resulted in the discovery of listed and eligible places on the National Register of Historic Places. Figure 3-3 presents the listed and eligible historic places within the study area. Furthermore, tribal concerns do not exist within the study area.

Table 3.7 identifies properties previously identified as eligible or listed on the National Register of Historic Places.













Name	NRHP Site No.	NRHP Status
Broadwater - Missouri Canals	24BW499	Eligible
Toston Bridge	24BW814	Registered
Montana Rail Link (historically <i>Old Northern Pacific Railroad</i> )	24BW818	Eligible
Big Springs Ditch	24BW836	Eligible
Radersburg Historic Mining District	24BW887	Eligible

*Source: Montana State Historic Preservation Office*

The cultural resources listed in Table 3.7 should not be considered a comprehensive list because a cultural resource inventory has not been completed. Any improvement options within the corridor could impact historic properties. A thorough cultural resource inventory would be required prior to implementing a corridor improvement option.



Site No.	Site Description	Status
24BW499	Broadwater - Missouri Canals	Eligible
24BW814	Toston Bridge	Registered
24BW818	Montana Rail Link (historically named Old Northern Pacific Railroad)	Eligible
24BW836	Big Springs Ditch	Eligible
24BW887	Radersburg Historic Mining District	Eligible

-  Toston Missouri River Crossing Corridor
-  Study Area Boundary
-  Land Outside of Study Area
-  Missouri River
-  Eligible Historic Site from SHPO
-  Registered Historic Site from SHPO
-  Fishing Access Site
-  Mile Post Reference Marker
-  S-285
-  US-287
-  Off System Route
-  Railroad

Sources: Base map information from the Natural Resource Information System (<http://nris.mt.gov/>). NAIP color aerial photography from 2009. Historic Sites from the State Historic Preservation Office (SHPO). On system and off system routes and mile reference markers provided by the Montana Department of Transportation.

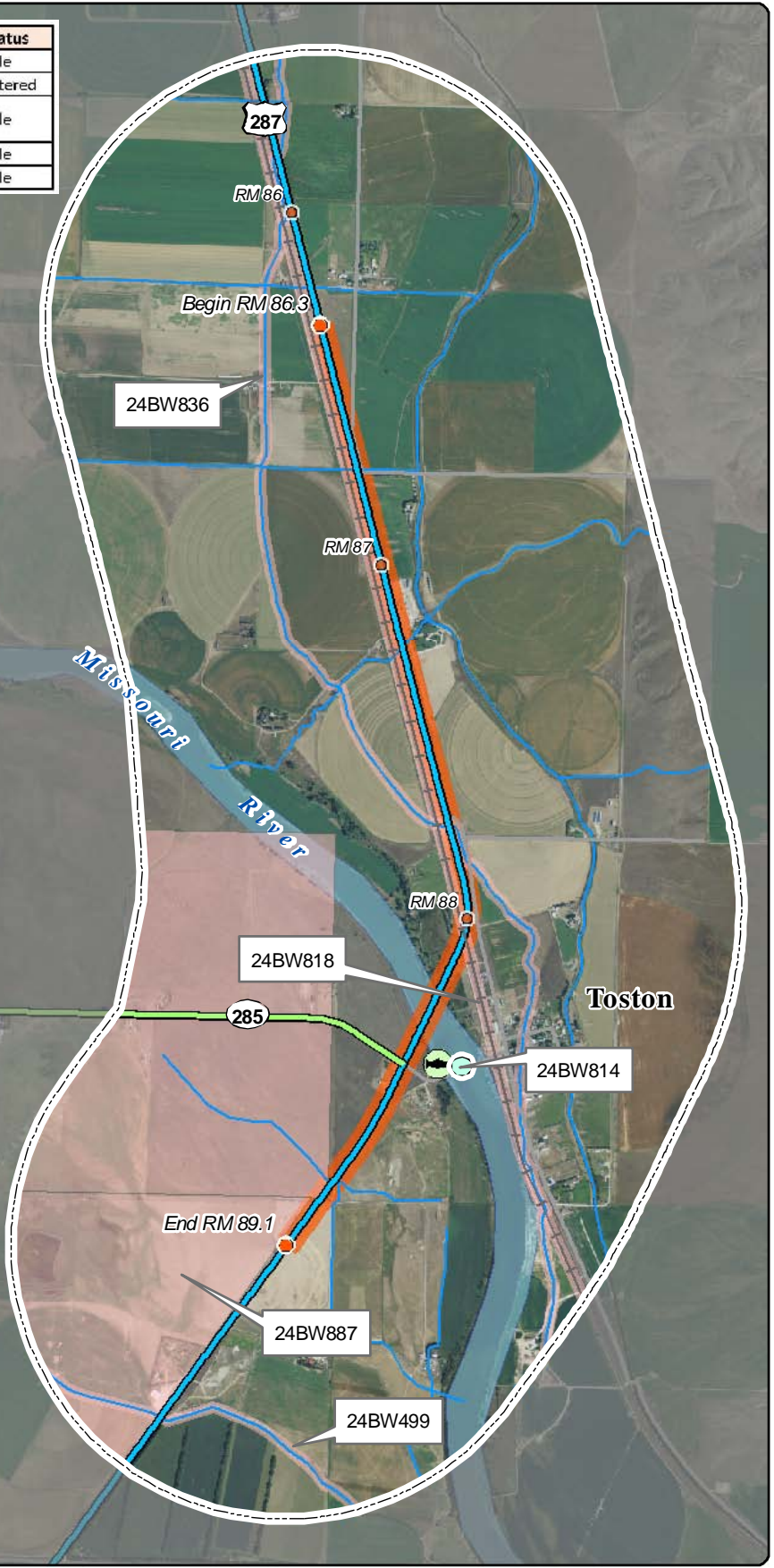



Figure 3-3  
Cultural Resources and Recreation  
Toston Missouri River Crossing Corridor



N  
  
February 9, 2010  
**DRAFT**



**Toston Missouri River  
Corridor Planning Study**

### 3.8 General Vegetation

According to a vegetation classification system developed by Payne (1973), the study area occurs within *intermountain valley grassland and meadow*, much of which has been converted to agriculture (pasture, crop and hay land). The study area encompasses agricultural lands as described above, rural residential, light commercial/industrial, and river bottom/floodplain communities. Common grass species within the study area include but are not limited to western wheatgrass, quackgrass, crested wheatgrass, smooth brome, Kentucky bluegrass, cheatgrass, intermediate wheatgrass, Japanese brome and great basin wild rye. These are interspersed with other common herbaceous species including but not limited to yellow sweetclover, white sweet clover, kochia, American licorice, showy milkweed, curly-cup gumweed, scattered alfalfa, broadleaf plantain, and dandelion.

Scattered shrub species interspersed with grasslands include but are not limited to golden current, snowberry, wild rose, chokecherry, and several willow species. Tree species scattered throughout the study area and common along the Missouri River bottom include but are not limited to narrow leaf cottonwood, poplar, and Russian olive.

Upland vegetation communities within the study area are currently subjected to various sources of disturbance including residential, commercial, railroad, highway, agricultural and recreational activities, in addition to the presence of ornamental, agricultural, exotic, invasive and noxious floral species. Consequently, the potentially affected general vegetation community is considered to be of moderate to low overall quality. Comparatively, the riparian vegetation community associated with the river, and any wetland vegetation communities present in the study area would be considered of higher quality and importance due to their diversity, proximate distribution, and unique functions and value.

### 3.9 Wildlife

Wildlife species inhabiting or traversing the study area are typical of those that occur in intermountain valley grasslands, cultivated lands, and riparian areas of central Montana. Figure 3-4 shows the location of wildlife habitat within the corridor. Common mammals found within the study area are identified in Table 3.8.

Common Name	Scientific Name
Pronghorn Antelope	<i>Antilocarpa americana</i>
White-tail Deer	<i>Odocoileus virginianus</i>
Mule Deer	<i>Odocoileu hemionus</i>
Black Bear	<i>Ursus americanus</i>
Elk	<i>Cervus Canadensis</i>
Mountain Lion	<i>Puma concolor</i>

*Source: Montana National Heritage Program*



MARCH 30, 2010

Other common mammals potentially occurring in the study area include but are not limited to the porcupine, raccoon, striped skunk, badger, bobcat, coyote, red fox, muskrat, Richardson's ground squirrel, deer mouse, and meadow vole.

A review of the MDT Maintenance Animal Incident Database for the time period from January 1998 through June 2009 indicates that animal-vehicle collisions have occurred multiple times throughout that period on US 287 between RP 86.0 and RP 90.0. With the exception of only a few other animals, white-tail and mule deer account for the vast majority of the recorded wildlife mortality. Approximately 50 animal carcasses have been recorded within the 4-mile highway corridor over that 10-year time period. The carcass locations are relatively evenly dispersed on either side of the existing structures over the railroad and Missouri River. This indicates that the animals are moving between cover and food sources and crossing the highway at will. While there are some game trails present within the study area, there is no evidence of an exceptionally high-use highway crossing location within the study area. It is presumed that animals may occasionally make use of the existing structure and opportunistically move under the highway along the river corridor at the bridge location.

According to the Montana Natural Heritage Program's 2009 Natural Heritage Tracker database, which records and maps documented observations of species in a known location, there are recognized amphibian and reptilian species that occur within the study area. Amphibian species known to occur in Broadwater County and potentially occurring in the study area include but are not limited to the Columbia spotted frog, Northern leopard frog, Plains spadefoot, and Western toad. Reptilian species known to occur in Broadwater County and potentially occurring in the study area include but are not limited to the terrestrial garter snake, rubber boa, prairie rattlesnake, painted turtle, gophersnake, eastern racer, and common garter snake. Columbia spotted frogs, painted turtles, common garter snakes, and a gopher snake have been observed in habitats adjacent to or within the study area. Depending on the presence of reptiles or amphibians in the study area, the timing of ground disturbing activities should be examined with regard to potential impacts to various susceptible life-cycle stages of these species, especially breeding/rearing or hibernation.

According to the MNHP, there are almost 300 different species of birds documented in Broadwater County, with the potential to occur in the study area. These species include representative songbirds, birds of prey, waterfowl, and shorebirds, including several state species of concern. There is an active artificial osprey nest platform located on the east side of the highway just north of the Radersburg Road turn-off, and three other nest platforms within or in proximity to the study area showing evidence of recent use. There are a few Great Blue Heron rookeries located in the tall cottonwood galleries along the Missouri River north of the study area, and in wetland complexes west of the study area. Swainson's Hawk is listed as a potential species of concern occurring within the study area. Bald eagles have been observed nesting, foraging and roosting along the Missouri River throughout the highway corridor, and two active nest sites are documented just west of the northern portion of the study area. In addition, there is a staging area for Sandhill Cranes northwest of the study area at the Stanfield Slough, which is outside the study area west of the Missouri River. There is also a feeding area for the cranes in a field located west of US 287 and east of the Missouri River, and within the study area. The cranes travel east

from the staging area to the feeding area by crossing the river. Wintering waterfowl are also observed within the study area, and MFWP conducts mid-winter waterfowl surveys in the area.

Migratory birds are protected under the Migratory Bird Treaty Act. The Migratory Bird Treaty Act is a strict liability law that provides it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Direct disturbance of an occupied (with birds or eggs) nest is prohibited under the law. The destruction of unoccupied nests of eagles; colonial nesters such as cormorants, herons, and pelicans; and some ground/cavity nesters such as burrowing owls or bank swallows may be prohibited under the Migratory Bird Treaty Act.

Depending on the presence of migratory bird nests on structures or within vegetation potentially affected by the study, certain activities which have the potential to directly affect an occupied nest, especially structure and vegetation (trees and shrubs) removal, may be subject to restriction between the dates of May 1<sup>st</sup> and August 15<sup>th</sup>.

As a project is forwarded from this study, recommendations for facilitation of wildlife movement through the study corridor will be considered during project development.

- Toston Missouri River Crossing Corridor
- Study Area Boundary
- Land Outside of Study Area
- Missouri River
- Mile Post Reference Marker
- Fishing Access Site
- S-285
- US-287
- Off System Route
- Railroad
- Habitat within Study Area
- Antelope Habitat
- Turkey Habitat
- Winter Mule Deer Range
- Winter Elk Range
- General Wildlife Habitat (See NOTE.)
- Osprey Nest

Sources: Base map information from the Natural Resource Information System (<http://nris.mt.gov/>). NAIP color aerial photography from 2009. Habitat information from Fish, Wildlife and Parks. On system and off system routes and mile reference markers provided by the Montana Department of Transportation.

NOTE: The Missouri River is a Blue Ribbon Fishery from Toston Dam to Canyon Ferry. Black Bear, Mountain Lion, Mule Deer, White Tailed Deer, and Wolf may be found within the study area.

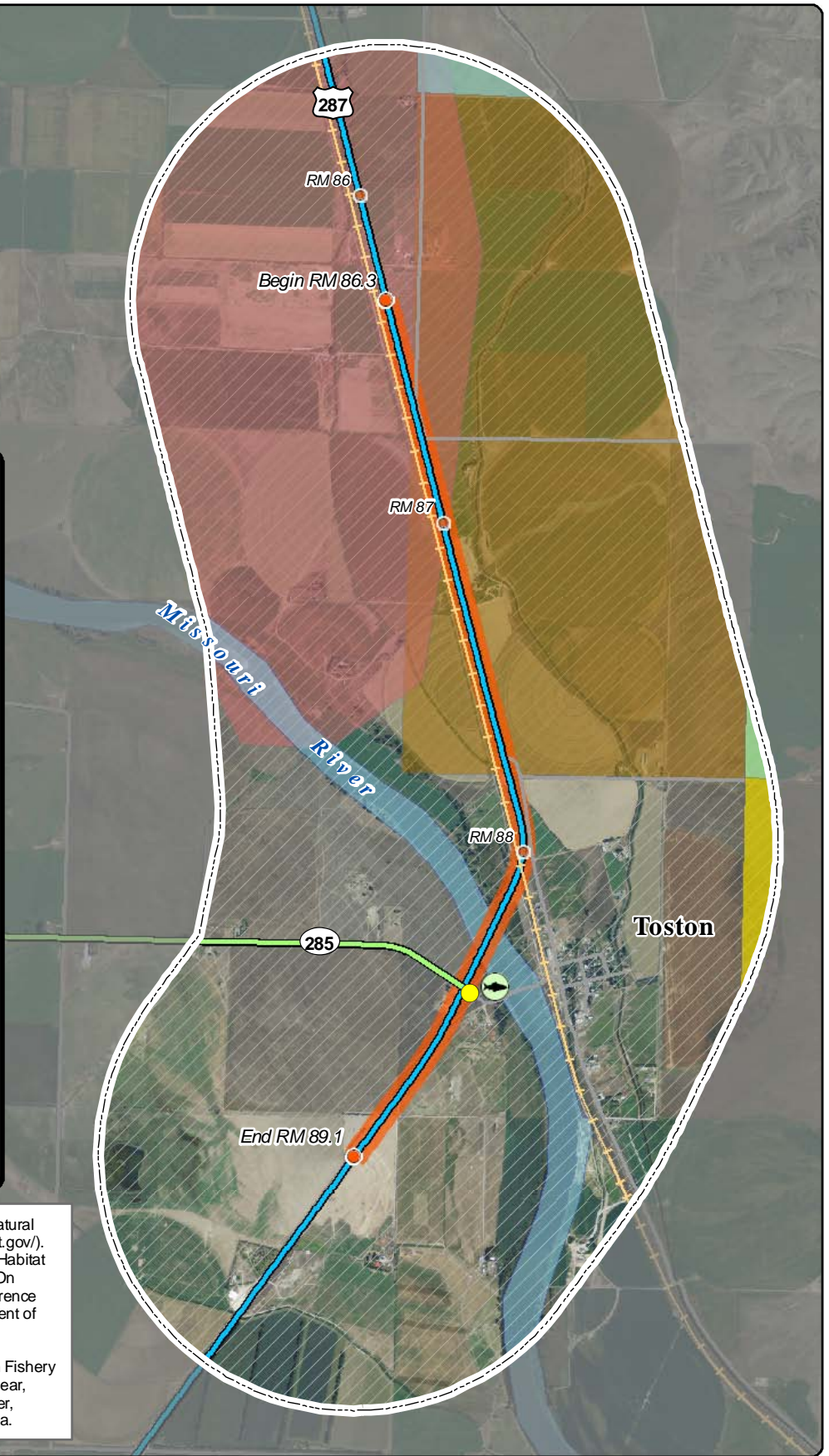


Figure 3-4  
Wildlife Corridor Areas  
Toston Missouri River Crossing Corridor



March 9, 2010  
**DRAFT**

**Toston Missouri River  
Corridor Planning Study**

### 3.10 Sensitive Species

Montana Species of Concern are native animals breeding in the state that are considered to be “at risk” due to declining population trends, threats to their habitats, and/or restricted distribution. Designation of a species as a Montana Species of Concern is not a statutory or regulatory classification. Instead, these designations provide a basis for resource managers and decision-makers to direct limited resources to priority data collection needs and address conservation needs proactively. Suitable habitat exists within the corridor for threatened and/or endangered species, and should be further investigated prior to construction activities.

A search of the Montana Natural Heritage Program species of special concern database revealed one mammal species (gray wolf), two bird species including two occurrences of the bald eagle and one bobolink occurrence, one amphibian (plains spadefoot), and one vascular plant (Annual Indian paintbrush) with occupied ranges within or overlapping the study area. The Swainson’s Hawk is listed as a potential species of concern. As mentioned in the sections above, there are other sensitive species not listed here that also have the potential to occur within the study area. A thorough field investigation for the presence and extent of these species should be conducted during the project design phase. If present, special conditions to the design or construction should be considered to avoid or minimize impacts to these species. Figure 3-5 displays the location of sensitive species that exist within the corridor. Table 3.9 lists the Species of Concern identified within the corridor.

Common Name	Scientific Name	Species Status
Gray Wolf	<i>Canis lupus</i>	Animal Species of Concern
Great Blue Heron	<i>Ardea herodias</i>	Animal Species of Concern
Bobolink	<i>Dolichonyx oryzivorus</i>	Animal Species of Concern
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Animal Species of Concern
Plains Spadefoot	<i>Spea bombifrons</i>	Animal Species of Concern
Swainson's Hawk	<i>Buteo swainsoni</i>	Animal Potential Species of Concern
Annual Indian Paintbrush	<i>Castilleja exilis</i>	Plant Species of Concern

*Source: Montana National Heritage Program (Last updated February 2, 2010)*

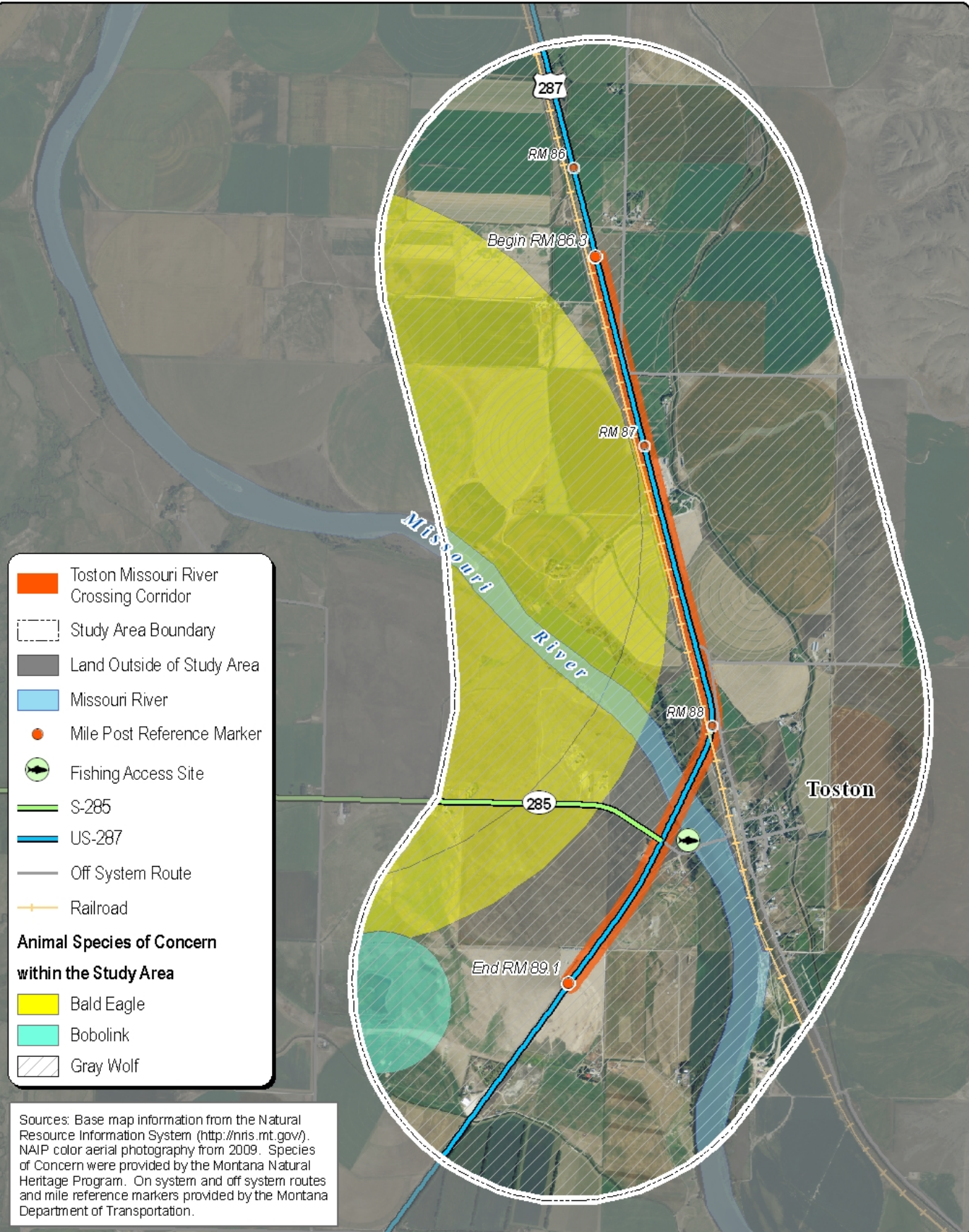
Bald and golden eagles are protected by the Migratory Birds Treaty Act and managed under the Bald and Golden Eagle Protection Act. The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle or golden eagle, alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." If a project is forwarded, a further

MARCH 30, 2010

review of the project area must be completed during the environmental review process under NEPA/MEPA to determine if Species of Concern are present within the area. Appropriate conservation measures for the conservation of sensitive species will be considered during the project development.



Z:\gis\Public\MDOT\Toston\MI\XD\SensitiveSpeciesA\_20100201.mxd




- Toston Missouri River Crossing Corridor
- Study Area Boundary
- Land Outside of Study Area
- Missouri River
- Mile Post Reference Marker
- Fishing Access Site
- S-285
- US-287
- Off System Route
- Railroad
- Animal Species of Concern within the Study Area**
- Bald Eagle
- Bobolink
- Gray Wolf

Sources: Base map information from the Natural Resource Information System (<http://nris.mt.gov>). NAIP color aerial photography from 2009. Species of Concern were provided by the Montana Natural Heritage Program. On system and off system routes and mile reference markers provided by the Montana Department of Transportation.

**Figure 3-5**  
Animal Species of Concern  
Toston Missouri River Crossing Corridor



February 1, 2010  
**DRAFT**



**Toston Missouri River  
Corridor Planning Study**

### 3.11 Aquatic Resources

According to the Montana Fish, Wildlife & Parks Fisheries Information System (MFISH) database (2010), fish species abundantly/commonly occurring within river miles 2280 through 2290 of the Missouri River are shown in Table 3.10.

Common Name	Scientific Name	Species Status
Brown Trout	Salmo trutta	ENN
Common Carp	Cyprinus carpio	ENN
Longnose Dace	Thinichthys cataractae	-
Longnose Sucker	Catostomus catostomus	-
Mottle Sculpin	Cottus bairdi	-
Rainbow Trout	Onchorynchus mykiss	-
White Sucker	Catostomus commersoni	-
Mountain Whitefish	Prosopium williamsoni	-
Walleye	Sander vitreus	ENN
Burbot	Lota lota	SOC
Largemouth Bass	Micropterus salmoides	ENN
Mountain Sucker	Catostomus platyrhynchus	-
Northern Pike	Esox lucius	-
Redside Shiner	Richardsonius balteatus	-

ENN = Exotic Species, not native to Montana

SOC = Species of Concern

Source: Montana Fish, Wildlife & Parks Fisheries Information System (MFISH), 2010.

This section of river is used heavily for recreation including fishing and floating. This stretch of river, between river miles 2280 and 2290, is designated by MFWP as an outstanding fishing resource. There is a MFWP operated Fishing Access Site east of the highway just north of the Radersburg turn-off. Recreationists who put in at this location must quickly navigate the instream piers of the existing structure. Ease and safety of floater access should be considered when choosing the number and structure of piers. Direct impacts to the Fishing Access Site should be avoided.

### 3.12 Wetlands




The US Army Corps of Engineers (ACOE) defines wetlands as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

National Wetland Inventory (NWI) Mapping data is not available for this area. NWI maps are generated by the USFWS, and are based on the USFWS definition of wetlands, which does not follow the ACOE definition that MDT uses in wetland determination and delineation. NWI maps are typically generated based on aerial and satellite imagery, and are not accurate or detailed enough for MDT wetland determination and/or delineation.



Figure 3-7 shows locations of potential wetlands within the study area. The potential wetland areas are based on a visual survey of current aerial photographs. Field work and future wetland delineations will be required for compliance with Clean Water Act (CWA) 404 regulations as improvement options are further defined. Impacts to wetland areas should be avoided and minimized through improvement options. Documentation of avoidance and minimization measures should be included in the project development. Any unavoidable wetland impacts must be quantified and compensated for through mitigation in accordance with USACOE regulatory requirements. As required under the Clean Water Act (33 USC 1251-1376), MDT would submit a completed *Joint Application* to the USACOE prior to discharge or placement of material into waters of the United States, including jurisdictional wetlands. The USACOE shall in turn determine if the improvement option qualifies for a *Nationwide* or *Individual Permit* under the provisions of 30 CFR 330. The requirement for a *404 Permit* shall be contingent on the extent of impacts to stream channel and/or wetlands.

The wetland located in the southwest region of the study area (i.e. south of Secondary Route 285 on Figure 3-7 and down gradient of the Broadwater-Missouri Canal) has been identified as a prior wetland mitigation site. The site was an old irrigation area in which DEQ retrofitted the dam, resulting in the flooding of the land behind it, including some wetland areas. Federal Energy Regulatory Commission (FERC) required wetland mitigation at this location in approximately 1988 or 1989. Impact to fisheries was also a concern at this site. Impacts to an existing wetland mitigation site require double the mitigation ratio. As improvement options are developed, impacts to the wetland mitigation site will be investigated and avoided if possible.

-  Toston Missouri River Crossing Corridor
-  Study Area Boundary
-  Land Outside of Study Area
-  Potential Wetlands within Study Area
-  Missouri River
-  Mile Post Reference Marker
-  Fishing Access Site
-  S-285
-  US-287
-  Off System Route
-  Railroad
-  Ditch or Stream

Sources: Base map information from the Natural Resource Information System (<http://nr.is.mt.gov/>). NAIP color aerial photography from 2009. The potential wetland areas depicted on this figure are based on a visual survey of recent aerial photographs. Field work and future wetland delineations will be required for compliance with Clean Water Act (CWA) 404 regulations as improvement options are defined. On system and off system routes and mile reference markers provided by the Montana Department of Transportation.

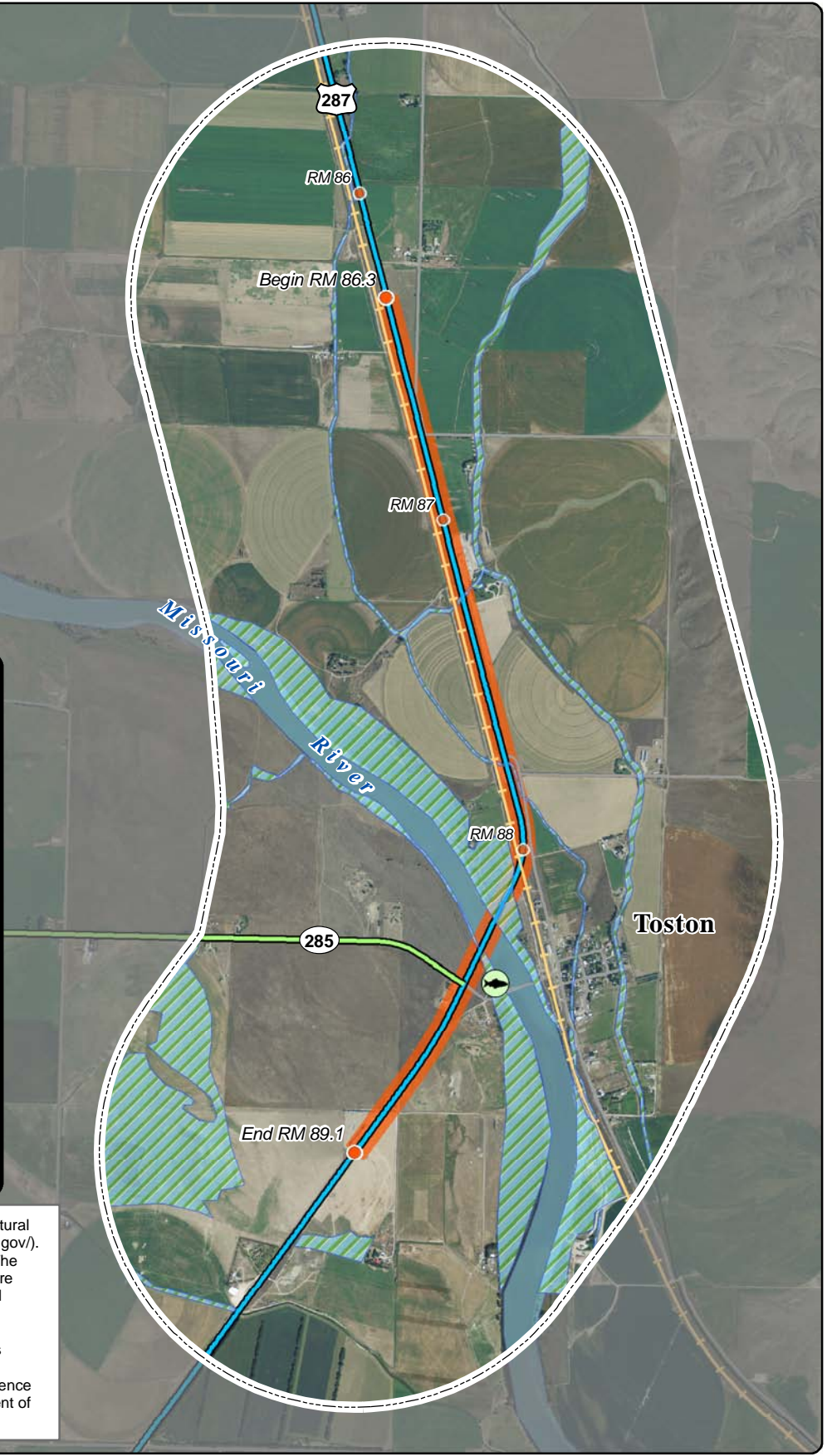
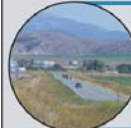


Figure 3-7  
Potential Wetlands  
Toston Missouri River Crossing Corridor



February 23, 2010  
**DRAFT**



**Toston Missouri River  
Corridor Planning Study**

### ***3.13 Air Quality***

The Clean Air Act of 1970, as amended in 1990, is a federal law requiring the U.S. Environmental Protection Agency (EPA) to develop and enforce regulations in order to reduce air pollution and protect air quality. The EPA has established attainment and non-attainment zones throughout the state. The state must establish a State Implementation Plan (SIP), outlining the control of air pollution, for any zones designated as non-attainment areas. The study area is outside any non-attainment air quality zones.

### ***3.14 Historic Properties***

Historic properties are properties included in the National Register of Historic Places (NRHP). According to Section 3.6, the Toston Bridge is the only registered historic place within the corridor. In addition, there are four places that are eligible for historic registration. Figure 3-3 shows the location of the cultural resources within the study area.

Section 106 of the National Historic Preservation Act requires agencies to comply with federal guidelines if improvement options may adversely affect historic properties. A cultural resource survey would need to be conducted within the study area in concurrence with the Montana State Historic Preservation Office to determine eligibility of additional historic properties. Impacts to historic properties should be avoided if practicable and feasible, or if avoidance is not possible, adverse affects would require mitigation. Any impacts to historic properties also influence Section 4(f).





















### ***3.15 Noise***

Based on the rural environment of the corridor, noise contours would be evaluated on a case-by-case basis. Improvement options within the study area should be evaluated for impact to nearby residential properties. A noise analysis was not conducted for this environmental study.

### ***3.16 Land Use***

According to the National Resource Information System (NRIS), the corridor study area has been classified into 10 different categories of land use. Figure 3-8 shows the different land uses within the study area. As shown, the predominately corridor land use is farm and agricultural.



-  Toston Missouri River Crossing Corridor
  -  Study Area Boundary
  -  Land Outside of Study Area
  -  Reference Marker Mile Post
  -  Fishing Access Site
  -  S-285
  -  US-287
  -  Off System Route
  -  Railroad
- Land Use within the Study Area
-  Exempt Property
  -  Commercial Urban
  -  Residential Urban
  -  Vacant Land Urban
  -  Industrial Rural
  -  Commercial Rural
  -  Agricultural Rural
  -  Farmstead Rural
  -  Residential Rural
  -  Vacant Land Rural
  -  Missouri River

Sources: Base map information from the Natural Resource Information System (<http://nr.is.mt.gov/>). NAIP color aerial photography from 2009. Cadastral (land use) data from 11/8/2009. On system and off system routes and mile reference markers provided by the Montana Department of Transportation.

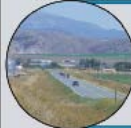


Figure 3-8  
Land Use  
Toston Missouri River Crossing Corridor

0 2,000 4,000 6,000  
Feet



February 1, 2010  
**DRAFT**



**Toston Missouri River  
Corridor Planning Study**

### 3.17 Section 4(f) and 6 (f)

Section 4(f) of the 1966 Department of Transportation Act (49 USC 303) applies if FHWA funds are used on a project and provides for the protection of publicly owned parks, recreation lands, historic sites, wildlife or waterfowl refuges, and any historic site of national, state, or local significance. Presented in Table 3.8 are six potential Section 4(f) sites. It should be noted there may be additional Section 4(f) sites located within the study area after a cultural resource survey has been completed. If Section 4(f) properties are impacted, a Nationwide Programmatic Section 4(f) evaluation form would be completed to demonstrate compliance. Table 3.11 lists the Section 4(f) resources identified within the corridor.

Name	Type of 4(f) Resource
Broadwater - Missouri Canals	Eligible for Historic Register
Toston Bridge	Registered Historic Place
Montana Rail Link (historically <i>Old Northern Pacific Railroad</i> )	Eligible for Historic Register
Big Springs Ditch	Eligible for Historic Register
Radersburg Historic Mining District	Eligible for Historic Register
Toston Fishing Access Site	Recreational Site

The National Land and Water Conservation Fund Act, Section 6(f), is intended to preserve, develop, and assure the quality and quantity of outdoor recreation resources. According to Montana Department of Fish, Wildlife, and Parks Land and Water Conservation Fund list, Section 6(f) properties do not exist within the study area.

### 3.18 Agricultural Properties

Based on the NRCS soil classification, the corridor has large area suitable for farmland and agricultural lands. As shown in Figure 3-10, the area north of the Missouri River is prime farmland with the southern portion mainly not classified as farmland but includes a few sections of prime farmland. Figure 3-8 shows the predominant land use within the study area.

### 3.19 Floodplain

Based on a review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for Broadwater County, a delineated 100-year floodplain (Zone A) is located along the Missouri River throughout the corridor. The delineated floodplain is shown in Figure 3-1. Executive Order 11988, Floodplain Management, requires federal agencies to avoid direct or indirect support of floodplain development whenever an improvement option is developed. EO 11988 and 23 CFR 650 Part A requires an evaluation of improvement options to determine the extent of any encroachment into the base floodplain. The Broadwater County Floodplain Administrator is responsible for administering and enforcing the floodplain management requirements. As improvement options are developed, consideration will be given to minimize the fill footprint within the floodplain as much as practicable.

### ***3.20 Hazardous Material***

According to the Montana Department of Environmental Quality, several hazardous material sites exist throughout the corridor. Figure 3-9 shows the location of hazardous material sites including underground storage tanks, remediation response, septic application, and an abandoned mine (reclaimed in 2009).



-  Toston Missouri River Crossing Corridor
-  Study Area Boundary
-  Land Outside of Study Area
-  Missouri River
-  Mile Post Reference Marker
-  Abandoned Mine
-  Underground Storage Tank
-  Leaking Underground Storage Tank
-  Remediation Response
-  Septic Application
-  S-285
-  US-287
-  Off System Route
-  Railroad

Sources: Base map information from the Natural Resource Information System (<http://nris.mt.gov/>). NAIP color aerial photography from 2009. Potentially hazardous materials provided by the Department of Environmental Quality. On system and off system routes and mile reference markers provided by the Montana Department of Transportation.

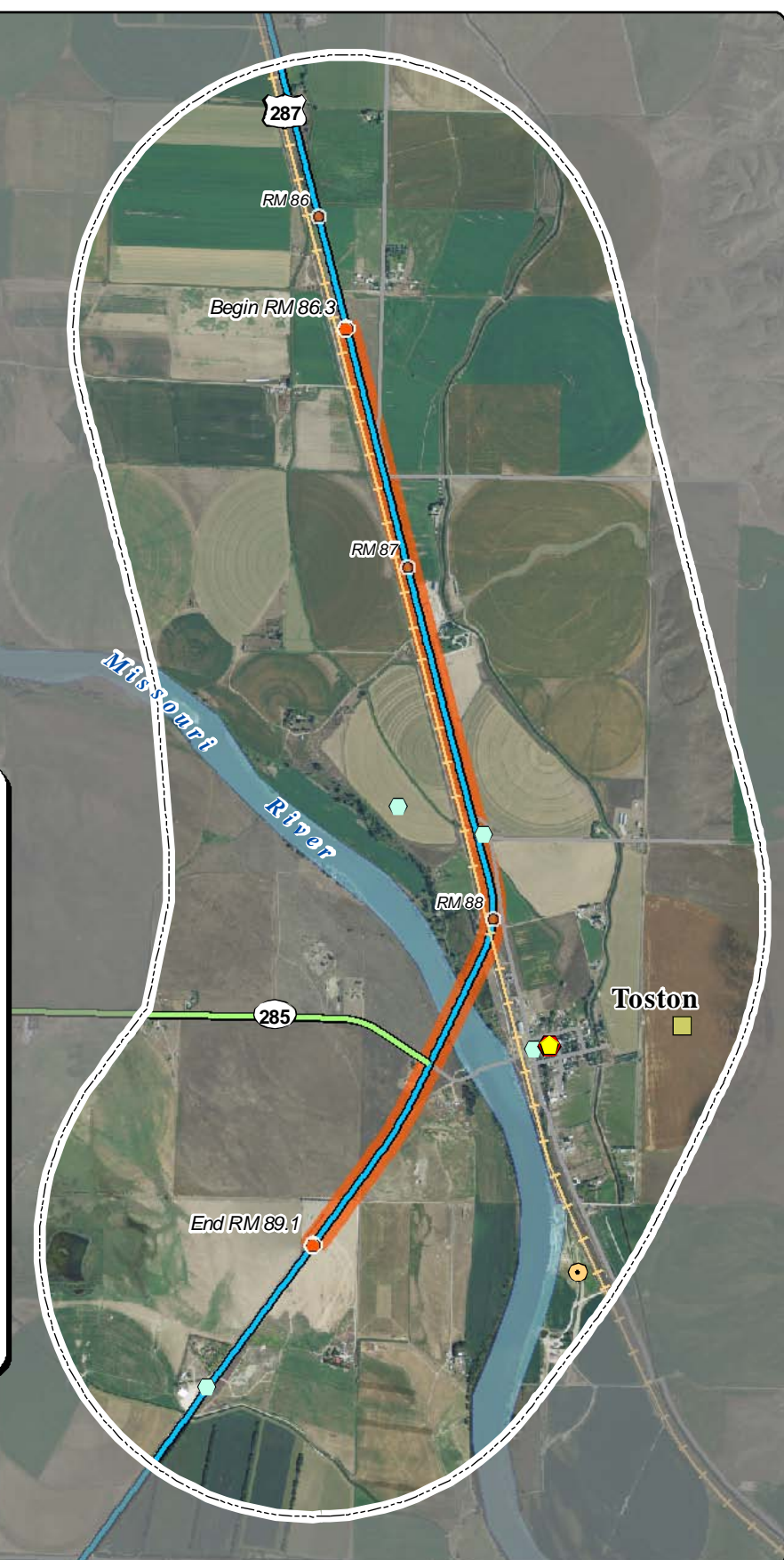


Figure 3-9  
Hazardous Material in the Project Study Area  
Toston Missouri River Crossing Corridor



February 1, 2010  
**DRAFT**



Toston Missouri River  
Corridor Planning Study














### ***3.21 Geology and Soils***

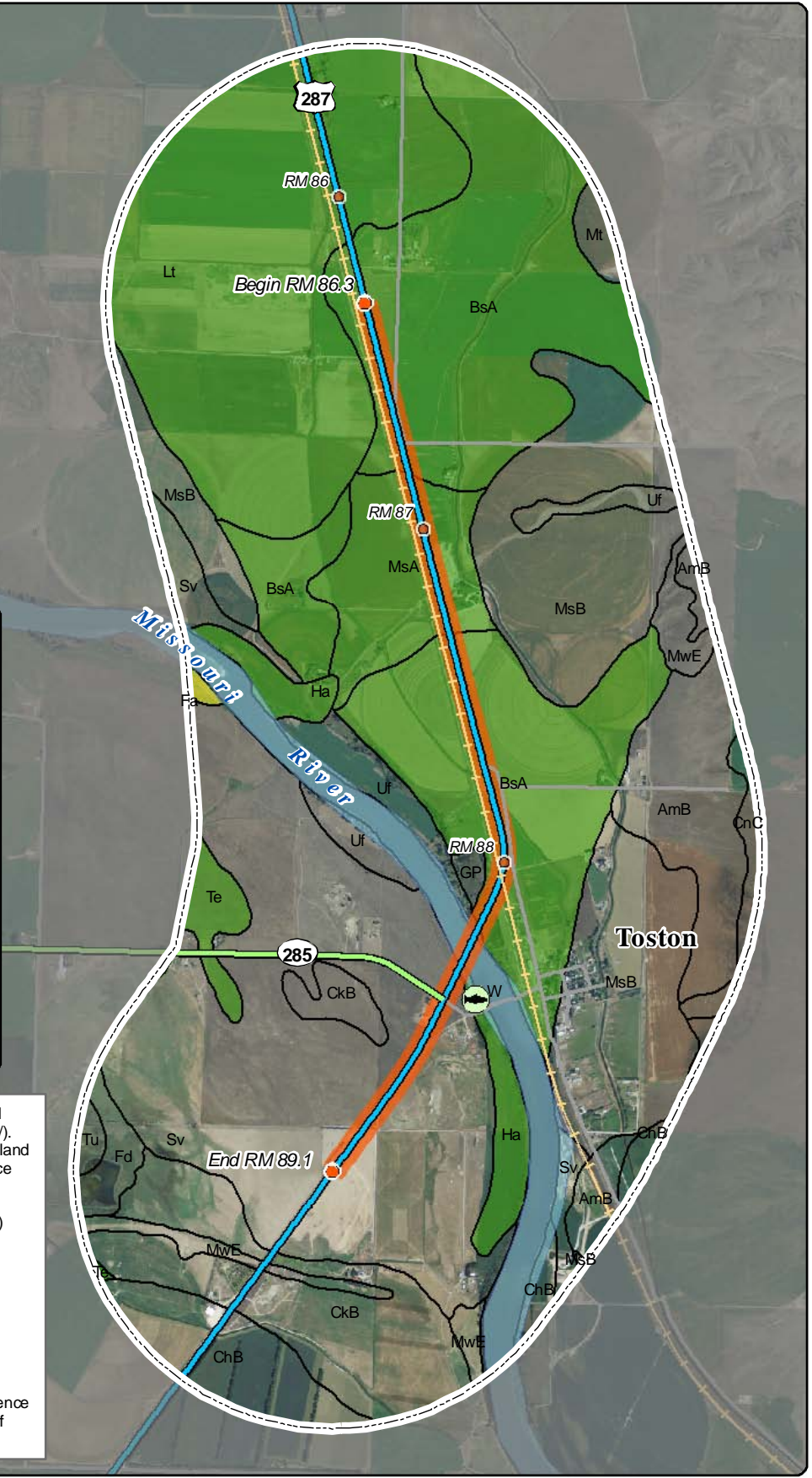
The Montana Bureau of Mines and Geology, in cooperation with the U.S. Geological Survey, has provided geological and soil information for the corridor study area. Figures 3-10 and 3-11 show the soil and geology classifications, respectively. The primary presence of alluvium contributes to the predominant use of farmland.

The Farmland Protection Policy Act of 1981 was established to minimize the impact federal actions have on any unnecessary and irreversible conversion of farmland to nonagricultural uses and the compatibility with policies to protect farmland. Figure 3-10 shows the designated and classified areas of farmland within the study area according to the U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS). Farmlands are classified as prime or prime if irrigated based on soil classifications. As shown in Figure 3-10, the northern portion of the corridor is predominately prime farmland.

Due to the large capacity of prime farmland within the corridor, there is potential for farmlands to be impacted as improvement options further develop. The NRCS has established form AD-1006, Farmland Conversion Impact Rating which evaluates the potential impact on agricultural land if converted to non-farm use. If a project is forwarded from this study the assessment form would be required in the environmental review process.

-  Toston Missouri River Crossing Corridor
-  Study Area Boundary
-  Land Outside of Study Area
-  Missouri River
-  Prime Farmland (P)
-  Prime Farmland if Irrigated (PI)
-  Reference Marker Mile Post
-  S-285
-  US-287
-  Off System Route
-  Railroad


Sources: Base map information from the Natural Resource Information System (<http://nris.mt.gov/>), NAIP color aerial photography from 2009. Farmland from the Natural Resources Conservation Service (NRCS) 1:24,000 Scale Soil Survey Geographic (SSURGO) database. The following soils were identified by NRCS as being Prime Farmland (P) or Prime Farmland if Irrigated (PI):  
 P BsA Brocko silt loam, 0 to 2 percent slopes  
 PI Fa Fairdale silt loam  
 PI Fb Fairdale-Lothair silty clays (if irrigated)  
 P Ha Havre loam  
 P Lt Lothair silty clay  
 P MsA Mussle loam, 0 to 2 percent slopes  
 P Te Thess silt loam  
 P Vd Villy silty clay loam, drained  
 On system and off system routes and mile reference markers provided by the Montana Department of Transportation.



**Figure 3-10**  
 Farmland and Soils  
 Toston Missouri River Crossing Corridor











N  
  
 February 1, 2010  
**DRAFT**








**Toston Missouri River Crossing Corridor Planning Study**

**Toston Missouri River Crossing Corridor**

-  Toston Missouri River Crossing Corridor
-  Study Area Boundary
-  Land Outside of Study Area
-  Reference Marker Mile Post
-  S-285
-  US-287
-  Off System Route
-  Railroad

**Geology within the Study Area**

-  Qa - Alluvium (Holocene)
-  Qoa - Old alluvium (Holocene & Pleistocene)
-  MiOGsc - Sedimentary rock (see NOTE)
-  Qt - Terrace gravel (Holocene & Pleistocene)
-  Open Water

Sources: Base map information from the Natural Resource Information System (<http://nris.mt.gov/>). NAIP color aerial photography from 2009. On system and off system routes and mile reference markers provided by the Montana Department of Transportation. Geology from the "Preliminary Geologic Map of the Townsend 30' x 60' Quadrangle, Montana" produced by Mitchell W. Reynolds and Theodore R. Brandt in 2006. Acquired via the Montana Bureau of Mines and Geology in cooperation with the U.S. Geological Survey (<http://www.mbm.g.mtech.edu/gmr/gmr-statemap.asp>).


NOTE: Full explanation of "Sedimentary rock" from Legend is, "Sedimentary rocks, undivided (Miocene and Oligocene), covered with discontinuous veneer of gravel, sand, and loess."



**Figure 3-11**  
**Geology**  
**Toston Missouri River Crossing Corridor**



February 8, 2010  
**DRAFT**



**Toston Missouri River**  
**Corridor Planning Study**



### 3.22 Noxious Weeds

Noxious weeds degrade native vegetative communities, choke streams, compete with native plants, create fire hazards, degrade agricultural and recreational lands, and pose threats to the viability of livestock, humans and wildlife. Areas with a history of disturbance, like highway rights-of-way, are at particular risk of weed encroachment. The Invaders Database System lists 64 exotic plant species and 21 noxious weed species documented in Broadwater County. According to the MDT and Broadwater County, Table 3.12 identifies the noxious weed species within the right-of-way along US 287 between RP 80 and RP 90.

Common Name	Scientific Name
Canada Thistle	Cirsium arvense
Whitetop	Cardaria draba
Leafy Spurge	Euphorbia esula
Dalmation Toadflax	Linaria dalmatica

After development of the corridor study, implementation of improvement options must adhere to all relevant federal, state, and local noxious weed laws and policies. Coordination with the Broadwater County Weed Supervisor should commence during project development and at the time of construction to establish specific guidance for noxious weed control relative to this project.

## 4.0 References

Department of Environmental Quality, Clean Water Act Information Center – website

Biological Resources Report – CN 1420 Townsend-South

Payne, G.F. 1973. Vegetative rangeland types in Montana. Montana Agricultural Experiment Station, Montana State University. Bozeman, Montana

Montana State Historic Preservation Office. File Search via Damon Murdo, January 28, 2010

Montana Natural Heritage Program, Natural Heritage Tracker (Broadwater county). Website.

Foresman, K.R. 2001. The Wild Mammals of Montana. Special Publication 12, The American Society of Mammalogists. Lawrence, Kansas: Allen Press

Montana Department of Transportation – Maintenance Animal Incident Reporting Database, 1998-2009

Montana Fish, Wildlife & Parks – Wildlife Management Areas GIS layers

Montana Natural Heritage Program, Natural Heritage Tracker (Elemental Occurrences database). Website.

Montana Fish, Wildlife & Parks – Montana Fisheries Information System (MFISH) Data (River Miles 2280-2290). Website.

Natural Resource Inventory System, National Wetland Inventory mapping. Website.

Natural Resource Inventory System, SSURGO soil mapping units. Website.

Natural Resources Conservation Service, web soil survey – website

U.S. Environmental Protection Agency, Air Data. Website.

National Resources Conservation Service, Farmland Protection Policy Act. Website.

Water Resources Survey Book for Broadwater County, pg. 52.

University of Montana, Invaders Database System – website

MDT and Broadwater County – weed mapping project

U.S. Census Bureau, Broadwater County, Montana. Website.