

# Environmental Scan

## MT 1—ANACONDA TO GEORGETOWN LAKE

### CORRIDOR PLANNING STUDY



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**MONTANA DEPARTMENT OF TRANSPORTATION**

Helena, MT

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## Environmental Scan

MT 1 – Anaconda to Georgetown Lake Corridor Study

(January 2011)

*DISCLAIMER: This document is a planning level environmental scan based on information obtained from various reports, websites and other publically available sources. The information contained herein is subject to change, and is valid as of the assembly of the report dated January 2011.*

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## Abbreviations and Acronyms

BMPs	Best Management Practices
BOR	Bureau of Reclamation
CAA	Clean Air Act
CECRA	Comprehensive Environmental Cleanup and Responsibility Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
DNRC	Department of Natural Resources and Conservation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FPPA	Farmland Protection Policy Act
GIS	Geographic Information System
LUST	Leaking Underground Storage Tank
LWCF	Land and Water Conservation Funds
LWQD	Local Water Quality District
MCA	Montana Code Annotated
MDEQ	Montana Department of Environmental Quality
MDT	Montana Department of Transportation
MEPA	Montana Environmental Policy Act
MFWP	Montana Department of Fish, Wildlife, and Parks
MNHP	Montana Natural Heritage Program
MP	Milepost
MPDES	Montana Pollutant Discharge Elimination System
MSAT	Mobile Source Air Toxics
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHP	Natural Heritage Program
NHPA	National Historic Preservation Act
NPL	National Priority List
NPS	National Park Service
NRC	National Response Center
NRHP	National Register of Historic Places
NRIS	Natural Resource Information System
NWI	National Wetlands Inventory
NWR	National Wildlife Refuge
RCRA	Resource Conservation and Recovery Act
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TRI	Toxics Release Inventory

USACOE U.S. Army Corps of Engineers  
USEPA U.S. Environmental Protection Agency  
USFWS U.S. Fish and Wildlife Service  
UST Underground Storage Tank  
Section 4(f) Section 4(f) of the 1966 Department of Transportation Act  
Section 6(f) Section 6(f) of the National Land and Water Conservation Funds Act

# **1 Introduction**

## **1.1 Background**

The primary objective of this Environmental Scan Report is to determine the potential impacts or constraints and opportunities for the MT 1 – Anaconda to Georgetown Corridor Study (Study). The study encompasses the Montana Highway 1 (P-19) corridor from Anaconda (RP 10.06) to Georgetown Lake (RP 27.35). As a planning level scan, the information is obtained from various reports, websites and documentation. This scan is not a detailed environmental investigation.

If any improvement option(s) are moved forward from the Study into project development, a NEPA/MEPA analysis will be completed as part of the normal project development process. The information obtained from the Study may be forwarded into the NEPA/MEPA analysis and does not need to be repeated.

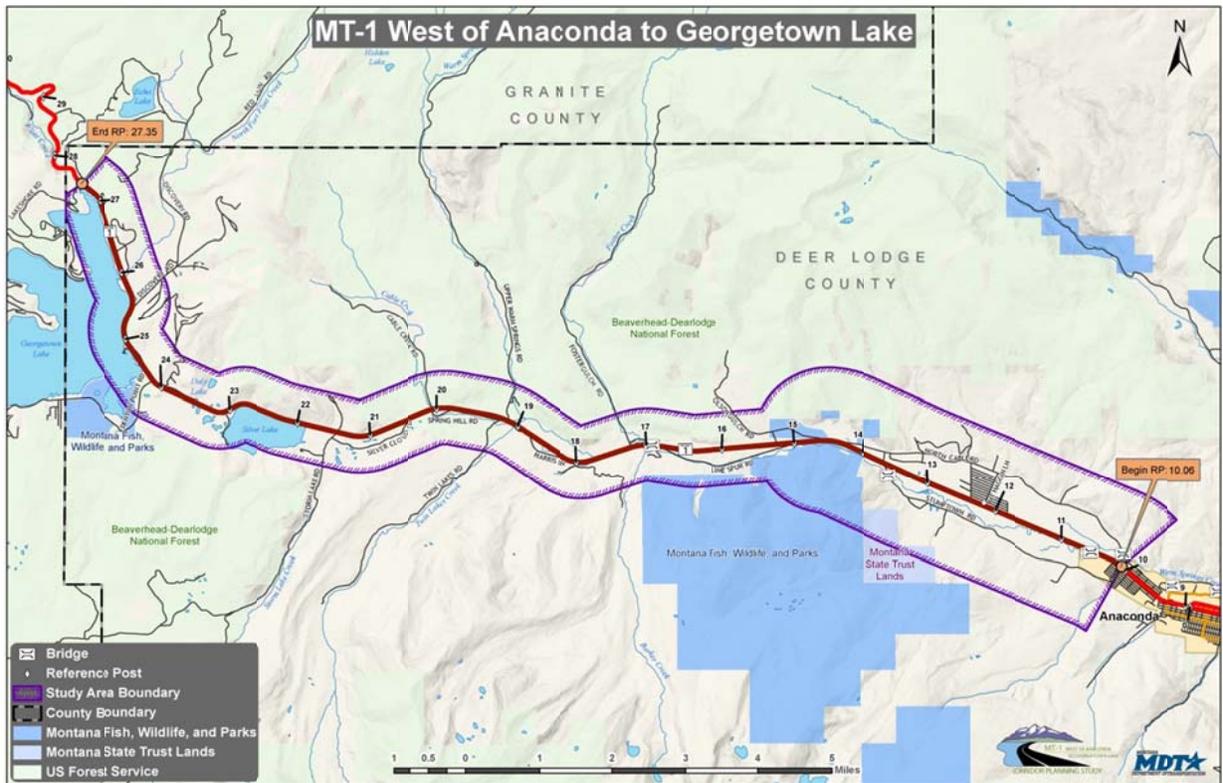
## **1.2 Organization of Report**

This report goes on to describe the geographic setting of the existing Study corridor. The document continues with descriptions of environmental scan methodologies and results for the geographic area for physical resources and water resources (Section 3), visual resources (Section 4), biological resources (Section 5), cultural and archaeological resources (Section 6), and social (Section 7). A list of tables and appendices is on page 3. A list of abbreviations and acronyms is defined on page 4 and page 5.

# **2 Geographic Setting**

The Study corridor is located in Deer Lodge County in south west Montana. The general topography of Deer Lodge County is mountainous in the extreme, the valleys being little more than depressions between mountain ranges. The average elevation is 6,000 feet, rising to over 10,500 feet on the mountain peaks. The land use within the corridor is predominantly for recreational and residential purposes. The majority of the land within the corridor is undeveloped.

MT-1 is a rural minor arterial on the Primary Highway System and serves as an east-west corridor between Anaconda and Georgetown Lake and also Philipsburg. The Study will cover the section from West of Anaconda (Reference Post 10.06) to Georgetown Lake (Reference Post 27.35). The corridor consists of roadway of varying widths, from 22 feet to 44 feet. The roadway was constructed or improved at various times, as early as 1934 to 1995. A section of the roadway is located on the east shore of Georgetown Lake. Please refer to Figure 1 for the corridor location.



**Figure 1: Study Area Boundary**

The following sections will describe the Study corridor for the purpose of environmental discussions in this document. They are not necessarily indicative of proposed improvement option(s), but rather a collection of geographic areas by which environmental discussions can be grouped.

### 3 Physical Resources

#### 3.1 Land Ownership

Geographic Information System (GIS)-based information was reviewed to assess the amount of area in the study corridor that is public versus privately owned.

Reviews were also conducted to determine the presence of Section 4(f) and Section 6(f) properties along the corridor. Section 4(f) refers to the original section within the Department of Transportation Act of 1966 (49 U.S.C. 303), which set the requirement for consideration of park and recreational lands, wildlife and waterfowl refuges, and historic sites in transportation project development. Prior to approving a project that “uses” a Section 4(f) resource, FHWA must find that there is no prudent or feasible alternative that completely avoids 4(f) resources. “Use” can occur when land is permanently incorporated into a transportation facility or when there is a temporary occupancy of the land that is adverse to a 4(f) resource. Constructive “use” can also occur when a project’s proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under 4(f) are “substantially impacted”. Section 4(f) resource information was gathered by field observation and review of the National Register of Historic Places (NRHP) list for Deer Lodge County.

Section 6(f) of the Land and Water Conservation Funds Act applies to all projects that impact recreational lands purchased or improved with land and water conservation funds. The Secretary of the Interior must approve any conversion of property acquired or developed with assistance under this act to other than public, outdoor recreation use. At this time, there are no 6(f) resources identified in the study corridor.

### 3.1.1 Deer Lodge County

The land within the Study corridor in Deer Lodge County is predominantly privately owned land. The majority of the land within the Study corridor is undeveloped. Public land ownership maps for the Study corridor are contained in Appendix A.

4(f) resources within the Study corridor are summarized in Table 1.

**Table 1: 4(f) Resources within the Study Area**

<b>Name</b>	<b>Type of 4(f) Resource</b>
BA&P RR Historic District	Historic District
Pumping Station	Historic site
BA&P Spur	Railroad
Malvey Cabin	Historic site
Anaconda-Philipsburg Power Line	Historic site
Silver Lake Water System	Historic site

### 3.2 Soil Resources and Prime Farmland

Information was obtained on soils to determine the presence of prime and unique farmland in the corridor study areas.

The Farmland Protection Policy Act of 1981 (Title 7 United States Code, Chapter 73, Sections 4201-4209) has as its purpose “to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland.”

Farmland is defined by the act in Section 4201 as including prime farmland, unique farmland, and farmland, other than prime or unique farmland, that is of statewide or local importance.

Prime farmland soils are those that have the best combination of physical and chemical characteristics for producing food, feed, and forage; the area must also be available for these uses. Prime farmland can be either non-irrigated or lands that would be considered prime if irrigated. Farmland of statewide importance is land, in addition to prime and unique farmlands, that is of statewide importance for the production of food, feed, fiber, forage, and oilseed crops.

The agricultural soils of Deer Lodge County are confined chiefly to the terraces in the vicinity of Galen in the north part of the county and to the benches north of the Big Hole River in the southwest part of the county.

The following paragraphs describe the farmland soils findings for the corridor.

### **3.2.1 Existing MT 1-Anaconda to Georgetown Lake Corridor**

Soil surveys are available (Deer Lodge County) in the MT 1-Anaconda to Georgetown Lake Planning Corridor area. Information regarding areas of prime farmland in the corridor area was compiled from the US Department of Agriculture, Natural Resource Conservation Service (NRCS).

The CPA-106 Farmland Conversion Impact Rating Form for Linear Projects is a way for the NRCS to keep inventory of the Prime and Important farmlands within the state. Soil map units found within the project area have been classified as prime and important farmlands. Project activities associated with the construction of the MT 1-Anaconda to Georgetown Lake Corridor will likely create impacts to the soil map units with prime and important farmland status, thus it is likely required that a CPA-106 Farmland Conversion Impact Rating Form for Linear Projects be completed. The process for completing this form requires mapping of the prime and important farmlands to be converted to non-farmable land, coordination with the NRCS, and final completion of the conversion form.

Appendix B contains maps and descriptions of the farmland classification types found in the Study corridor.

## **3.3 Water Resources**

### **3.3.1 Surface Water**

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

#### Study Corridor

Warm Springs Creek is considered to be in water quality category 4C – TMDLs are not required as no pollutant – related impairment is identified (2008 Water Quality Information, MT Department of Environmental Quality, See Appendix E). The study area occurs within the Upper Clark Fork watershed, within the Columbia basin. A TMDL assessment for this stretch of Warm Springs Creek has not been completed to date. Channelization and highway/road/bridge runoff are considered probable sources of impairment.

Warm Springs Creek fully supports the following beneficial uses: agriculture, industrial, and primary contact recreation. The creek partially supports aquatic life and cold water fishery. There is insufficient information regarding its support of drinking water supply.

Warm Springs Creek is the major waterbody that parallels MT-1 throughout the study corridor and crosses the highway at approximately RP 10.5 near the beginning of the study area. Numerous intermittent and ephemeral tributaries, including Big Gulch, Olson Gulch, and Grays Gulch flow out of the mountains on either side of the highway. See Appendix E.

Warm Springs Creek re-enters the study corridor around RP 19.0 and continues to parallel MT-1 throughout the study corridor, crossing the highway near RP 17.0. The North Fork of Flint Creek crosses the highway near RP 25.9, joining Flint Creek in the vicinity of Georgetown Lake.

Storm Lake Creek crosses the highway near RP 20.8 and joins Cable Creek just above its highway crossing at RP 20.1. Storm Lake Creek parallels the highway and joins Twin Lakes Creek above two highway crossing near RP 19.1. These creeks join Warm Springs Creek near RP 19.0. Foster Creek and Barker Creek join Warm Springs Creek near RP 17.0. Numerous intermittent and ephemeral drainages, as well as irrigation ditches, flow out of the mountains on either side of the highway within the study area. Georgetown Lake occurs immediately west of the highway between RP 27.0 and RP 24.5 while Silver Lake occurs immediately south of the highway between RP 22.0 and 23.0. See Appendix E.

Maps and GIS data were reviewed to identify the location of surface water bodies within the Study area, including rivers, streams, lakes, or reservoirs. Warm Springs Creek and its tributaries Cable Creek, Foster Creek, and Twin Lakes Creek lie within this study area.

The Study corridor travels through the Upper Clark Fork Watershed (Hydrologic Unit Code: (17010201.)) Information on the Clark Fork River and its tributaries within the study area was obtained from MDEQ's website.

A report titled [Upper Clark Fork River Tributaries Sediment, Metals, and Temperature TMDLs and Framework for Water Quality Restoration](#) dated March 2010 is available on the DEQ website under 'Final Documents.' This document presents a Total Maximum Daily Load (TMDL) and framework water quality restoration for 78 pollutant-water body combinations on nineteen impaired tributaries in the Upper Clark Fork River TMDL Planning Area (TPA). The Upper Clark Fork TPA extends from Butte to Drummond, Montana, and includes Warm Springs Creek. This plan was developed by the Montana Department of Environmental Quality (DEQ) and submitted to the U.S. Environmental Protection Agency (U.S. EPA) for approval. The Montana Water Quality Act requires DEQ to develop TMDLs for streams and lakes that do not meet, or are not expected to meet, Montana water quality standards. A TMDL is the maximum amount of a pollutant a water body can receive and still meet water quality standards. The goal of TMDLs is to eventually attain and maintain water quality standards in all of Montana's streams and lakes,

Section 303, subsection "d" of the Clean Water Act requires the State of Montana to develop a list, subject to USEPA approval, of water bodies that do not meet water quality standards. When water quality fails to meet state water quality standards, MDEQ determines the causes and sources of pollutants in a sub-basin assessment and sets maximum pollutant levels, called total maximum daily loads (TMDL).

A TMDL sets maximum pollutant levels in a watershed. The TMDLs become the basis for implementation plans to restore the water quality to a level that supports its designated beneficial uses. The implementation plans identify and describe pollutant controls and management measures to be undertaken (such as best management practices), the mechanisms by which the selected measures would be put into action, and the individuals and entities responsible for implementation projects.

The Upper Clark Fork watershed is listed in the 2010 Integrated 303(d)/305(b) Water Quality Report for Montana by MDEQ. The water bodies within the Upper Clark Fork Watershed that are located in the study area are Category 5 and Category 4C. Category 5 water bodies are waters where one or more applicable beneficial use has been assessed as being impaired or

threatened, and a TMDL is required to address the factors causing the impairment or threat. Category 4C water bodies are waters where TMDLs are not required as no pollutant-related use impairment is identified. TMDLs have not yet been written for water bodies in this watershed. When TMDLs are prepared and implementation plans are in place, any construction practices would have to comply with the requirements set forth in the plan.

303(d) listed water bodies within the Upper Clark Fork Watershed that are located in the Study area are summarized in Table 2. Appendix E contains the MDEQ’s 2008 Water Quality Information from the Clean Water Act Information Center

**Table 2: 303(d) Listed Water Bodies in the Study Area**

Water Body	Water Body ID	Probable Cause of Impairment	Impaired Uses
WARM SPRINGS CREEK	MT76G002_012	Arsenic	Aquatic Life, Cold Water Fishery, Drinking Water
		Cadmium, Copper, Lead Zinc, Iron	Aquatic Life, Cold Water Fishery

### 3.3.2 Groundwater

Deer Lodge County has not developed Local Water Quality District’s (LWQD). LWQDs are established to protect, preserve, and improve the quality of surface water and groundwater within the district. Currently there are four in Montana. LWQDs are formed pursuant to 701304501 et. Seq., MCA by county governments. MDEQ provides support to LWQD programs, but does not have an active management role in their activities. LWQD serve as local government districts with a governing board of directors, and funding obtained from fees collected annually with county taxes. A significant component of selected district programs is the ability to participate in the enforcement of the Montana Water Quality Act and related rules.

If a LWQD is developed for Deer Lodge County, water quality protection measures may have to be addressed at the local level, in addition to the federal level and state level.

### 3.3.3 Irrigation

Very little irrigated farmland exists in Deer Lodge County adjacent to the Study corridor. Impacts to irrigation facilities should be avoided to the greatest extent practicable. However, depending on the improvement option(s) proposed during the corridor Study, there is a potential to impact lateral and longitudinal irrigation facilities. To mitigate lateral impacts, MDT will likely reconstruct existing culverts to maintain existing size and flow requirements. Operators of irrigation facilities will be contacted for flow requirements during final design. To mitigate longitudinal impacts, MDT will need to make reasonable efforts to relocate the facilities along the new roadway embankment and maintain capacity of the original ditch. Impacted irrigation canals and ditches will need to be relocated in consultation with ditch owners to minimize impacts to farming operations.

Potential impacts to irrigation facilities will need to be examined to determine if the irrigation facilities are considered waters of the U.S. and subject to jurisdiction by the U.S. Army Corps of Engineers (USACOE).

Irrigation maps for Deer Lodge County are provided in Appendix G.

### **3.4 Wetlands**

Sources: 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

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 available for this area (See Appendix E). Three tiles from the lower right of Map Tile #26 from the Montana Wetland Maps (NRIS) – Wets Valley, Silver Lake, and Georgetown Lake encompass the limits of the corridor study. West Valley and Silver Lake NWI mapping was completed from 2005 NAIP imagery and is available from NWI or NRIS. Georgetown Lake mapping is provisional NWI mapping and is available as PDFs. 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 project wetland determination and/or delineation.

The majority of the wetland areas logically occur within the riparian bottomlands associated with the major drainages in the study area, especially Warm Springs Creek, its tributaries, and the major draws coming out from the mountains. A notable amount of potential wetland area occurs in the valley adjacent to the current highway alignment. Any project forwarded from this corridor study has the potential to impact wetland areas, riparian areas, and streams.

Formal wetland delineations should be conducted according to standard USACOE and MDT defined procedures during the project development process. Impacts to wetland areas should be avoided and minimized through conscientious project design. 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.

During any project development process, evaluation of potential stream impacts must be completed according to the USACOE May, 2010 Stream Mitigation Procedure (or revised version). The need for any stream mitigation should be identified and secured prior to the permitting process.

### **3.5 Montana Fish, Wildlife & Parks Wildlife Management Areas**

The Garrity Mountain Wildlife Management Area (WMA) covers 9,475 acres and is located near the mid-point and south of the study area. This public land is managed by Montana Fish, Wildlife & Parks. Just south of the highway, Garrity Mountain rises over 8,000 feet in elevation. The mountain's open, grassy areas provide critical winter foraging for elk, deer, and bighorn sheep, while pockets of timber offer shelter and thermal cover.

North of the highway in the same vicinity is the Blue Eyed Nellie WMA. The management goal of this 164 acre area is to provide winter range for Bighorn Sheep and opportunities for wildlife observation. See Appendix A for maps of these areas.

### **3.6 Floodplains (EO 11988) and Floodways**

Executive Order (EO) 11988, Floodplain Management, requires federal agencies to avoid direct or indirect support of floodplain development whenever a practicable alternative exists. EO 11988 and 23 CFR 650 Part A requires an evaluation of project alternatives to determine the extent of any encroachment into the base floodplain. The base flood (100-year flood) is the regulatory standard used by federal agencies and most states to administer floodplain management programs. A “floodplain” is defined as lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, with a one percent or greater chance of flooding in a given year. As described in FHWA’s floodplain regulation (23 CFR 650 Part A), floodplains provide natural and beneficial values serving as areas for fish, wildlife, plants, open space, natural flood moderation, water quality maintenance, and groundwater recharge.

Within most of the Study corridor, there are 100-year floodplains delineated by the Federal Emergency Management Agency (FEMA). There are FEMA issued flood maps for the east end of the study area within Deer Lodge County however no maps are available for the west end in the Georgetown Lake vicinity where the map index notes that it is in Zone D – undetermined flood hazard. If a project is forwarded from the improvement option(s), coordination with Deer Lodge County should be conducted during the project development process to obtain the necessary floodplain permits.

### **3.7 Hazardous Substances**

The Montana Natural Resource Information System (NRIS) database was searched for underground storage tank (UST) sites, leaking underground storage tank (LUST) sites, abandoned mine sites, remediation response sites, landfills, National Priority List (NPL) sites, hazardous waste, crude oil pipelines, and toxic release inventory sites in the vicinity of the Study corridor.

The following sites along the corridor study area were initially identified as locations with potential contamination impacts:

- several underground storage tank locations;
- four leaking underground storage tank locations;
- several abandoned and inactive mine sites, and;
- one Federal Superfund program site (*Georgetown Railroad*).

Given the lack of location precision in the NRIS database, a ground review along the corridor will be necessary to determine if any of these sites are in close proximity to the road and/or proposed alignments.

After an alignment has been selected and the conceptual design has been completed, further evaluation may be needed at specific sites to determine if contamination will be encountered during construction. This may include reviewing MDEQ/EPA files and conducting subsurface investigation activities to determine the extent of soil and groundwater contamination. If contaminated soils or groundwater is encountered during construction, handling and disposing of the contaminated material will be conducted in accordance with State, Federal, and local laws and rules.

### **3.8 Air Quality**

EPA designates communities that do not meet *National Ambient Air Quality Standards (NAAQS)* as “non-attainment areas.” States are then required to develop a plan to control source emissions and ensure future attainment of NAAQS. The MT 1 – Anaconda to Georgetown Corridor is not located in a non-attainment area for PM-2.5, PM-10, or carbon monoxide (CO). Additionally, there are no nearby PM 2.5, PM-10 or CO non-attainment areas.

Depending on the scope of the project being considered along this corridor, an evaluation of mobile source air toxics (MSATs) may be required. MSATs are compounds emitted from highway vehicles and off-road equipment which are known or suspected to cause cancer or other serious health and environmental effects.

### **3.9 Traffic Noise**

Traffic noise may need to be evaluated for any planned improvements to the MT 1 – Anaconda to Georgetown Corridor. If the roadway improvements are limited (e.g. the horizontal and vertical alignments are not changed and the highway remains a 2-lane facility) then the project would *not* be considered a Type I project. If the improvements planned for the road include a significant shift in the horizontal or vertical alignments, increasing the number of thru-lanes, or increasing the traffic speed and volume then the project would be considered a Type I project.

A detailed noise analysis would be required if the project is considered a Type I project. A detailed noise analysis includes measuring ambient noise levels at selected receivers and modeling design year noise levels using projected traffic volumes. Noise abatement measures would be considered for the project if noise levels *approach* or *substantially exceed* the noise abatement criteria.

If traffic noise impacts are shown to exist on the project, a number of possible abatement measures may be considered, including but not limited to the following:

- Altering the horizontal or vertical alignment;
- Constructing noise barriers such as sound walls or earthen berms; and/or
- Decreasing traffic speed limits.

The noise abatement measures must be considered *reasonable* and *feasible* prior to implementation.

Lastly, construction activities along the MT 1 – Anaconda to Georgetown Corridor Study may cause localized, short-duration noise impacts. These impacts can be minimized by using standard MDT specifications for the control of noise sources during construction.

## **4 Visual Resources**

Visual resources refer to the landscape character (what is seen), visual sensitivity (human preferences and values regarding what is seen), scenic integrity (degree of intactness and wholeness in landscape character), and landscape visibility (relative distance of seen areas) of a geographically defined view shed.

The landscape throughout the Study corridor contains an array of biological, historic, wildlife, ecological, and cultural resources.

## **5 Biological Resources**

The following information applies to natural resources potentially affected by within the designated project study area boundary for this project. The resources evaluated are present within the study boundary, and could potentially be affected by any project proposed and evaluated through the corridor study process. The information provided herein is the product of a high-level baseline scan, and therefore lacks detail sufficient to quantify potential impacts resulting from the chosen alignment or project design. This general information is provided to guide future detailed analysis and evaluation of potential project-related impacts to natural resources present within the defined study area boundary. The information reflects a baseline natural resource condition of the study area, and is provided with the understanding that it is not an inclusive list and that appropriate level of detail analysis will be conducted prior to project scoping, and that conservation or mitigation measures will be developed and refined throughout the NEPA/MEPA process and project design development.

Depending on the level of detail available through the high-level baseline scan, some of the information has been provided at the county level, some at the entire corridor study area level, and some has been broken up into reference points of the study area.

### **5.1 Fish and Wildlife**

#### **5.1.1 General Fish and Wildlife**

Sources: Montana Natural Heritage Program, Natural Heritage Tracker  
(Deer Lodge County) – website

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

MDT – Maintenance Animal Incident Reporting Database, 1998-2009

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

Mammals: Wildlife species inhabiting or traversing the project study area are typical of those that occur in mixed forests and intermountain valley grasslands of south central Montana. Of the 108 mammal species known to occur in the state, 65 are known or suspected to occur in Deer Lodge County (Foresman, 2001., See Appendix C).

Common mammals occupying habitats in, traversing, or having a distribution range that overlaps the study area (See Appendix C) are white-tail deer (*Odocoileus virginianus*), mule deer (*Odocoileus hemionus*), black bear (*Ursus americanus*), elk (*Cervus canadensis*), mountain lion (*Puma concolor*), and coyote (*Canis latrans*). A large herd of bighorn sheep (*Ovis canadensis*) occupy habitat in the Flint, Anaconda, and Pintler mountains and are frequently observed on or adjacent to MT-1 in the study area, especially during winter. Other common mammals potentially occurring in the project area include but are not limited to the porcupine (*Erethizon dorsatum*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), badger (*Taxidea taxus*), bobcat (*Felix rufus*), red fox (*Vulpes, vulpes*), muskrat (*Ondatra zibethicus*), Richardson's ground squirrel (*Spermophilus richardsonii*), deer mouse (*Peromyscus maniculatus*), meadow vole (*Microtus pennsylvanicus*), and a variety of bat species.

A review of the MDT Maintenance Animal Incident Database for the time period from January 1999 through December 2009 indicates that animal-vehicle collisions have occurred numerous times throughout that period on MT-1 between RP 10.0 and RP 28.0, which are the reference posts that occur within the project study area (See Appendix C). With the exception of only a few other animals, white-tail deer account for the vast majority of the recorded wildlife mortality along the highway within the study area. There are a total of 105 records from that time period between RP 10 and RP 15, in the study area. Nearly all of them are white-tail deer, with the exception of two mule-deer, two elk, and skunk. Between RP 15 to RP 28, there are 166 records, and again, nearly all of them white-tail deer. A few mule deer, a black bear, two coyotes, a few skunks, and an elk comprise the other records. Peaks in recorded roadkill occur near RP 13, between RP 15 and 16, and between RP 27 and 28.

A large bighorn sheep herd exists in this corridor study area. A map showing the bighorn sheep distribution near the Study area is provided in Appendix C. Bighorn sheep occur on both sides of MT-1 throughout the study area, but especially near the Wildlife Management Area at Garrity Mountain. Bighorn sheep are attracted to the salt in de-icing material used on highways. The use of de-icing material in winter may cause bighorn sheep to concentrate on and adjacent to the roadway increasing incidents of vehicle collisions with bighorn sheep.

In fall of 2010, eight big horn sheep, including two trophy rams, were killed in a single incident on MT-1, approximately a half a mile after westbound drivers leave the 45 mph zone and enter the 70 mph zone (See Appendix C). Bighorn frequently graze alongside the roadway in this area and lick the salt from the roadway during the winter months. Three other rams were killed by a vehicle in the same area earlier in the year. Recently, a pneumonia outbreak has resulted in the death of some of the animals, and culling of others by MFWP in attempts to prevent further spread of the disease. MFWP biologists estimate that of the 300 animals currently occupying the area, only about 1/3 of the herd is likely to survive the winter (See Appendix C).

If a project is forwarded from the corridor study, mitigation measures should be explored during the project development process to reduce the potential for bighorn sheep/vehicle collisions during the winter months. Potential options include, but are not limited to: 1) variable message signing during the winter months, 2) reduced speed limits during winter, and 3) public education campaigns. MFWP's area wildlife biologist should be contacted for local expertise on the bighorn sheep herd in the study area. Preventing future animal-vehicle collisions with big horn sheep along this section of MT-1 is critical to the survival of the herd and future viability of the big horn sheep population in Montana.

Amphibians and Reptiles: According to the Montana Natural Heritage Program - Natural Heritage Tracker (2010) database (See Appendix C), which records and maps documented observations of species in a known location, amphibian species known to occur in Deer Lodge County and potentially occurring in the project study area include but are not limited to the Columbia spotted frog (*Rana luteiventris*), Rocky Mountain tailed frog (*Ascaphus montanus*), and long-toed salamander (*Ambystoma macrodactylum*). Over a dozen invertebrate species, some listed as SOC also have been observed in the project study area.

SOC\* = State Species of Concern

Birds: According to the Montana Natural Heritage Program - Natural Heritage Tracker (2009) database, which records and maps documented observations of species in a known location, there are a few hundred different species of birds documented in Deer Lodge County, with the potential to occur and nest in the project study area (See Appendix C). These species include representative songbirds, birds of prey, waterfowl, owls, and shorebirds, including several state species of concern. Most avian observations occur in the riparian draws and hillsides associated with the numerous drainages along the study corridor and surrounding the lakes.

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.

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."

Montana Fish, Wildlife & Parks manages a Wildlife Management Area adjacent to both sides of the highway in the vicinity of Garrity Mountain. Further information regarding the WMA can be found under the Land Use section of this document.

### **5.1.2 Aquatic Resources**

Sources: Montana Natural Heritage Program, Natural Heritage Tracker  
(Deer Lodge county) – website

Montana Fish, Wildlife & Parks – Montana Fisheries Information System (MFISH)  
Data, Warm Springs Creek - website

Fisheries: Warm Springs Creek is the major waterbody which parallels and is crossed by the highway within the study area. Multiple tributaries to Warm Springs Creek confluence in

proximity to the study area. The Stumptown Pond and AMC Pond occur near the highway just west of Anaconda, while Silver Lake and Georgetown Lake occur adjacent to the highway near the northern terminus of the study area.

According to the MFISH database (2010), fish species abundantly/commonly occurring within Warm Springs Creek within the study area are brown trout (*Salmo trutta*, ENN\*), longnose sucker (*Catostomus catostomus*), mottled sculpin (*Cottus bairdi*), rainbow trout (*Onchorynchus mykiss*), and slimy sculpin (*Cottus cognatus*). Species occurring rarely within this river stretch are the brook trout (*Salvelinus fontinalis*, ENN\*), bull trout (*Salvelinus confluentus*, SOC\*\*), mountain whitefish (*Prosopium williamsoni*), and westslope cutthroat trout (*Onchorynchus clarkia lewisi*, SOC\*\*)(See Appendix E). Hybrids of brook trout and bull trout are rare while hybrids of westslope cutthroat and rainbow trout are abundant. The stream stretch between river miles 2.6 and 32.6 is considered bull trout core area, but not node area. River miles from 24.2 to 32.6 are considered MFWP protected areas for big game wintering/spring usage.

ENN\* = Exotic species, not native to Montana  
SOC\*\* = State species of special concern

The tributaries and other drainages occurring within the study area have the potential to support all or some of the fish species listed above. Fish passage and/or barrier opportunities must be considered at all affected drainages if a project is forwarded from this corridor study.

Warm Springs Creek is rated as outstanding fisheries resource value by MFWP and receives recreational angler use year-round. Ponds and lakes within the study area are also recreation destinations. Silver Lake and Georgetown Lake are managed as a recreational fishery resource by MFWP. There are several access roads from the highway into adjacent public lands as well. The corridor study should take recreational traffic and access points, as well as destinations into consideration.

### **5.1.3 Threatened and Endangered Species**

Sources: United States Fish and Wildlife Service, Mountain Prairie Region (6) – Threatened and Endangered species by Montana County, October 2010 - website  
Montana Natural Heritage Program, Montana Field Guide database – website

The federal list of endangered and threatened species is maintained by the USFWS. Species on this list receive protection under the Endangered Species Act (ESA). An ‘endangered’ species is one that is in danger of extinction throughout all or a significant portion of its range. A ‘threatened’ species is one that is likely to become endangered in the foreseeable future. The USFWS also maintains a list of species that are candidates or proposed for possible addition to the federal list.

According to the USFWS, three threatened, endangered or candidate species are listed as occurring in Deer Lodge County:

**Table 4: Threatened and Endangered Species**

<b>DEER LODGE COUNTY</b>		
<i>Salvelinus confluentus</i>	Bull Trout	LT, CH, PCH
<i>Canis lupus</i>	Gray Wolf	LE, XN
<i>Thymallus arcticus</i>	Arctic Grayling (Upper Missouri River DPS)	C

Abbreviations:

- LT – Listed Threatened
- CH – Critical Habitat
- PCH – Potential Critical Habitat
- LE – Listed Endangered
- XN – Experimental, Non-Essential
- C – Candidate

Obviously, the two fish species potentially occur within some of the drainages occurring within the study area. Warm Springs Creek is considered bull trout core habitat. If a project is forwarded from the corridor study, an evaluation of potential effects to the gray wolf, Canada lynx, bull trout and arctic grayling will need to be completed during the project development process. As federal status of protected species changes as a result of litigation over time, reevaluation of the listed status and afforded protection to these and other species should be completed prior to issuing a determination of effect relative to potential project impacts.

#### **5.1.4 Species of Concern**

Sources: Montana Natural Heritage Program, Natural Heritage Tracker  
Elemental Occurrences database – website

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 (See Appendix C). 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. Each species is assigned a state rank that ranges from S1 (greatest concern) to S5 (least concern). Other state ranks include SU (unrankable due to insufficient information), SH (historically occurred), and SX (believed to be extinct). State ranks may be followed by modifiers, such as B (breeding) or N (non-breeding).

A search of the Montana Natural Heritage Program species of special concern database revealed five mammal species (Canada lynx (*Lynx canadensis*), Dwarf shrew (*Sorex nanus*), fisher (*Martes pennanti*), gray wolf (*Canis lupus*), and wolverine (*Gulo gulo*)) and one bird species (Peregrine falcon, *Falco peregrinus*) occurring within the study area just west of Anaconda (See Appendix C). Four mammal species (Canada lynx (*Lynx canadensis*), fisher (*Martes pennanti*), gray wolf (*Canis lupus*), and wolverine (*Gulo gulo*)) have been documented occurring in the remaining portions of the study area. Five bird species (Bald eagle, *Haliaeetus leucocephalus*), great blue heron (*Ardea herodias*) rookeries, great gray owl (*Strix nebulosa*), Lewis’s woodpecker (*Melanerpes lewis*), and northern goshawk (*Accipiter gentilis*) have been documented breeding within the study area. Two fish species of concern (bull trout (*Salvelinus confluentus*) and westslope cutthroat trout (*Onchorynchus clarkia lewisi*)) occur within drainages

within the corridor study area. One invertebrate species and three vascular plant species of concern have also been documented.

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 design phase. If present, special conditions to the project design or construction should be considered to avoid or minimize impacts to these species.

### **5.1.5 Wildlife and Traffic Concerns**

During the project development process, MDT should work with MFWP Wildlife Biologists for the area to determine what measures, if any, are needed to address wildlife crossings along the corridor improvements. To facilitate wildlife movement and migrations through the project area, right-of-way fencing should be designed with a maximum of 4 strands of barbed wire, and it is preferable to install wildlife friendly fence along the project.

## **5.2 Vegetation**

Sources: Montana Natural Heritage Program (MNHP)  
Montana Ecological Systems – Landcover Report – Deer Lodge County  
<http://mtnhp.org/mapviewer/>

According to the MNHP Landcover Report, seventy-five percent of the vegetative landcover in Deer Lodge County is comprised of Rocky Mountain Lodgepole Pine Forest (23%), Rocky Mountain Lower Montane, Foothill, and Valley Grassland (14%), Montane Sagebrush Steppe (12%), Rocky Mountain Montane Douglas-fir Forest and Woodland (9%), Rocky Mountain Subalpine-Upper Montane Grassland (7%), Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland (6%), and Northern Rock Mountain Lower Montane Riparian Woodland and Shrubland (4%) (See Appendix H). In the vicinity of the study corridor, a combination of lodgepole pine forest and grasslands dominate the hillsides and foothills. Riparian woodland and shrubland line the riparian corridors of the major drainages, especially Warm Springs Creek. Patches of previously harvested forest-tree, forest-shrub, and forest-grassland regeneration occurs along the slopes within the higher mountain elevations. Adjacent to the highway, low-intensity development has occurred.

Specific information regarding the dominant ecological system types and a landcover map of the project study area can be found in the landcover reports in Appendix H.

### **5.2.1 Threatened and Endangered Species**

The federal list of endangered and threatened species is maintained by the USFWS. Species on this list receive protection under the Endangered Species Act (ESA). An ‘endangered’ species is one that is in danger of extinction throughout all or a significant portion of its range. A ‘threatened’ species is one that is likely to become endangered in the foreseeable future. The USFWS also maintains a list of species that are candidates or proposed for possible addition to the federal list.

The endangered, threatened, proposed, and candidate plant species list for Montana counties (May 2009) was downloaded from the USFWS website on July 28, 2009. This list generally

identifies the counties where one would reasonably expect the species to occur, not necessarily every county where the species is listed.

There are no endangered, threatened, proposed, or candidate plant species listed for Deer Lodge County, and none are currently expected to occur in the Study area. If a project is forwarded from the improvement option(s), an evaluation of potential impacts to all endangered, threatened, proposed, or candidate species will need be done during the project development process.

### **5.2.2 Noxious Weeds**

Sources: University of Montana, Invaders Database System – website

Section 7-22-2101 of the Montana County Weed Control Act defines "Noxious Weed" as:

- (i) a statewide noxious weed by rule of the department [of Agriculture]; or
- (ii) a district noxious weed by a [county weed] board, following public notice of intent and a public hearing.

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 60 exotic plant species and 18 noxious weed species documented in Deer Lodge County (See Appendix H).

Anaconda-Deer Lodge County (ADLC) has additional species that they consider to be noxious. The additional species considered noxious by ADLC were defined by Resolution 10-24, and include the following: Babysbreath, Common Mullein, Curley Dock, Kochia, Musk Thistle, and Sowthistle. Since ADLC has designated these additional plants to a "noxious" status in their county, landowners must then treat those county-specific plants in a similar way as those designated by the Montana Department of Agriculture

If a project is forwarded from the corridor study, field surveys for noxious weeds should commence prior to any ground disturbance. Construction activities associated with the project should abide by the MDT "Roadside Vegetation Management Plan – Integrated Weed Management Component", dated April 2006. Coordination with the Deer Lodge 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.

## **6 Cultural and Archaeological Resources**

If MDT projects forwarded from the Study are federally-funded, MDT would need to conduct a cultural resource survey of the Area of Potential Effect for this project as specified in Section 106 of the National Historic Preservation Act (36 CFR 800). Section 106 requires Federal agencies to "take into account the effects of their undertakings on historic properties." The purpose of the Section 106 process is to identify historic properties that could be affected by the undertaking, assess the effects of the project and investigate methods to avoid, minimize or mitigate any adverse effects on historic properties. Special protections to these properties are afforded protection under Section 4(f) of the Transportation Act.

The Study corridor contains many cultural resources, which consist of the Anaconda to Philipsburg Power Line (24DL0496), a pumping station (24DL0425), the Silver Lake Water System (24DL0691), the National Register of Historic Places-listed Butte, Anaconda & Pacific Railroad Historic District (24DL0211), a railroad spur line (24DL0426), and the Malvey Cabin (24DL0427). Cultural resources within this Study corridor may be a significant issue and is important to address as planning progresses on this Study.

The Study area is located along MT-1 between the western city limits of Anaconda to the dam at Georgetown Lake. A potential project may include the widening and reconstruction of the highway to accommodate additional traffic. The cultural resource survey would be dependent on the preferred improvement option(s) developed for the corridor. The Cultural Resources Information System (CRIS) and Cultural Resources Annotated Bibliography (CRABS) indicates that 48 cultural resource surveys have been conducted within or near the Study corridor between 1979 and 2009. There are five recorded National Register of Historic Places-eligible historic properties within or near the existing highway and one National Register-listed site, the Butte, Anaconda & Pacific Railroad Historic District (24DL0211). A windshield survey of the proposed survey area also revealed there are other unrecorded historic-age properties located in the vicinity of MT-1. Table 5 lists the previously recorded historic properties, their approximate locations and National Register of Historic Places (NRHP) eligibility. Archaeological sites have been discovered within and near the corridor and there is a possibility that other sites might be located within it.

**Table 5: Historic Properties**

Site	Site No.	Section	Township	Range	NRHP elig.
BA&P RR Historic District	24DL211	30 25 26	5N 5N	11W 12W	NRHP Listed
Pumping Station	24DL425	17, 18, 20, 21	5N	13W	Yes
BA & P Spur	24DL426	17	5N	13W	Yes
Malvey Cabin	24DL427	18	5N	13W	Yes
Anaconda-Philipsburg Power Line	24DL496	6,8,16, 17, 21, 22, 25- 27	5N	13W	Yes
Silver Lake Water System	24DL691	21, 22, 23, 26, 27, 35	5N	13W	Yes

If a project is forwarded from the improvement option(s), a cultural resource survey for unrecorded historic properties within the Area of Potential Effect will need to be completed during the project development process. Flexibility in design will be key to avoiding and/or minimizing impact to significant sites in the Study corridor.

## 7 Social

To provide a context in which to evaluate social impacts, characteristics of the existing population are presented in Table 6 and Table 7.

**Table 6: Demographic Information**

Area	Population (2009 Estimate)	Population % Change (2000 thru 2009)	Median Household Income (2008)	Persons Below Poverty (2007)	Persons per Square Mile (2000)
Deer Lodge County	8,792	(-6.3%)	\$34,126	17.5%	12.8
State of Montana	974,989	8.1%	\$43,948	14.1%	6.2
USA	307,006,550	9.1%	\$52,029	13.0%	79.6

As shown in the table, generally the study area population has declined overall since 2000. Residents in the study area tend to be lower in median household income compared to Montana as a whole. These differences can be generally attributed to the rural nature and relatively low population of the area.

**Table 7: Population Data**

	Deer Lodge County	State of MT	USA
Total Population <sup>a</sup>	8,792	974,989	307,006,550
White <sup>b</sup> (%)	95.0	90.3	79.6
African American <sup>b</sup> (%)	0.4	0.7	12.9
American Indian/Alaska Native <sup>b</sup> (%)	2.3	6.4	1.0
Asian <sup>b</sup> (%)	0.5	0.7	4.6
Native Hawaiian/Pacific Islander <sup>b</sup> (%)	0.0	0.1	0.2
Hispanic/Latino <sup>b</sup> (%)	2.5	3.1	15.8
2 or more races <sup>b</sup> (%)	1.9	1.8	1.7

Source: US Census Bureau

a. 2009 Estimate

b. 2009 Data in Percent (%)

In general the ethnic makeup of the project area is primarily white, which is consistent with the state as a whole.

### 7.1 Environmental Justice

Title VI of the US Civil Rights Act of 1964, as amended (USC 2000(d)) and Executive Order (EO) 12898 require that no minority, or, by extension, low-income person shall be disproportionately adversely impacted by any project receiving federal funds. For transportation projects, this means that no particular minority or low-income person may be disproportionately isolated, displaced, or otherwise subjected to adverse effects.

If a project is forwarded from the improvement option(s), Environmental Justice will need to be further evaluated during the project development process.