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NorthWestern Energy

Mountain States Transmission Intertie *ENVIRONMENTAL REPORT*

LAND USE TECHNICAL REPORT

PROJECT NUMBER:

112100

PROJECT CONTACT:

MARK SCHAFFER

EMAIL:

MARK.SCHAFFER@POWERENG.COM

PHONE:

208 685-6322



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1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

NorthWestern Energy (NWE) proposes to construct, operate and maintain the MSTI 500kV transmission line to address the requests for transmission service from customers and relieve constraints on the high-voltage transmission system in the region. The new transmission line would begin at Townsend Substation which would be constructed in southwestern Montana about five miles south of Townsend, Montana, east of U.S. Highway 287 (US 287) in Broadwater County. The line would proceed south into southeastern Idaho connecting to Idaho Power Company's (IPCO) existing Midpoint Substation, 12 miles northeast of Jerome, Idaho. Figure 1.1-1 shows the substation locations and the alternative routes being considered.

The major projects components of the proposed action include the 500kV alternating current (AC) transmission line, a new Townsend Substation; construction of a new facility next to the existing Mill Creek Substation near Anaconda, Montana for the installation of a bank of phase shifting transformers and modifications to the existing Midpoint Substation in Idaho. Brief descriptions of the major project components are presented in the following sections.

1.1.1 NEW 500kV TRANSMISSION LINE

The MSTI 500kV AC transmission line would interconnect the new Townsend Substation with IPCO's existing Midpoint Substation. The MSTI 500kV transmission line would be between 400 and 430 miles long.

Various alternative route links have been identified as part of the siting study for the transmission line. During the route selection process, some of these alternative route links were combined into a limited number of end-to-end route and subroute alternatives. A preferred route was selected based on environmental and other considerations. Alternative route links, shown in Figure 1.1-1, cross Silver Bow, Jefferson, Broadwater, Deer Lodge, Beaverhead, and Madison counties in southwestern Montana, and Clark, Jefferson, Blaine, Butte, Bingham, Bonneville Power, Minidoka, Lincoln, and Jerome counties in southeastern Idaho. The links cross private, state (Idaho and Montana) and federal (primarily Bureau of Land Management [BLM] and U.S Forest Service [USFS]) land. There are a total of 1,150 miles of alternative route links, 582 miles in Montana and 568 miles in Idaho.

The MSTI 500kV transmission would be constructed mainly on guyed V steel lattice structures approximately 125 feet high. Less frequently, self-supporting steel lattice structures or self-supporting tubular steel structures approximately 125 feet high would be used. The guyed V structure would be used for most tangent segments of the line. Self-supporting steel lattice structures would be used in mountainous areas and at points where a line changes direction or terminates. Tubular steel monopoles may be used in areas of narrow right-of-way or where permanent land disturbance or the amount of land required for the structure must be minimized (e.g., agricultural land, developed and urban land, and some river and perennial stream crossings). The land permanently required for the structures would vary depending on structure type and terrain, ranging from 100 square feet for steel monopoles to 22,500 square feet for the guyed V structures. An area of approximately 200 by 200 feet (0.9 acre) per structure may be temporarily disturbed during construction.

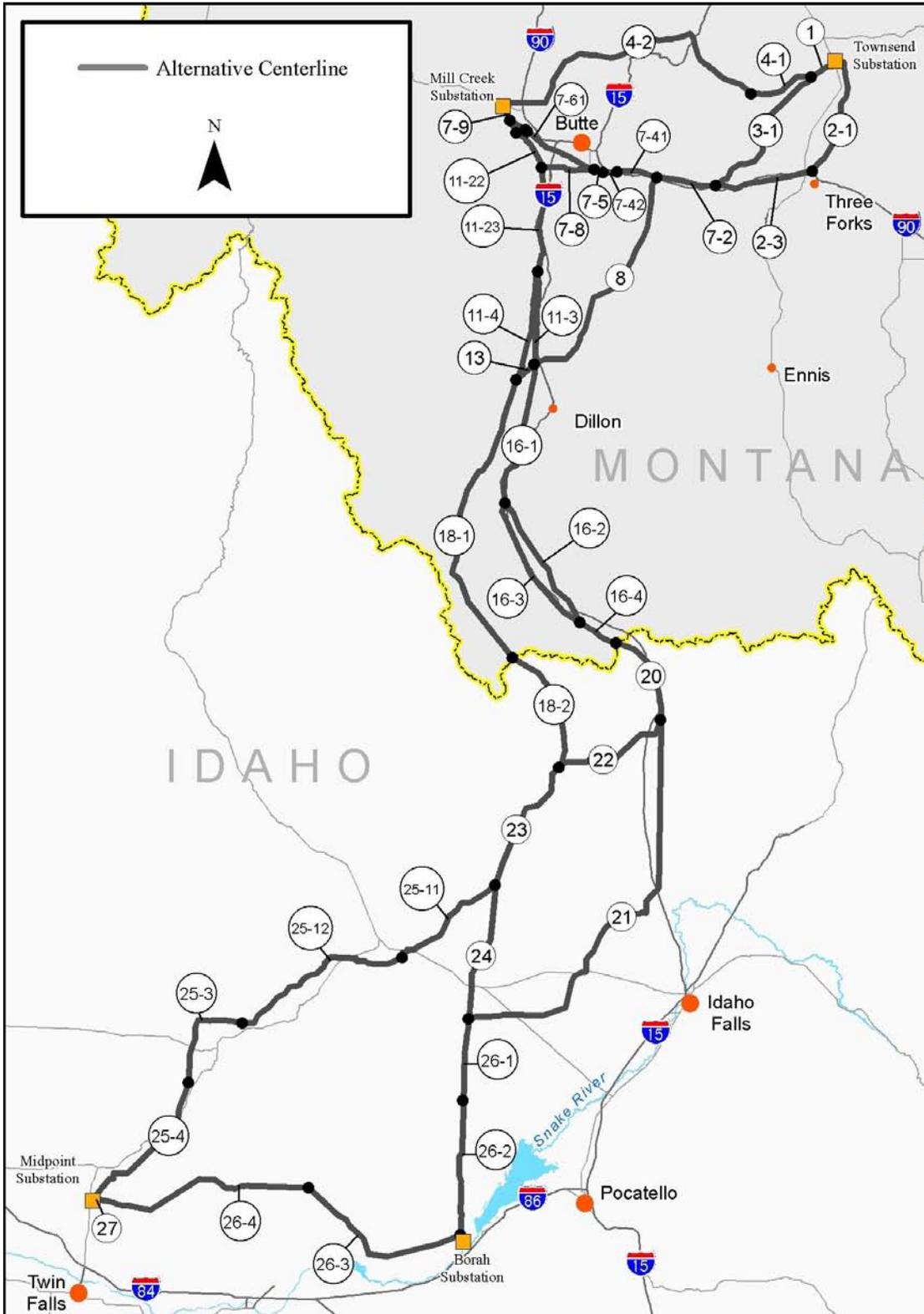


Figure 1.1-1 Project Area and Alternative Transmission Line Routes

The required right-of-way width is 220 feet and the average span length between the transmission structures would be approximately 1,400 feet (4 per mile) for the guyed V structures, 1,200 feet (4 per mile) for the self-supporting steel lattice structures, and 900 feet (6 per mile) for the self-supporting tubular steel monopole structures.

Access along the transmission line right-of-way would include using existing improved roads, using existing roads that require improvement, and building new roads in flat, sloping, steep, or very steep terrain. Permanent new roads would be graded to a travel service width of 14 feet.

In addition, during construction of the transmission line there would be temporary pulling and tensioning sites, material staging sites, and concrete batch plants.

1.1.2 New Townsend Substation

The new Townsend 500kV substation would be located in southwestern Montana, five miles south of Townsend, Montana, east of US 287 in Broadwater County, Montana. The current land use of the site is center-pivot irrigation. The parcel contains agricultural outbuildings and a residence, located about 1,030-feet south of the substation site. Adjacent land use is a mixture of center-pivot irrigation and pasture. The total size of the Townsend Substation site would be approximately 52 acres

1.1.3 MILL CREEK SUBSTATION

A new facility would be built adjacent to NorthWestern's existing Mill Creek Substation, located approximately three miles south of Anaconda, Montana. The proposed facility would be built to accommodate a bank of phase shifting transformers and other series capacitor banks and associated substation equipment. The MSTI 500kV line would not connect directly to or require modification of the existing substation. Engineering studies will be completed to determine the final layout of this new facility.

1.1.4 MIDPOINT SUBSTATION MODIFICATIONS

IPCO's existing Midpoint Substation located 10 miles north of Interstate 84 (I-84) in Jerome County, Idaho would be modified to accommodate the new MSTI 500kV transmission line. Engineering studies with IPCO will be completed to determine the ultimate modifications required at the Midpoint substation.

1.2 LAND USE OVERVIEW

The purpose of the land use study is to inventory land uses and to assess the potential land use impacts of each of the proposed alternative route links and substations. The inventory team compiled data for land uses within a 4-mile wide study corridor, two miles on each side of the assumed centerline of each alternative route link.

Over 1,100 miles of alternative route links were inventoried and assessed to site transmission line alternatives. Siting areas for substations are located to accommodate possible alternative route links.

The transmission line alternative route links pass through numerous jurisdictions, land use types, and landscapes within the states of Montana and Idaho.

Both public and private lands are found within the study area. Public land is owned and managed by

the BLM, USFS, Bureau of Reclamation (Reclamation), National Park Service (NPS), Department of Energy (DOE), Montana Department of Transportation (MDT), Idaho Transportation Department (ITD) Montana Fish, Wildlife and Parks (MFWP), Idaho Department of Fish and Game (IDFG), Idaho Department of Parks and Recreation (IDPR), Montana Department of Natural Resources and Conservation (MDNRC), Idaho Department of Lands (IDL), and various local governments.

Land uses encountered within the study area include communities, farms and ranches, rural residences, agriculture and rangeland (i.e., crops and livestock), range improvements, mines and mining claims, energy and communication facilities, transportation systems, utility rights-of-way, preservation areas, and developed/dispersed recreation. Developed recreation facilities include campgrounds, day use areas, picnic areas, boat launches, and public and private parks. Dispersed recreation activities include hiking, biking, fishing, hunting, camping, sightseeing, and off-highway vehicle (OHV) use.

The communities of Butte, Whitehall, and Lima in Montana and the communities of Atomic City, Butte City, Dietrich, Hamer and Richfield in Idaho are the only incorporated communities identified within the study area. Unincorporated communities and population centers include residential subdivisions and rural agricultural areas.

Landscapes in the study area are generally characterized as:

- Agriculture and range lands
- Sage scrub and grasslands in flat to slightly rolling basins
- Forested mountains
- Rugged, rocky mountain ranges and wide, flat basins

Highways and roads include Interstate highways, U.S. highways, Montana and Idaho state highways and secondary roads, county and other local roads, and USFS and BLM roads.

1.3 RESOURCE ISSUES

Significant land use issues within the study area are described in the Impact Results section of this document (Section 6.0). Land use effects associated with the proposed construction and operation of the MSTI project include concerns about and potential impacts to:

- Residences.
- Improvements (right-of-ways) across private agricultural land, direct physical conflicts with active agricultural operations, irrigation facilities, etc.
- Military Operating Areas (MOAs) and other airspace (Transmission structure heights represent potential operational conflicts with military use of airspace).
- Parks, recreation, and preservation areas (e.g., potential degradation of Wilderness Study Areas (WSAs), Areas of Critical Environmental Concern (ACECs), Recommended Wilderness, Inventoried Roadless Areas (IRAs), Special Recreation Management Areas (SRMAs) and other special management areas; conflicts with the Craters of the Moon National Monument and Preserve in Idaho).

- National Trails (i.e., potential degradation of recreation experience sought by users of the Lewis and Clark National Historic Trail and Continental Divide National Scenic Trail).
- Idaho National Laboratory (INL) (i.e., security, emergency services, right-of-way, safety, and interference with ongoing projects associated with the INL).

1.4 STUDY PERSONNEL

Mark Schaffer was the principal investigator for the land use environmental studies performed for the Project. Mr. Schaffer has managed or participated in approximately 45 land use studies related to transmission line siting including the Fort Peck-Havre 230 kilovolt (kV) Transmission Line Environmental Impact Statement (EIS), Great Falls-Conrad 230kV Transmission Line EIS, Montanore Mine EIS, Roundup Power Project EIS, and Silver Bow Generation Project EIS. Mr. Schaffer has a Bachelor of Science (BS) degree in Geography and a Master of Science degree in Industrial Hygiene.

Jeff Maffuccio assisted in a number of phases of the land use studies. Mr. Maffuccio has a BS in Urban Planning and has worked on several land use studies.

2.0 REGULATORY FRAMEWORK

This section presents a general description of the regulations, plans, and standards applicable to land use within the study area.

2.1 FEDERAL REGULATIONS, PLANS AND STANDARDS

2.1.1 NATIONAL ENVIRONMENTAL POLICY ACT

The MSTI project is subject to the National Environmental Policy Act (NEPA) (42 USC 4321 et seq.), which requires federal agencies to assess, consider, and disclose the impacts that their actions may have on the environment.

2.1.2 ENERGY POLICY ACT OF 2005, SEC. 368. ENERGY RIGHT-OF-WAY CORRIDORS ON FEDERAL LAND

Section 368 of the Energy Policy Act of 2005 requires, among other things, the designation of energy corridors on federal lands in 11 western states (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming); the establishment of procedures to ensure that additional corridors are identified and designated as necessary; and the expediting of applications to construct or modify oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities. An energy corridor is defined as a parcel of land (often linear in character) that has been identified as being a preferred location for existing and/or future utility right-of-ways and that is suitable for accommodating one or more rights-of-way that are similar, identical, or compatible. Energy corridors may accommodate multiple pipelines (such as those for oil, gas, or hydrogen), electricity transmission lines, and related infrastructure (such as access and maintenance roads, compressors, pumping stations, and other structures).

Corridor designation and associated BLM and USFS plan amendments are based on the following direction provided in Section 368:

“The Secretary of Agriculture, the Secretary of Commerce, the Secretary of Defense, the Secretary of Energy, and the Secretary of the Interior, in consultation with the Federal Energy Regulatory Commission, states, Tribal or local units of governments, as appropriate, affected utility industries, and other interested persons, shall consult with each other and shall:

1. Designate, under their respective authorities, corridors for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities on federal land in the eleven contiguous Western States (as defined in Section 103(o) of the Federal Land Policy and Management Act of 1976 (43 USC 1702(o));
2. Perform any environmental reviews that may be required to complete the designation of such corridors; and
3. Incorporate the designated corridors into the relevant agency land use and resource management plans or equivalent plans.”

Congress also addressed the need for the agencies to establish procedures that could potentially increase the efficiency of using designated corridors for energy transport projects. Because of the

critical importance of improving the western electrical transmission grid, Congress specifically directed the agencies to consider the need for upgraded and new facilities to deliver electricity throughout the western states. Finally, Congress directed the agencies to make the designated energy corridors useful to potential applicants by stating that designated corridors “at a minimum specify the centerline, width, and compatible uses of the corridor.”

Section 368 *does not* require that the agencies consider or approve specific projects, applications for right-of-way or other permits within designated energy corridors. Importantly, Section 368 *does not* direct, license, or otherwise permit any on-the-ground activity of any sort. If an applicant is interested in obtaining an authorization to site a project within any corridor designated under Section 368, the applicant would have to apply for a right-of-way authorization, and the agencies would consider each application by applying appropriate project-specific reviews under requirements of laws and related regulations including, but not limited to, the NEPA, the Clean Water Act (CWA), the Clean Air Act (CAA), Section 7 of the Endangered Species Act (ESA), and Section 106 of the National Historic Preservation Act (NHPA).

The West-Wide Energy Corridor Draft Programmatic Environmental Impact Statement (PEIS) Draft PEIS released in November 2007) is being prepared to address the environmental impacts associated with the proposed energy corridors. The DOE and BLM are the lead agencies in preparation of the Draft PEIS, and the USFS, Department of Defense (DOD), and U.S. Fish and Wildlife Service (USFWS) are among the cooperating agencies. The energy corridors addressed in the West-Wide Energy Corridor Draft PEIS and associated parameters are identified in Tables 2.1-1 – 2.1-8 and discussed in further detail in Appendix A.

2.1.3 NATIONAL FOREST MANAGEMENT ACT

The National Forest Management Act (NFMA), passed in 1976, requires the USFS to prepare Forest Plans (FPs) and regulations to guide development in National Forests.

USFS Land and Resource Management Plans (LRMPs) provide strategic direction by goals and objectives for management of a National Forest developed through agency and public involvement. Land and resource management direction consists of goals, objectives, and management requirements (standards and guidelines). Goals and objectives provide broad, overall direction regarding the type and amount of goods and services the National Forests provide and focus on achieving ecosystem health and ecological integrity. Management requirements set minimum standards that must be met or exceeded while achieving the goals and objectives. Administrative requirements also establish broad multiple-use management direction and generally apply to all areas of the National Forests. Standards are actions that must be followed or are required limits to activities in order to achieve objectives. Site-specific deviations from standards must be analyzed and documented in management plan amendments. Guidelines are advisable actions that should be followed to achieve National Forest goals and objectives. Deviations from guidelines must be analyzed during project-level analysis and documented in a project decision document, but do not require management plan amendments. The USFS decides whether or not to grant a Special Use Permit (SUP) for new right-of-ways across a National Forest. Designated and/or proposed/potential utility corridors have been identified in the study area as they relate to USFS planning documents (see Tables 2.1-1 and 2.1-3).

2.1.3.1 Montana

Designated and/or proposed utility corridors on USFS land in the Montana portion of the MSTI study area and the relevant potential parameters are summarized in Tables 2.1-1 and 2.1-2. Additional information can be found in Appendix A.

Table 2.1-1 Designated and Proposed/Potential Utility Corridors on USFS Lands within the Montana Portion of the MSTI Study Area

National Forest	FP/LRMP	Designated Utility Corridor(s)	West-Wide Energy Corridor Draft PEIS Energy Corridor(s) within National Forest Boundary
Beaverhead-Deerlodge	Beaverhead FP (1986)	No	No
	Deerlodge FP (1987)	No	No
	Beaverhead-Deerlodge National Forest Revised Draft Forest Plan (2008)	Yes	Corridors 50-260, 51-204 and 51-205

Table 2.1-2 Section 368 West-Wide Energy Corridor Draft PEIS Parameters for USFS Lands in the Montana Portion of the MSTI Study Area.

National Forest	Land Use Plan to Be Amended	Corridor Segment	Description
Beaverhead-Deerlodge	Beaverhead-Deerlodge National Forest Plan	50-260	31.5 miles, 2,640 feet, multimodal
		51-204	13.4 miles, 3,500 feet, multimodal
		51-205	9.0 miles, 3,500 feet, multimodal

Source: West-Wide Energy Corridor Draft Programmatic EIS (October 2007)

2.1.3.2 Idaho

Designated and/or proposed utility corridors on USFS land in the Idaho portion of the MSTI study area and relevant potential parameters are summarized in Tables 2.1-3 and 2.1-4 (See Appendix A for more detail).

Table 2.1-3 Designated and Proposed/Potential Utility Corridors on USFS Lands within the Idaho Portion of the MSTI Study Area

National Forest	FP/LRMP	Designated Utility Corridor(s)	West-Wide Energy Corridor Draft PEIS Energy Corridor(s) within National Forest Boundary
Caribou-Targhee	Targhee FP (1997)	No	Corridors 50-203 and 50-260
Challis	Challis LRMP (1987)	No	No

Table 2.1-4 Section 368 West-Wide Energy Corridor Draft PEIS Parameters for USFS Lands in the Idaho Portion of the MSTI Study Area

National Forest	Land Use Plan to Be Amended	Corridor Segment	Description
Caribou-Targhee	Targhee FP	50-203	16.7 miles, 3,500 feet, multimodal; 5.6 miles, 600 feet, multimodal; 0.1 mile, 2,640 feet, multimodal
		50-260	27.8 miles, 3,500 feet, multimodal; 5.0 miles, 600 feet, multimodal

Source: West-Wide Energy Corridor Draft Programmatic EIS (October 2007)

2.1.4 FEDERAL LAND MANAGEMENT POLICY ACT OF 1976

Pursuant to the Federal Land Policy and Management Act of 1976 (FLPMA), a right-of-way grant is required for construction and operation of any portion of a proposed power line that crosses public lands managed by the BLM.

The BLM prepares comprehensive land use plans to guide management decisions and actions on public lands. Use of public lands in the study area are planned and regulated by the BLM through its Management Framework Plans (MFPs) and Resource Management Plans (RMPs) for their planning areas. Before 1985, BLM's land use plans were called MFPs. MFPs represent planning decision documents which establish, for a given planning area, land use allocations, coordination guidelines for multiple use, and management objectives to be achieved for each class of land use or protection. Since 1985, BLM's land use plans are called RMPs. RMPs are prepared for relatively large areas of public lands, called planning areas, that tend to have similar resource characteristics. These planning areas usually coincide with BLM's field office boundaries. RMPs, as prescribed by FLPMA, direct the use and allocation of public lands and resources managed by BLM. RMPs are also prepared for BLM-managed National Monuments and National Conservation Areas, which are components of the National Landscape Conservation System. Designated or proposed/potential utility corridors have been identified in the project area as they relate to BLM planning documents (Tables 2.1-5 and 2.1-7; see also Appendix A).

2.1.4.1 Montana

Designated and/or proposed utility corridors on BLM Public land in the Montana portion of the MSTI study area and relevant potential parameters are summarized in Tables 2.1-5 and 2.1-6 (See Appendix A).

Table 2.1-5 Designated and/or Proposed/Potential Utility Corridors on BLM Public Land within the Montana Portion of the MSTI Study Area

Field Office	MFP/RMP	Designated Utility Corridor(s)	West-Wide Energy Corridor Draft PEIS Energy Corridor(s) within Field Office Boundary
Butte	Headwaters RMP (1984)	Yes	Corridors 51-204 and 51-205
	Dillon MFP (1979)	No	No
	Butte RMP (Under revision: FY2004-FY2008)	Yes	No
Dillon	Dillon RMP (2006)	Yes	Corridors 50-51, 50-203 and 50-

Table 2.1-6 Section 368 West-Wide Energy Corridor Draft PEIS Parameters for BLM Public Land in the Montana Portion of the MSTI Study Area

Field Office	Land Use Plan to Be Amended		Corridor Segment	Description
Dillon	Dillon RMP		50-203	7.9 miles, 2,640 feet, multimodal
			50-260	31.5 miles, 2,640 feet, multimodal
			50-51	4.9 miles, 2,640 feet, multimodal
Butte	Headwaters RMP		51-204	13.4 miles, 3,500 feet, multimodal
			51-205	9.0 miles, 3,500 feet, multimodal

Source: West-wide Energy Corridor Draft Programmatic EIS (October 2007)

2.1.4.2 Idaho

Designated and/or proposed utility corridors on BLM public land in the Idaho portion of the MSTI study area and relevant potential parameters are summarized in Tables 2.1-7 and 2.1-8 (see also Appendix A).

Table 2.1-7 Designated and Proposed/Potential Utility Corridors on BLM Public Land within the Idaho Portion of the MSTI Study Area

Field Office	MFP/RMP	Designated Utility Corridor(s)	West-Wide Energy Corridor Draft PEIS Energy Corridor(s) within Field Office Boundary
Pocatello*	Pocatello RMP (1988)	No	No
Upper Snake**	Medicine Lodge RMP (1985)	No	Corridors 50-203 and 50-260
	Big Desert MFP (1981)	No	Corridors 50-203 and 252-253
	Big Lost MFP (1983)	No	
	Little Lost-Birch Creek MFP (1981)	Yes	Corridor 50-260
Shoshone	Monument RMP (1985)	No	Corridors 36-112, 49-112 and 112-226
	Craters of the Moon National Monument Plan (2006)	No	
(cont.)	Magic MFP (1975)	No	
	Bennett Hills MFP (1976)	No	
	Timmerman Hills MFP (1976)	No	
	Sun Valley MFP (1981)	No	
Burley	Monument RMP (1985)	No	Corridors 49-112 and 49-202

*Pocatello RMP under revision. Draft Pocatello RMP and EIS released. **Notice of Intent issued February 28, 2008. BLM intends to prepare a RMP and associated EIS for the Upper Snake Field Office of the Idaho Falls District. The RMP will replace the following land use plans: Big Desert MFP, Big Lost MFP, Little Lost-Birch Creek MFP, and the Medicine Lodge MFP.

Table 2.1-8 Section 368 West-Wide Energy Corridor Draft PEIS Parameters for BLM Public Land in the Idaho Portion of the MSTI Study Area

Field Office	Land Use Plan to Be Amended	Corridor Segment	Description
Upper Snake	Big Desert MFP	252-253	26.8 miles, 3,500 feet, multimodal
		50-203	16.7 miles, 3,500 feet, multimodal; 5.6 miles, 600 feet, multimodal; 0.1 mile, 2,640 feet, multimodal
	50-260	27.8 miles, 3,500 feet, multimodal; 5.0 miles, 600 feet, multimodal	
	Medicine Lodge RMP	50-203	16.7 miles, 3,500 feet, multimodal; 5.6 miles, 600 feet, multimodal; 0.1 mile, 2,640 feet, multimodal
		50-260	27.8 miles, 3,500 feet, multimodal; 5.0 miles, 600 feet, multimodal
	Burley	Monument RMP	49-112
49-202			17.5 miles, 3,500 feet, multimodal
Shoshone	Monument RMP	112-226	33.2 miles, 3,500 feet, multimodal
		36-112	16.3 miles, 3,500 feet, multimodal
		49-112	43.9 miles, 3,500 feet, multimodal

Source: West-Wide Energy Corridor Draft Programmatic EIS (October 2007)

2.1.5 NATIONAL WILDERNESS PRESERVATION SYSTEM: WILDERNESS STUDY AREAS

In Section 603 (a) of FLPMA, Congress directed BLM to identify potential wilderness areas in lands under its jurisdiction. The areas were to have characteristics of wilderness as defined in the Wilderness Act of 1964:

A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this chapter an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily

by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least 5,000 acres of land, either by itself or in combination with contiguous areas possessing wilderness characteristics, or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value (Public Law (PL) 88-5 77, Section 2[c]).

BLM reviews all proposals for uses and/or facilities within a WSA for consistency with the non-impairment standard. BLM Manual 8550 – Interim Management Policy and Guidelines for Lands under Wilderness Review (H-8550-1) further defines the non-impairment standard. This standard has the following criteria:

(a) The use, facility, or activity must be temporary. This means a temporary use that does not create surface disturbance or involve permanent placement of facilities may be allowed if such use can easily and immediately be terminated upon wilderness designation, at which time the use must cease and/or the facility must be removed. "Surface disturbance" is any new disruption of the soil or vegetation, including vegetative trampling, which would necessitate reclamation...

(b) When the use, activity, or facility is terminated, the wilderness values must not have been degraded so far as to significantly constrain the Congress's prerogative regarding the areas suitability for preservation as wilderness. The wilderness values to be considered are those mentioned in Section 2(c) of the Wilderness Act of 1964.

2.1.6 LAND AND WATER CONSERVATION FUND ACT, 16 U.S.C., SECTION 460, 1-8

The Land and Water Conservation Fund (LWCF) is a conservation program established by Congress in 1964 to create parks and open spaces; to protect wilderness, wetlands and refuges; to preserve wildlife; and to enhance recreational opportunities. The NPS Intermountain Regional Office (Montana) and Pacific West Regional Office (Idaho) administer the LWCF program. Property acquired or developed with LWCF assistance is to be retained and used for public outdoor recreation. Conversions of properties under Section 6(f)(3) of the LWCF Act occur when a project or use eliminates or diminishes the public outdoor recreation of protected lands.

Typical types of conversions are:

- Property interests are conveyed by the project sponsor to another party for full or partial control of the land, which would result in uses other than public outdoor recreation as approved by NPS. This includes granting any control of the land, such as through easements, rights-of-way, and leases, for the construction and maintenance of a utility line, pipeline, irrigation ditch, road, or similar facility. It applies to above and below ground impacts.
- Non-outdoor recreation uses (public or private) are made of the project area, or a portion of it. This could include the construction of structures or facilities by the project sponsor or others which would not be compatible with the existing outdoor recreation uses.

A possible exception could occur if the project sponsor, without relinquishing any control

over the area, would allow another party to construct an underground utility or similar development. This would apply if the construction would not impair the present and future recreational use of the property and the surface area would be restored to allow for outdoor recreational use. A temporary construction permit must be prepared and no permanent transfer of property rights may occur.

The above actions are not all-inclusive and other kinds of actions could result in a Section 6(f) conflict. The authority to make a final determination as to whether a potential section 6(f) conflict exists rests with the NPS.

In certain situations a conversion cannot be avoided and the approval of NPS must be sought. Land that is converted must be replaced with land of equal value, usefulness, and location. Repayment of the amount of LWCF assistance in lieu of replacement property will not be allowed, nor will construction of replacement facilities.

2.1.7 FEDERAL AVIATION ADMINISTRATION

All airports and navigable airspace not administered by the DOD are under the jurisdiction of the Federal Aviation Administration (FAA). For any construction projects that would result in obstructions to navigable airspace, Federal Regulation Title 14 §77 establishes the standards and notification requirements set forth by the FAA. This regulatory process would require NWE to file for permit(s) to construct the Project near airports. The FAA requires applicants to submit FAA form 7460-1, *Notice of Proposed Construction or Alteration* and receive approval prior to earth disturbance associated with the project. Title 14 Section 77.13 states that an aviation obstruction could be created if any equipment is positioned such that it would be more than 200 feet above the ground or if an object would penetrate the imaginary surface extending outward and upward at a ratio of 100 to 1 from a public or military airport runway out to a horizontal distance of 20,000 feet (approximately 3.78 miles) (FAA, 2006). In addition, the FAA has restrictions on helicopter flights within 1,500 feet of residential dwellings. Helicopter flights within this area require a Helicopter Lift Plan.

2.1.8 FEDERAL COMMUNICATIONS COMMISSION

Federal Communications Commission (FCC) regulations require that transmission lines be operated so that radio and television reception would not be seriously degraded or repeatedly interrupted. Further, FCC regulations require that the operators of these devices mitigate such interference.

2.2 STATE REGULATIONS, PLANS AND STANDARDS

2.2.1 MONTANA

2.2.1.1 Montana Major Facility Siting Act

The Montana Major Facility Siting Act (MFSA), Title 75, chapter 20, Montana Code Annotated (MCA), was enacted by the State of Montana in 1973 to provide a certification process for the location, construction, and operation of certain energy facilities, including pipelines, electric transmission lines, and geothermal facilities.

2.2.1.2 Montana Environmental Policy Act

The Montana Environmental Policy Act (MEPA), Title 75, chapter 1, part 2, MCA, was enacted by

the State of Montana in 1971 to ensure that governmental agencies in Montana give proper consideration to environmental quality when making decisions on actions that may impact the environment. MEPA was patterned almost word for word after NEPA (Montana Environmental Quality Council 2006).

2.2.1.3 Montana Department of Natural Resources and Conservation, Title 77, MCA

The MDNRC licenses structures and improvements on state lands and across navigable water bodies (Land Use License DS-432).

2.2.1.4 Montana Department of Natural Resources and Conservation, 85-2-402 and 85-2-407, MCA

This regulation allows the authorization of construction prior to an easement grant by the Board of Land Commissioners (Pre-construction Authorization).

2.2.1.5 State Transportation Permits

The use of Montana state highway rights-of-way for other than transportation purposes requires an encroachment permit from MDT. Also, any Project requirement to transport oversize or overweight loads would require approval from MDT.

2.2.2 IDAHO

2.2.2.1 Idaho Public Utilities Commission

The Idaho Public Utilities Commission issues Certificates of Convenience and Necessity for new electric transmission lines in counties where the utility wishes to construct a transmission line. The determination for permit issuance is based on whether or not a clear need for the facility has been demonstrated. The location of a line is based on an agreement struck between the utility and landowners unless condemnation action is necessary. Because much of the land is publicly held, these agreements often involve negotiations with state and federal land management agencies.

2.2.2.2 State Transportation Permits

The use of Idaho state highway rights-of-way for other than transportation purposes requires an encroachment permit from ITD. Also, any Project requirement to transport oversize or overweight loads would require approval from ITD.

2.3 LOCAL REGULATIONS AND AGENCIES

2.3.1 LOCAL LAND USE PLANS

Use of privately owned lands in the study area are planned and regulated by local governments. Right-of-way easements on private lands are acquired through negotiations with landowners. County utility corridor comprehensive plan/growth policies, permit requirements, and applicable discussions are presented in Tables 2.3-1 and 2.3-2.

2.3.1.1 Montana

In Montana, land use planning authority resides at the local level. Local jurisdictions have the authority to address land use planning through three authorities: 1) implementation of a growth policy under the Local Planning Enabling Act (76-1-101 et seq., MCA) to comprehensively plan for future growth and development; 2) development of zoning and permitting regulations; and 3) adoption of subdivision laws. A growth policy is required by Montana law for changes to be made to zoning and development regulations. The growth policies do not have regulatory authority, but guide community development regulations and ultimately replace comprehensive plans.

Table 2.3-1 County Utility Corridor Comprehensive Plan/Growth Policies and Permit Requirements within the Montana Portion of the Project Area

County	Comprehensive Plan/Growth Policy	Utility Corridor Comprehensive Plan/Growth Policy	Use Permit Requirement
Powell	Powell County Growth Policy (revised 2006)	No	Conditional Use Permit
Beaverhead	Beaverhead County Growth Policy (2005)	No	No
Deer Lodge	Anaconda-Deerlodge County Growth Policy (2005)	Yes – Encourage the use of existing utility corridors.	Development Permit
Silver Bow	Butte-Silver Bow Comprehensive Master Plan (1995)	No	No
Broadwater	Broadwater County Growth Policy (2003)	No	No
Gallatin	Gallatin County Growth Policy (2003)	No	No
Jefferson	Jefferson County Growth Policy (2003)	No	No
Madison	Madison County Growth Policy (2006), An Amendment of the Madison County Comprehensive Plan	No – Madison County Comprehensive Plan, 1999 Update, provides that transportation and utility improvements will be made in a manner that maintains and supports, and does not negatively impact, the viability of agriculture.	Tower Permit (100 feet or more above ground level)

2.3.1.2 Idaho

Land use and development in unincorporated areas of Idaho are through application of comprehensive plan policies and zoning, subdivision and other ordinances and standards. County comprehensive plans serve as a decision-making framework and policy guide for decisions concerning the future physical development of the county and facilities as well as the services that support that development.

The comprehensive plan typically identifies overall goals and objectives, as well as more specific policies related to future growth, development and service provision, as well as actions needed to implement the goals, objectives and policies.

Consistent with Idaho law, the plan provides the policy basis for the county's zoning ordinance, which contains the specific standards and requirements and processes for making land use and development decisions. In addition, areas of city impact are areas outside of the municipal boundaries of incorporated cities in which future development cause an impact upon that city. The Idaho Local Planning Act (Idaho Code § 67-6500) requires that cities and the county enter into agreements which have been mutually decided upon, determining what lands should be included within the area of impact and what laws and regulations should apply.

Table 2.3-2 County Utility Corridor Comprehensive Plan/Growth Policies and Permit Requirements within the Idaho Portion of the Project Area

County	Comprehensive Plan/Policy	Utility Corridor Comprehensive Plan/Policy	Use Permit Requirement
Butte	Butte County Comprehensive Plan (2006)	No - Major transmission facilities should be kept out of the residential areas. Communication between the County, private landowners and the utility company are essential to mitigate negative impacts.	No
Power	Power County Comprehensive Plan (1995)	No	Special/Conditional Use Permit
Blaine	No	No	Conditional Use Permit; Site Alteration Permit
Jerome	Jerome County Comprehensive Plan (1997)	No	No
Lincoln	Lincoln County Comprehensive Plan (2003)	No	Conditional Use
Minidoka	Minidoka County/City of Rupert Comprehensive Plan (2001)	Yes – Major transmission facilities should be kept out of residential areas. Communication between the county and city, private landowners and the utility companies is essential to mitigate negative impacts. To consult and plan with utility companies so that facilities installed may be located and designed to minimize impact where practical. To notify all utility companies of Planning and Zoning Commission decisions, and of the size and location of new developments.	No
Minidoka (cont.)			
Clark	No	No	Conditional Use Permit
Jefferson	Jefferson County Comprehensive Plan (2005)	No – Encourage the common use of utility corridors, including public rights-of-way where appropriate, by public and private utilities where common use can be achieved safely and effectively.	Conditional Use Permit
Bingham	Bingham County Comprehensive Plan (2005)	Yes – Coordinate planning for public services, facilities and utilities with the municipalities of the county and with irrigation companies and drainage districts to prevent interference with the delivery and drainage of irrigation water.	Special Use
Bonneville	Yes – Bonneville County Comprehensive Plan (2004)	No	No

*Utility discussion provided, where appropriate.

2.3.2 LOCAL TRANSPORTATION PERMITS

Local agencies would need to be consulted regarding required transportation permits on local roadways.

3.0 INVENTORY METHODS

The goal of the land use inventory was to identify, map, describe, and document the existing, planned, and designated land uses within the transmission line study area. Detailed data inventories were compiled to facilitate the assessment of potential land use impacts from the construction and operation of the Project 500kV transmission line.

Initially, base maps were prepared at a scale of 1:24,000. Data from a regional land use study completed in 2006 (see MFSA Application, Volume IV) and other environmental studies in the region were reviewed, refined, and updated. Existing maps from a variety of sources were collected and included in the inventory, as appropriate. Agency resource management and planning documents were reviewed for applicable data and land management regulations and policies.

Following this initial step in the inventory, key federal, state, and local land and resource management agencies were again contacted to update information and to solicit further input. These data were compiled and mapped utilizing a geographic information system (GIS).

The study used National Agriculture Imagery Program (NAIP) 2004/2005 color aerial photography, and national, state, and local agency GIS data layers to identify and more accurately assess surface land uses and land cover types.

3.1 STUDY COMPONENTS

The land use study was divided into five major components to facilitate the inventory and analysis of surface land uses, legislative designations, and land management policies:

- Land jurisdiction
- Existing and planned land use
- Parks, recreation, and preservation areas
- Transportation and access
- Minerals and energy

The **land jurisdiction** component identifies the primary owner or administrator of the lands crossed by the alternative route links. The individual holdings of private landowners were not specifically identified.

The **existing and planned land use** component identified the physical surface uses and legal designations by the landowner or administrator. Planned land uses are those uses of land to be carried out in the future or as guided by land use plans.

The **parks, recreation, and preservations areas** component identifies areas where the established or proposed land use is primarily for recreational enjoyment or to protect and preserve a valuable environmental resource.

The **transportation and access** component identifies the existing network of access to the lands in the study area.

The **minerals and energy** component includes those areas identified for exploration, development and production of energy resources. This component also includes mining claims. A mining claim is a legal designation of the land that implies some future potential for the extraction of minerals or patent into private ownership by some private or corporate entity. Mines can be developed from mining claims; however, many claims are never developed.

3.2 DATA SOURCES

During the regional study (POWER 2006; MFSA Application, Volume IV), numerous contacts with federal, state, regional, and local government agencies and organizations were made to solicit public input (POWER 2006). Many of these contacts provided land use data.

During the current study, some of the agencies and organizations directly affected by the alternative route links were again contacted to refine the detail of the land use database. Contacts were established by telephone, letter, e-mail, or personal interview to collect and verify specific land use data.

The baseline data for the land use study were gathered from a variety of sources, including published and unpublished literature (e.g., documents, reports, studies, maps); zoning ordinances; BLM MFPs, RMPs, and master title plats; USFS LRMPs; rural addressing systems; and computer assisted mass appraisal (CAMA) data. The Montana Department of Revenue CAMA database was used to delineate parcels of land and the associated taxable land and building values.

3.3 FIELD VERIFICATION

Field investigations in the study area were conducted to verify and supplement selected existing land uses between September 2007 and June 2008. Ground and aerial reconnaissance was aided by the use of selected Global Positioning System (GPS) readings.

3.4 DATA CATEGORIES

3.4.1 LAND JURISDICTION

Land jurisdiction refers to the limits of administrative authority maintained by a federal, state, or local governmental agency or organization. Jurisdiction does not necessarily imply land ownership.

Three predominant categories of jurisdictions inventoried within the study area (federal, state, and local) are described in sections 3.4.1.1 through 3.4.1.3.

3.4.1.1 Federal

- Public Land (BLM)
- National Forests (USFS)
- NPS Withdrawals
- USFWS Withdrawals
- DOE Lands
- Reclamation Withdrawals

PUBLIC LAND

The management authority for lands administered by the BLM was established by the FLPMA. This act allows multiple use and sustained yield of lands in accordance with BLM management plans. While any number of agreements, including lease agreements, management responsibility agreements or policies, may exist upon these lands, no attempt was made in this study to identify specific parcels affected by these agreements except for grazing allotments.

FLPMA states: “It is the policy of the United States that the public lands be retained in Federal ownership; unless as a result of the land use planning procedure. . .it is determined that disposal of a particular parcel will serve the national interest.” The Secretary of the Interior determines which public lands should be disposed of or retained for multiple use management. Lands available for disposal can be exchanged for state, county, municipal, or private lands. The Federal Land Exchange Program allows the BLM to consolidate their lands to facilitate the enhancement of management strategies.

The BLM manages a variety of lands including rangelands, forests, wetlands, and lakes. Land uses include livestock grazing; fish and wildlife development and utilization; oil, gas, and mineral exploration and development; right-of-ways; outdoor recreation; and timber production.

NATIONAL FORESTS

The Multiple Use Sustained Yield Act of 1960 established the authority of the USFS to administer and manage National Forests for outdoor recreational uses, range, timber, watershed, and wildlife purposes. The establishment and maintenance of Wilderness Areas in National Forests are consistent with the purposes and provisions of the Wilderness Act (1964), which declares that the various renewable resources of the National Forests are to be used in combinations that best meet the needs of the American people. Congress further strengthened this multiple-use concept with the passage of the NEPA and NFMA (see Section 2.0).

National Forests encompass aquatic and terrestrial ecosystems, including tropical and boreal forests, grasslands, and important wetlands. Other lands, including purchase units, research and experimental areas, and land utilization projects, make up the remainder.

NPS WITHDRAWALS

National parks and national monuments are lands withdrawn from the public domain by Congress. The NPS administers these withdrawals to protect and preserve natural, scenic, cultural, historic and geologic resources for present and future generations.

The agency currently manages national parks, national monuments, battlefields, military parks, historical parks, historical sites, lakeshores, seashores, recreation areas, reserves, preserves, and scenic rivers and trails.

USFWS WITHDRAWALS

National wildlife refuges and ranges are part of the National Wildlife Refuge System and are under the jurisdiction of the USFWS. Other lands, including waterfowl production areas, coordination areas, administrative sites, and national fish hatcheries, make up the remainder. Use of these lands must be compatible with their primary purpose, which is typically the propagation and preservation of wildlife. The following are excerpts from the USFWS 340 FW 3, Rights of Way and Road Closings:

3.3 “It is the policy of the Service to discourage the types of uses embodied in right of way requests. On areas in the National Wildlife Refuge System (System), if a right of way cannot be certified as compatible with the purposes for which a unit was established, it cannot be granted without authorization by Congress (50 CFR 29.21 (g)).”

3.6A(3) “A determination of compatibility or non-compatibility cannot be made in an arbitrary manner and such a determination must be supported by facts. The facts can best be presented in an environmental assessment (EA) or EIS. A determination of compatibility with the purposes of which a unit of the System was established must mean consideration only of wildlife values or project values, not of any broader social or economic concerns.”

3.6A(4) “For lands in the System, the file must contain a finding by the Regional Director that the proposed use is compatible as defined in 50 CFR 29.21 (g). If the proposed use cannot be certified as compatible, the permit or easement cannot be granted. The term “inconsistent” in Section 28(6)(1) of the Mineral Leasing Act of 1920, as amended, shall be deemed to mean a use that is “not compatible,” as “compatible” is defined herein (50 CFR 29.21 (g)). A compatibility determination is not required on Service lands other than those in the System (National Fish Hatcheries, Research Areas, and Administrative Sites).”

DOE LANDS

The majority of land controlled by DOE is “ingrant” acreage, including withdrawn public land; owned and leased acreages represent the remainder. Ingrant properties are those acquired for DOE use by lease, license, or permit. Lands are used for nuclear and energy research, science and national defense.

RECLAMATION WITHDRAWALS

Reclamation manages lands withdrawn from the public domain for power, watershed protection, reservoirs, flood control, water resources and water-oriented recreation purposes. Reclamation manages a number of federal facilities, including reservoirs, hydroelectric power plants, and recreation sites. The agency also provides water for irrigation.

3.4.1.2 State

MONTANA TRUST LANDS

Montana state trust land includes land under the administration of the MDNRC. Montana state trust lands are administered and managed for the benefit of the public schools and the other endowed institutions in Montana, under the direction of the State Board of Land Commissioners.

IDAHO ENDOWMENT LANDS

Idaho state endowment land includes land under the administration of the IDL. The IDL manages endowment lands to maximize long-term financial returns to the beneficiaries and to provide protection to Idaho's natural resources.

3.4.1.3 Local

Local lands include:

- Incorporated areas (city or community)
- Unincorporated areas (county)
- Private lands

INCORPORATED AREAS

Incorporated areas include cities, towns and communities that as a political subdivision of the state, have the authority to plan and control land uses, within an area of delineated boundaries. Under the authority delegated by the state, these local governments exercise control over the development of land through planning and zoning and subdivision ordinances and engage in long-range comprehensive planning. In addition, these local governments are empowered to annex adjoining private land.

UNINCORPORATED AREAS

Lands in the study area that do not fall under one of the above jurisdictional categories are inventoried as unincorporated areas. This includes small rural communities, dispersed private lands, and lands owned by local governments or school districts. Unincorporated areas typically fall under the jurisdiction of counties.

PRIVATE LANDS

For this analysis, private landowners were not individually identified, but were instead grouped together under “private lands.” Established outside boundaries of privately held land are depicted on project maps in lieu of more detailed in-holdings, lease agreements, and joint ownership. Privately owned lands may be subject to a local authority like a county or municipality.

3.4.2 EXISTING AND PLANNED LAND USE

Existing and planned land uses include the various surface structures, improvements and land use designations. Land use types identified in the study area are described in sections 3.4.2.1 to 3.4.2.6.

3.4.2.1 Urban/Developed

Urban /developed areas represent concentrations of surface disturbing land uses, which generally include residential, commercial, public/quasi-public, and industrial land uses. This classification is typically associated with, or part of, a defined city or town. The following categories, listed below, further differentiate between types of existing urban/developed land uses:

- Residential – Single-family dwellings and multiple-family dwellings (apartments and condominiums) in subdivisions as well as in rural areas, mobile homes, trailer parks, etc.
- Commercial - Uses in this category consist of convenience stores; feed, seed, automobile and machinery sales; service stations, retail stores; office buildings; bars; restaurants; motels; and other businesses.

- Public/Quasi-Public - This category includes school facilities, rural churches, post offices, fire stations, libraries, water treatment and sewage disposal facilities and other municipal utilities. This category also includes cemeteries.
- Industrial - Land uses of this nature may include manufacturing and processing facilities; warehouses and distribution centers; industrial parks; landfills; salvage yards; and other facilities. The category also includes electrical transmission facilities of 69kV and above; substations; and telecommunication towers such as commercial microwave, cellular and radio towers, county repeater towers and television towers.
- Linear Facilities – Uses in this category include electrical transmission lines, petroleum pipelines and other utility features.

3.4.2.2 Agriculture

Agriculture uses include identifiable irrigated and non-irrigated field crops, as well as rangeland/pasture land, Conservation Reserve Program (CRP) land, and other forms of agricultural production. Management of agricultural lands includes the use of GPS guided equipment and vehicles and equipment used for irrigation, aerial and ground based spraying, mechanical plowing, seeding, fertilizing, and harvesting. Some ground based equipment has “booms” extending on either side. Specific irrigation methods include center pivot, wheel line, hand line and flood. Sprinkler irrigation usually provides a more even distribution of water than other methods and can be used on rolling topography. Flood irrigation entails spreading water over a unit of land. Border dikes, cross-ditches, or water spreading systems are used to control the water.

Agricultural uses also include agriculture storage and farmstead categories. The agriculture storage category is comprised of abandoned farmsteads and uses related to agricultural storage, including grain, livestock or mechanical storage. Storage buildings or structures can range from grain bins to abandoned buildings, with no human occupancy. Uses in the farmstead category consist of residential dwellings that have adjacent agricultural operations, including agriculture buildings and/or family livestock operations.

Rangeland is primarily open lands consisting of grasslands, pasture, and shrublands, and is commonly used for livestock grazing. Grazing is permitted in specific allotments or through agreements and is managed by the BLM, USFS, State of Montana, State of Idaho, or private landowners. Rangeland structural improvement projects include wells, pipelines, troughs, fences, guzzlers, reservoirs, and cattle guards.

Some land may also be set aside under the CRP. The CRP is administered by the USDA Farm Service Agency (FSA) and encourages farmers to convert highly erodible cropland and other environmentally sensitive acreage to vegetative cover such as native grasses, wildlife plantings, trees, and riparian buffers.

Other forms of agricultural production consist of livestock operations (feedlots and confinements) and apiaries.

In addition, some agricultural land has been classified by the Natural Resources Conservation Service (NRCS) as Important Farmland (prime farmland, farmland of statewide importance, unique farmland or farmland of local importance). Classifications are based on criteria for soil characteristics, climatic conditions and water supply. The criteria include soil type, moisture content, water supply, soil temperature, acidity, salinity, depth, drainage, water table, flooding, slope, erodibility, permeability,

rock content, rooting depth, growing season, crop type and value and other economic factors.

The NRCS defines prime farmland as “land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, and oilseed crops.” This designation includes cultivated land, pasture, woodland, or other lands that are either used for food or fiber crops, or are available for these uses. Urbanized land, built-up land, and open water cannot be designated as prime farmland. Prime farmland typically contains few or no rocks, has an adequate and dependable water supply, is permeable to water and air, is not excessively erodible or saturated with water for long periods, and is not subject to frequent, prolonged flooding during the growing season. Soils that do not meet the above criteria may be considered prime farmland if the limiting factor is mitigated (e.g., by draining or irrigating).

The NRCS also recognizes unique farmland and farmland of statewide importance. Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops (e.g., citrus, tree nuts, olives, cranberries, fruits, and vegetables). It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods. Farmland of statewide importance is similar to prime farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for production of irrigated crops at some time during the four years before the mapping date. Soils are also designated by the NRCS as farmland of local importance, which include localized areas where there is a need for certain additional farmlands even though the lands are not identified as having national or statewide importance. These lands may be identified as farmland of local importance by a local agency or other concerned agencies or by local ordinance.

3.4.2.3 Military

The military classification category includes military land withdrawals and military airspace, including military operations areas (MOAs) and military training routes (MTRs).

- MOAs are defined as airspace designated for non-hazardous military activity such as acrobatics, air combat tactics and formation training. The designation informs and segregates non-participating instrument flight rules aircraft from the activity. Visual flight rules aircraft are not restricted from operating in military operations areas.
- MTRs are designated for military flight training at airspeeds in excess of 250 knots. There are two types of military training routes:
 - Instrument Flight Rules (IR) - for low-altitude navigation and tactical training below 10,000 feet and at airspeeds in excess of 250 knots at night and in foul weather.
 - Visual Flight Rules (VR) - for low-altitude navigation and tactical training below 10,000 feet at airspeeds in excess of 250 knots under visual flight rules.

MTRs with no segment above 1,500 feet above ground level (AGL) are designated with “VR” or “IR,” followed by a four digit number (e.g., VR1520, VR1521). MTRs with one or more segments above 1,500 feet AGL are identified by the route designation followed by a three digit number (e.g., VR540). The arrows on the route depicted on the charts show the direction of travel.

Military airspace classifications were derived from agency databases and FAA, National Aeronautical Charting Office Sectional Aeronautical charts at a scale of 1:500,000.

3.4.2.4 Air Facilities

Air facilities included public and private airports registered with the FAA. U.S. Department of Transportation (DOT) FAA, National Aeronautical Charting Office Sectional Aeronautical charts, at a scale of 1:500,000, were reviewed. In addition, private airports and airstrips that were easily identifiable on aerial photographs were mapped. Other air facilities may exist as part of agricultural operations and may utilize sparsely traveled roads as take-off and landing strips. There are also some locations on public lands that are occasionally used for aircraft landing and departure that, through such casual use, have evolved into backcountry airstrips. Backcountry airstrips receive occasional use by backcountry pilots to camp, explore, or use for safety purposes. Consideration is made for aircraft operations of BLM's National Office of Aviation and the USFS' Office of Fire and Aviation Management, which provide aircraft support for wildfire suppression and resource management missions on public lands.

3.4.2.5 Superfund Sites

The National Priorities List (NPL) documents sites which have been identified for priority remedial actions under the Superfund Program by the Environmental Protection Agency (EPA). The EPA uses the NPL as an informational tool to identify sites that may present a significant risk to public health and/or the environment. Sites included on the NPL undergo an initial assessment to determine whether further investigation to characterize the nature and extent of the public health and environmental risks associated with the site is necessary, and to determine what response action, if any, may be warranted. There are many stages of cleanup, including site study, remedy selection, remedy design, remedy construction, and post-construction. Activities undertaken early in the cleanup process focus on physically addressing those problems identified. Many NPL sites are large and complicated. These sites are often broken up into smaller areas to make cleanup easier and more manageable. These areas are called "Operable Units" or OUs. Inclusion of a site on the NPL does not necessarily mean that the EPA will require a response action.

3.4.2.6 Disturbed

Disturbed areas represent concentrations of unidentifiable surface disturbing land uses.

3.4.3 PARKS, RECREATION AND PRESERVATION AREAS

Existing and proposed parks, recreation, and preservation area land uses include, but are not limited to, areas that are either dedicated as park land by a governmental agency, are recognized as regionally significant recreational sites, or are designated unique or undisturbed natural areas. Parks, recreation, and preservation areas are managed by an array of different federal, state, and local level authorities.

3.4.3.1 Federal

Federal parks, recreation and preservation areas are managed by a variety of agencies. National parks, for example, are managed by the NPS. Other areas are managed by the USFS, BLM, and USFWS. Reclamation also provides recreational opportunities on federal lands, mainly through reservoirs that the agency manages.

BUREAU OF LAND MANAGEMENT

The BLM administers America's public lands. The BLM's stated mission is to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations.

The BLM offers visitors opportunities in the following areas: hunting, fishing, camping, hiking, boating, hang gliding, shooting, mountain biking, birding, visiting natural and cultural heritage sites, and OHV driving. Management direction for OHVs is provided in 43 CFR 8340, BLM Manual 8340, and the BLM National OHV Management Strategy. Resource management plans designate areas as open, closed, or limited to OHV use. In addition, the BLM administers a number of miles of fishable streams, acres of lakes and reservoirs, miles of floatable rivers, boating access points, national backcountry byways (rural scenic routes through areas with unique historic, cultural, or scenic resource values), and watchable wildlife sites. The BLM also manages segments of national scenic, historic, and recreational trails, as well as miles of multiple use trails used by motorcyclists, hikers, equestrians, and mountain bikers.

Recreation Management Areas

Recreation Management Areas (RMAs) are BLM's primary means of managing recreational use of the public lands. Public land falls within either a Special RMA (SRMA) or Extensive RMA (ERMA). SRMAs are areas that require a recreation investment, where more intensive recreation management is needed, and where recreation is a principal management objective. These areas often have high levels of recreation activity and valuable natural resources. ERMAs consist of areas in which recreation is nonspecialized and dispersed and does not require intensive management (although such areas may contain recreation sites). Although the primary management objective of an ERMA is not necessarily recreation, the large number of attractive recreation sites and areas make recreation management an important consideration.

As authorized by 43 CFR 2932, four types of uses exist for which special recreation permits (SRPs) are required: commercial use, competitive events, organized groups, and recreation use in special areas. The BLM issues SRPs for noncommercial use in certain special areas, including long-term visitor areas, river use, and backcountry hiking or camping areas. SRPs may be issued for 10 years or less, with annual renewal, after which time outfitters must reapply for permits. The permits are issued as a means of managing visitor use, protecting natural and cultural resources, and accommodating commercial recreational uses.

Natural Landscape Conservation System

The BLM operates the National Landscape Conservation System (NLCS), which protects four categories of federally designated areas:

NATIONAL MONUMENTS

This category includes National Monuments, National Conservation Area (NCAs) and Similar Designations. 'Similar designations' include National Recreation Areas, Cooperative Management and Protection Areas, Outstanding Natural Areas, and Forest Reserves.

A national monument is similar to a national park except that it can be declared a national monument without Congressional approval. National monuments receive less funding and afford fewer

protections to wildlife than national parks.

Another difference between a national monument and national park is the diversity in what is being protected; national monuments aim to preserve at least one unique resource but do not have the diversity of a national park, which protects a host of unique features.

National monuments are managed by the NPS, USFS, USFWS or BLM.

WILDERNESS AREAS

A Wilderness Area is an area of federal land designated by Congress and defined by the Wilderness Act of 1964 as a place “where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain.” Designation is aimed at ensuring that these lands are preserved and protected in their natural condition. Wilderness areas, which are generally at least 5,000 acres or more in size, offer outstanding opportunities for solitude or a primitive and unconfined type of recreation; such areas may also contain ecological, geological, or other features that have scientific, scenic, or historical value.

Areas within and extending beyond national parks, monuments or even National Forests can be part of wilderness areas, which have an even greater degree of protection than a national park would alone, although Wilderness Areas managed by the USFS and BLM often allow hunting. Human activities in the wilderness areas are restricted to scientific study and non-mechanized recreation; horses are permitted but motorized vehicles and equipment are not.

WILDERNESS STUDY AREAS

A Wilderness Study Area (WSA) is an area designated by a federal agency as having wilderness characteristics, thus making it worthy of consideration by Congress for wilderness designation. While Congress considers whether to designate a WSA as a permanent wilderness, the federal agency managing the WSA does so in a manner that prevents impairment of the WSA’s suitability for wilderness designation.

NATIONAL WILD AND SCENIC RIVERS

This category includes rivers in the NWSRS classified as wild, scenic or recreational. The National Wild and Scenic Rivers System (NWSRS) is a system of nationally designated rivers and their immediate environments that have outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, and other similar values and are preserved in a free-flowing condition. The system consists of three types of streams: (1) recreation—rivers or sections of rivers that are readily accessible by road or railroad and that may have some development along their shorelines and may have undergone some impoundments or diversion in the past; (2) scenic—rivers or sections of rivers free of impoundments with shorelines or watersheds still largely un-developed but accessible in places by roads; and (3) wild— rivers or sections of rivers free of impoundments and generally inaccessible except by trails, with watersheds or shore-lines essentially primitive and waters unpolluted.

Designation as a wild and scenic river is not the same as designation as a national park and does not generally confer the same level of protection as a wilderness area designation. Instead of enacting strict and mandatory conservation measures, the goal is often to preserve the character of a river.

National wild and scenic rivers are each managed by one or more agencies of the federal or state

government.

NATIONAL TRAILS

This category includes national historic trails and national scenic trails. A national historic trail includes historic trails and surrounding areas. A national scenic trail consists of trails of particular natural beauty. National historic trails and national scenic trails were authorized under the National Trails System Act of 1968 (P.L. 90-543) along with national recreation trails. National scenic trails and national historic trails may only be designated by an act of Congress.

Areas of Critical Environmental Concern

FLPMA defines an Area of Critical Environmental Concern (ACEC) as an area "within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards (43 CFR 1601.0-5 (a))." Private lands and lands administered by other agencies are not included in the boundaries of ACECs.

FLPMA states that the BLM will give priority to the designation and protection of ACECs in the development and revision of land use plans. ACECs differ from some other special designations in that designation by itself does not automatically prohibit or restrict other uses in the area. The special management attention is designed specifically for the relevant and important values, and therefore varies from area to area. The one exception is that a mining plan of operation is required for any proposed mining activity that would create surface disturbance greater than casual use within a designated ACEC (43 CFR 3809).

To qualify as a potential ACEC, both relevance and importance criteria outlined in 43 CFR 1610.7-2 must be met. These criteria are defined as:

- **Relevance.** Presence of a significant historic, cultural, or scenic value; a fish or wildlife resource or other natural system or process; or a natural hazard.
- **Importance.** The value, resource, system, process, or hazard must have substantial significance and value. This generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern.

OTHER BLM RECREATION SITES

Developed recreation sites on BLM land are relatively small, distinctly defined areas where facilities are provided for concentrated public use (i.e., campgrounds, picnic areas).

U.S. FISH AND WILDLIFE SERVICE

The USFWS is a unit of the Department of the Interior (DOI) that is dedicated to managing and preserving wildlife. Units in the USFWS include the National Wildlife Refuge System, a network of lands and waters managed to protect wildlife and wildlife habitat.

In addition to refuge status, the "special" status of lands within individual refuges may be recognized by additional designations, either legislatively or administratively. Special designation may also occur through the actions of other agencies or organizations. The influence that special designations may have on the management of refuge lands and waters may vary considerably.

A wide variety of special land designations currently overlay national wildlife refuges. Authority for designation of some special management area types (e.g., research natural areas) on refuges lies solely with the USFWS. Wilderness, on the other hand, must be legislatively designated by Congress. For most special management area types, responsibility is held by or shared with others.

Among the other varied special management area types found on refuges are cultural resources, historic sites, research natural areas, wilderness, wild and scenic rivers, NNLs, and national trails.

The following are excerpts from the USFWS 340 FW 3, Rights of Way and Road Closings:

3.3 “It is the policy of the Service to discourage the types of uses embodied in right of way requests. On areas in the National Wildlife Refuge System (System), if a right of way cannot be certified as compatible with the purposes for which a unit was established, it cannot be granted without authorization by Congress (50 CFR 29.21 (g)).”

3.6A(3) “A determination of compatibility or non-compatibility cannot be made in an arbitrary manner and such a determination must be supported by facts. The facts can best be presented in an environmental assessment (EA) or environmental impact statement (EIS). A determination of compatibility with the purposes of which a unit of the System was established must mean consideration only of wildlife values or project values, not of any broader social or economic concerns.”

3.6A(4) “For lands in the System, the file must contain a finding by the Regional Director that the proposed use is compatible as defined in 50 CFR 29.21 (g). If the proposed use cannot be certified as compatible, the permit or easement cannot be granted. The term “inconsistent” in Section 28(6)(1) of the Mineral Leasing Act of 1920, as amended, shall be deemed to mean a use that is “not compatible,” as “compatible” is defined herein (50 CFR 29.21 (g)). A compatibility determination is not required on Service lands other than those in the System (National Fish Hatcheries, Research Areas, and Administrative Sites).”

NATIONAL PARK SERVICE

The NPS manages national parks, many national monuments, and other conservation and historical properties with various title designations. It was created on by Congress through the National Park Service Organic Act (16 United States Code, sections 1, 2, 3 and 4) in order to “conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”

National parks are generally large natural places having a wide variety of attributes, at times including significant historic assets. Hunting, mining and consumptive activities are not authorized.

NATIONAL PRESERVES

A national preserve has characteristics normally associated with a national park, except that certain activities not allowed in national parks are permitted in preserves. These activities include public hunting, trapping, and oil and gas exploration/extraction. Most preserves are administered by the NPS. Many national preserves would qualify as national parks, except that they allow hunting.

NATIONAL NATURAL LANDMARKS

The NPS also administers the National Natural Landmarks (NNL) Program, and if requested, assists NNL owners and managers with the conservation of these sites. NNLs are nationally significant sites owned by a variety of land stewards, and participation in the program is voluntary. Established in 1962, the program aims to encourage and support voluntary preservation of sites that illustrate the geological and ecological history of the U.S., and to strengthen the public's appreciation of America's natural heritage. The NNL designation is made by the Secretary of the Interior after in-depth scientific study of a potential site; all new designations must have owner permission.

U.S. FOREST SERVICE

The USFS administers the nation's National Forests and national grasslands. Forests are classed into general or special interest areas, the latter listed as scenic areas, palaeontological areas, geological areas, botanical areas and zoological areas. The USFS also manages wilderness areas, national recreation areas, national wild and scenic rivers, national monuments, and research natural areas.

National Forests are organized into ranger districts employing district rangers and other personnel. The districts construct and maintain trails, operate campgrounds, regulate grazing, patrol wilderness areas, protect culturally significant heritage sites, and manage vegetation and wildlife habitat. The USFS also has Regional Research Stations that study the ecosystems of the National Forests. The USFS also provides funding and technical assistance to non-federal land owners through a branch called State and Private Forestry.

RECOMMENDED WILDERNESS

When revising FPs, National Forests are required to evaluate Inventoried Roadless Areas (IRAs) to assess their wilderness characteristics, and to make recommendations to Congress regarding areas suitable for inclusion into the National Wilderness Preservation System. Through the Wilderness Act of 1964 (PL 88-577), Congress created the National Wilderness Preservation System (NWPS or Wilderness System) to provide protection for lands relatively untouched by human activity. Under this Act, the Department of Agriculture is directed to recommend "primitive" areas suitable for addition to NWPS.

The USFS can only recommend wilderness allocations to Congress via FPs and only Congress can designate wilderness through the legislative process. Recommendations and designation are often very controversial, and Congress may defer the issue for many years before taking action. In the interim, the USFS manages any IRAs recommended for wilderness through FP direction that will protect their wilderness characteristics and values, and potential for inclusion into the NWPS.

INVENTORIED ROADLESS AREAS

Inventoried Roadless Areas (IRAs) are typically undeveloped areas exceeding 5,000 acres that met the minimum criteria for wilderness consideration under the Wilderness Act when inventoried during the USFS's Roadless Area Review and Evaluation (RARE II) process, subsequent assessments, or Forest planning. These areas meet the definition of "roadless" prescribed in Forest Service Handbook (FSH) 1909.12 which specifies the areas "do not contain improved roads maintained for travel by standard passenger type vehicles."

Use and activities on these lands are guided by regulations and applicable management area

prescriptions in the FP. IRAs on USFS lands provide protection for all natural resources, including water, soil, flora, fauna, and air quality, and protect visual resources while providing a potential for unroaded recreation experiences.

RESEARCH NATURAL AREAS

Research Natural Areas (RNAs) form a long-term network of ecological reserves designated for non-manipulative research, education, and the maintenance of biodiversity. According to the USFS, RNAs are selected to preserve a spectrum of relatively pristine areas that represent a wide range of natural variability within important natural ecosystems and environments, and areas that have unique characteristics of scientific importance. This designation applies to both designated and proposed RNAs.

The Northern Region Status and Needs Assessment for Research Natural Areas of October 1996 has assigned communities and/or habitat types to each National Forest in Region 1 so the entire range of vegetative types in the Northern region is represented by one or more RNAs.

BUREAU OF RECLAMATION

Reclamation is not specifically authorized to manage protected areas, but does maintain protected lands under executive orders to maintain watersheds and water resources. These sites are frequently developed and managed as recreation areas similar to those of other federal agencies.

FEDERAL HIGHWAY ADMINISTRATION

The National Scenic Byways Program recognizes highways that are outstanding examples of beauty, culture, and recreational experiences by designating them as All-American Roads or National Scenic Byways. State and federal land management agencies submit nominations for recognition to the Federal Highway Administration (FHWA). The National Scenic Byways Program was established by the DOT in 1991. Roads may be recognized as scenic byways based on their archaeological, cultural, historic, natural, recreational, and scenic qualities. Backcountry Byways are components of the National Scenic Byway system.

3.4.3.2 State

Montana and Idaho each have programs to protect flora, fauna and their habitats, through establishment of parks and other preservation areas and programs. The Idaho Department of Parks and Recreation (IDPR) and Montana Fish, Wildlife and Parks (MFWP) administer developed recreation sites with unique historic, scenic, natural, or cultural value. Most state parks provide camping facilities and picnic areas, interpretive sites, and other recreational facilities

Other state designations include:

- **Wildlife Management Areas.** Usually located in areas of significant wildlife habitat, these designated and managed areas protect wildlife resources and provide opportunities for studies, hiking, hunting, fishing, bird watching, and other recreational pursuits.
- **Roadside Rest Areas.** As defined by the American Association of State Highway and Transportation officials (AASHTO), a rest area is a roadside area with parking spaces separated from the roadway, provided for travelers to stop and rest for short periods.

- **Fishing Access Sites.** These sites provide public access to prime fishing streams at a number of river locations. Fishing access sites (FASs) include a variety of facilities ranging from boat launch only to full service sites with boat launch, camp sites, toilets and potable water.

A Statewide Comprehensive Outdoor Recreation Plan (Montana) and a Statewide Comprehensive Outdoor Recreation and Tourism Plan (Idaho) also provide assessments of the characteristics, people, resources, recreational activities and critical recreation issues, facing the state.

LAND AND WATER CONSERVATION FUND SITES

The LWCF grant program is administered by State Parks, a division of MFWP, and the Idaho Department of Parks and Recreation, with federal oversight and assistance by the NPS. Grants are provided for the acquisition and development of public outdoor recreation areas and outdoor facilities. Grants may be used to provide up to 50% of costs and must be matched with non-federal funds. LWCF is a reimbursement program. Any political subdivision of the state, or sovereign Indian Nation, may sponsor a project. This includes incorporated cities/towns, counties, school districts, state agencies, and tribal governments.

Other designations include:

- **Wildlife Management Areas.** Usually located in areas of significant wildlife habitat, these designated and managed areas protect wildlife resources and provide opportunities for studies, hiking, hunting, fishing, bird watching, and other recreational pursuits.
- **Roadside Rest Areas.** As defined by the American Association of State Highway and Transportation officials (AASHTO), a rest area is a roadside area with parking spaces separated from the roadway, provided for travelers to stop and rest for short periods.
- **Fishing Access Sites.** These sites provide public access to prime fishing streams at a number of river locations. Fishing access sites (FASs) include a variety of facilities ranging from boat launch only to full service sites with boat launch, camp sites, toilets and potable water.

3.4.3.3 Local

Various counties, cities, regional parks, soil conservation districts, school districts, and other units manage a variety of local level parks. Some of these are little more than picnic areas or playgrounds, but others are extensive natural areas.

PRIVATE

A number of non-governmental organizations are responsible for the acquisition and management of preservation areas. With a number of these, purchased land is later sold to federal or state agencies. The Nature Conservancy, for example, has conserved numerous acres, much of which has been passed to federal or state agencies. Other large non-governmental organizations include the land trusts and Ducks Unlimited.

Protection of natural resources can also be accomplished through a conservation easement. A conservation easement is a voluntary legal agreement that a landowner can enter into to restrict the type and amount of development that may occur on his or her property. Such an easement ensures that the resource values of the land will be protected according to the terms of the contract. Easements may be granted either in perpetuity, or for a specified number of years with an option to renew.

The primary purpose of a conservation easement is to protect agricultural land, timber resources, and/or other valuable natural resources such as wildlife habitat, clean water, clean air, or scenic open space by separating the right to subdivide and build on the property from the other rights of ownership. The landowner who gives up these “development rights” continues to privately own and manage the land and may receive significant state and federal tax advantages for having a donated conservation easement. Perhaps more importantly, the landowner has contributed to the public good by preserving the conservation values associated with their land for future generations. In accepting the conservation easement, the easement holder has a responsibility to monitor future uses of the land to ensure compliance with the terms of the easement and to enforce the terms if a violation occurs.

This category also includes commercial campgrounds, RV parks, and other privately owned areas where recreation is the primary use.

3.4.4 TRANSPORTATION AND ACCESS

This category includes surface transportation. Surface transportation is provided by a network of federal, state, county and other roadways. Railroads are also included in this category.

Roadways have different classifications depending on their purpose and level of traffic:

- *Collector:* Streets that collect and distribute traffic to and from major highways and local streets. Collector streets also serve secondary traffic generators such as shopping and business centers, schools, parks, and high density or large-scale residential areas.
- *Prime Arterial:* A main highway primarily for through traffic usually on continuous route.
- *Highway:* A main public road, especially one connecting towns and cities.
- *Freeway:* A divided arterial highway with full control of access and with grade separation at intersections.
- *State Route:* A roadway designated by state law.

Other roadways include roads that are directly related to the resources found on public lands. These roads are needed to maintain access for commercial activities (e.g. livestock grazing, timber harvest, minerals development, outfitting and guiding), non-commercial activities and casual use (e.g. off-highway vehicle use, hunting, fishing, rafting, camping, bird watching, recreational driving, firewood gathering), and for administrative access to manage resources.

State and local transportation improvement plans/programs address the issues of proposed road and street system improvements and development.

3.4.5 MINERALS AND ENERGY

3.4.5.1 Federal

The BLM manages the federal mineral estate for the U.S. The land surface overlying this estate is often managed by a federal agency other than BLM (such as the USFS or USFWS) or is owned by a non-federal entity such as State or private interests. Lands where the surface is managed by another federal agency are classified as “split-estate”.

Mineral uses are divided into four categories based on laws regarding their disposition:

- Leasable fluid minerals
- Leasable solid minerals
- Locatable minerals
- Salable minerals

Leasable minerals are defined under the Mineral Leasing Act (February 1920; 43 CFR 3000-3599, 1990) and include: coal, phosphate, oil, oil shale, gas, sodium, native asphalt, and solid and semi solid bituminous rock. In more recent years, potash, geothermal resources, and sulfur were added to minerals that are considered leasable. The rights to these minerals on public land may only be acquired by competitive leasing. Leasable minerals are divided into fluid and solid.

Coal bed natural gas resources are sources of natural gas that are intimately associated with coal deposits.

Geothermal resources are naturally occurring heat sources that can potentially be used for heat or generating power. Geothermal resources are rated by temperature:

- Low temperature, less than 194° F;
- Moderate temperature, 194-302° F; and
- High temperature, greater than 302°F.

Locatable minerals are minerals for which the right to explore or develop the mineral resource on federal land is established by the location (or staking) of lode or placer mining claims. In accordance with the General Mining Law of 1872, as amended, public lands managed by the USFS and BLM are open to mineral acquisition by the location and maintenance of mining claims. Mineral deposits subject to acquisition in this manner include “locatable minerals” (e.g., gold, silver, lead, copper, zinc, nickel) and nonmetallic minerals (e.g., fluorspar, mica, certain limestones and gypsum, tantalum, heavy minerals in placer form, and gemstones). There are two types of mining claims: lode and placer. Lode claims cover classic veins or lodes having well-defined boundaries. Federal statute limits a lode claim to a maximum length of 1,500 feet along the vein or lode and a maximum width of 600 feet (300 feet on either side of the centerline of the lode). Placer claims cover all other deposits not subject to lode claims. Mill and tunnel sites may also be located to provide support facilities for lode and placer claims.

Salable minerals were designated under the Materials Act (July 1947), which authorizes the disposal of petrified wood and common varieties of sand, stone, gravel, pumice, cinders, and clay through a contract of sale or a free use permit. Uncommon varieties of these same minerals are classified as locatable.

A recent study, *Assessing the Potential for Renewable Energy on Public Lands* (DOI and DOE 2003) presented a nationwide overview of renewable resources on BLM lands in the western U.S. Renewable energy generally is defined as energy derived from sources such as wind, solar, and biomass. Wind energy refers to the kinetic energy generated from wind produced by power-generating turbines. Solar energy includes electricity generated from photovoltaic panels. Bioenergy from biomass refers to energy from organic waste products that are either burned directly or converted to fuels that can be burned to produce energy. The study employed several screening criteria to consider factors that would impact the economic and technical feasibility of renewable

power production. Screening criteria used in the assessment included access to roads and transmission facilities, available land surface, site condition, land use restrictions, distance to population centers, government policies, and regional market conditions. The primary goal of the assessment was to identify BLM planning units in the western U.S. with the highest potential for development of renewable energy.

3.4.5.2 State

States have the authority to permit and regulate mining operations.

MONTANA

MDNRC's Trust Land Management Division, Minerals Management Bureau, is responsible for leasing, permitting, and managing oil and gas, metalliferous and non-metalliferous, coal, and sand and gravel agreements on school trust land and other state-owned land throughout Montana. The program also administers a wide variety of leases, including metalliferous and non-metalliferous leases, coal leases, gravel permits, and land use licenses for non-mechanized prospecting for all other mineral activity on state trust land.

MDEQ's Environmental Management Bureau (EMB) coordinates the permitting process for proposed hard rock mines and quarries, issues permits when appropriate, inspects permitted mining operations and ensures that disturbed areas are properly reclaimed after mining ends. The program regulates the mining of all ore, rock, or substances except oil, gas, bentonite, clay, coal, sand, gravel, peat, soil materials and uranium.

Prior to accessing Montana's state-owned (school trust) lands for the purposes of mineral reconnaissance, prospecting, exploration or mining, the operator must first secure a mineral lease and approval from the MDNRC - Trust Land Management Division. This requirement is in addition to specific exploration and mining permits that also must be obtained from the MDEQ. The MDEQ issues permits under statutes related to mine reclamation, water quality, air quality, and other environmental resources; much of MDEQ's authority in these areas encompass all types of land (federal, state, and private). When exploration or mining-related activities are proposed on state land, MDEQ works closely with DNRC during the permit process.

MDEQ's Industrial and Energy Minerals Opencut Program Bureau issues permit and permit modification decisions for mining and reclamation of opencut minerals to ensure that mineral development which occurs does so with adequate protection of environmental resources. The Opencut Mining Act (82-4-4-1 et. Seq., MCA) and regulations apply to the mining of bentonite, clay, scoria, soil materials, peat, sand or gravel. An operator may not conduct opencut mining operations that result in the removal of a total of 10,000 cubic yards or more of materials and overburden until the department has issued a permit to the operator for the reclamation of the land affected.

MDEQ's Industrial and Energy Minerals Bureau issues timely and complete permit and permit modification decisions for mining and reclamation of coal and uranium minerals to ensure that mineral development which occurs does so with adequate protection of environmental resources.

IDAHO

The IDL Minerals Program administers leases of all Idaho state lands for oil and gas, geothermal, phosphate minerals, materials (sand, gravel, etc.), and commercial or recreational riverbed leases. In addition, the program regulates all surface mining and dredge/placer mining within the state.

Surface mining is the extraction of minerals or mineral materials from the ground by utilizing surface mining or strip mining methods. Minerals mined by this method include decorative stone, sand and gravel, phosphate, molybdenum, gold, silver and others. The Surface Mining Act, passed in 1971, was designed to require reclamation of affected lands and return them to a productive condition. A few changes have been made over the years, but the basic components of the 1971 Act still stand:

- Surface mining requires an approved reclamation plan;
- Each approved reclamation plan must have a performance bond;
- Exploration using motorized earth moving equipment requires a notice;
- Water quality must be maintained and affected lands and disturbed watercourses must be reclaimed; and
- Penalties for violation of the Act.

Any person who conducts surface mining of minerals for ultimate or immediate sale, in either the natural or processed state, must first have an approved reclamation plan. Public or governmental agencies mining sand and gravel in excess of two acres for purposes of maintenance, repair or construction of a public highway must file a reclamation plan with the IDL, however, no bond is required.

3.4.5.3 Local

Mining activities, such as construction grading may be regulated under local grading ordinances.

4.0 INVENTORY RESULTS

This section of this technical report describes the land uses identified within the study area. The descriptions are arranged by state. Data tables in this section and in appendices identify, milepost by milepost, specific land uses along the assumed centerlines of each of the alternative route links. Three inventory maps were generated to portray information relating to the following components: Existing and Planned Land Use; Parks, Recreation, and Preservation Areas; and Minerals and Energy (MFSA Application, Volume III).

4.1 LAND JURISDICTION

4.1.1 MONTANA

Both public and private lands are found in the Montana portion of the study area. Of the public lands, most are managed by the BLM, USFS, Reclamation, MDNRC, and MFWP (see MFSA Application, Volume III). The linear distances of land under different jurisdictions crossed by the assumed centerlines of the alternative route links are presented in Table 4.1-1.

4.1.1.1 Federal

Scattered parcels of public lands in Montana administered by the BLM are crossed by alternative route links. These lands are managed by the Butte and Dillon Field Offices. Right-of-way permits for crossing BLM public land are obtained through the BLM Lands and Realty Office.

The USFS manages the Beaverhead-Deerlodge National Forest (BDNF), which is also within the study area. Special Use Permits authorize the occupancy and use of USFS land by private individuals or companies for a wide variety of activities, such as roads, utility corridors, communication sites, dams, and other private or commercial uses, that cannot be accommodated on private land.

Reclamation holds land surrounding Clark Canyon Reservoir. A right-of-use authorization would be required to use project lands or the surfaces of any project body of water. Consideration of applications to use Reclamation project lands and water surfaces is discretionary and Reclamation reserves the right to refuse to authorize any use which may be incompatible with the federally-authorized purposes of Reclamation projects or may interfere with Reclamation's rights or operations.

4.1.1.2 State

The State of Montana has jurisdiction over some of the land within the study area, the majority of which is under the jurisdiction of MDNRC as school trust parcels. The Real Estate Management Bureau of MDNRC's Trust Land Management Division is responsible for processing applications for rights-of-way and easements across surface lands and navigable waterways administered by the State. MFWP manages parks, wildlife management areas and fishing access sites within the study area.

4.1.1.3 Local

The transmission line alternative route links pass through the counties of Powell, Beaverhead, Deer Lodge, Silver Bow, Broadwater, Gallatin, Jefferson, and Madison. Lands held in private ownership are also found in large amounts within the Montana portion of the study area. Much of these private lands are located at lower elevations, in major river valleys, and contain moderate to large ranches

and farms. Numerous ranchettes (5-25 acres) have also been established. Incorporated communities within the study area include Butte, Whitehall, and Lima. Smaller private parcels have been created throughout the area but concentrations of higher density development (outside municipalities) are principally found on the south and west sides of Butte, north and northwest of Whitehall, and northwest and north of Three Forks. Unincorporated communities provide concentrations of small private parcels with a mixture of residential and commercial development. Right-of-way easements on private lands would be acquired through negotiations with landowners.

Table 4.1-1 Land Jurisdiction Crossed by Alternative Route Links - Montana

Link	Distance Miles (Percentage)					
	BLM	USFS	Reclamation	MDNRC	MFWP	Private
1	0.9 (13)	-	-	0.1 (1)	-	6.1 (86)
2-1	1.4 (6)	-	1.1 (4)	1.8 (7)	-	21.4 (83)
2-3	0.1 (0+)	-	-	2.2 (11)	-	18.1 (89)
3-1	1.1 (4)	-	-	4.6 (14)	-	26.5 (82)
4-1	4.2 (31)	-	-	-	-	9.3 (69)
4-2	11.5 (18)	30.5 (48)	-	0.2 (0+)	-	21.8 (34)
4-4	-	-	-	-	-	0.1 (100)
7-2	0.8 (6)	-	-	2.4 (20)	-	8.9 (74)
7-41	41 (49)	3.0 (36)	-	-	-	1.2 (15)
7-42	-	1.8 (62)	-	-	-	1.1 (38)
7-5	-	-	-	-	-	1.8 (100)
7-61	-	-	-	-	-	16.0 (100)
7-62	-	-	-	-	-	0.5 (100)
7-72	-	-	-	-	0.1 (3)	3.6 (97)
7-8	-	-	-	1.2 (11)	-	9.9 (89)
7-9	-	-	-	-	-	3.2 (100)
8	16.1 (32)	-	-	7.1 (14)	-	27.0 (54)
11-21	-	-	-	-	0.9 (28)	2.3 (72)
11-22	-	1.7 (19)	-	-	0.2 (2)	7.0 (79)
11-23	3.5 (16)	-	-	1.6 (8)	0.3 (1)	16.4 (75)
11-3	4.0 (21)	-	-	6.2 (33)	-	8.8 (46)
11-4	11.9 (52)	-	-	1.6 (7)	-	9.4 (41)
13	1.3 (27)	-	-	0.4 (8)	-	3.1 (65)
16-1	7.2 (24)	-	-	9.3 (31)	-	13.5 (45)
16-2	9.2 (32)	-	-	9.9 (33)	-	10.1 (35)
16-3	3.1 (10)	-	-	8.8 (29)	-	18.7 (61)
16-4	0.1 (1)	-	-	4.1 (48)	-	4.4 (51)
18-1	32.9 (51)	2.3 (4)	-	4.5 (7)	-	24.5 (38)

Source: Montana State Library/Natural Resource Information System (NRIS) 2007

CONSERVATION EASEMENTS

Some private land in Table 4.1-1 is managed under conditions detailed in conservation easements (CEs). These CEs are held by private land trusts, MFWP, USFWS or FSA. Private land trust and MFWP CEs typically preserve open space values, productive agricultural land, river corridors or similar uses from urban development and activities that would produce adverse environmental impacts. Deed of Conservation Easements associated with land trusts in the project area usually restrict or prohibit major utility corridor right-of-way easements. Approval to locate facilities within areas managed under wetland easement by USFWS is determined by a compatibility review process

that takes into account proposed facility location and access relative to wetland avoidance on the parcel under easement. Land trust and MFWP CE's crossed by the alternative route links are presented in Table 4.1-2.

Table 4.1-2 Conservation Easements Crossed by the Alternative Route Links - Montana

Link	Milepost Begin	Milepost End	Distance (Miles)	Name/Grantee
7-72	3.4	3.7	0.3	3070 MFWP
7-9	1.0	1.8	0.8	3070 MFWP
	2.7	3.2	0.5	3070 MFWP
8	9.6	11.3	1.7	201 The Montana Land Reliance
11-21	0.0	0.2	0.2	3070 MFWP
16-1	22.4	24.3	1.9	188 MFWP
18-1	20.0	22.9	2.9	3105 MFWP

Source: Montana State Library/NRIS, County Recorder's Offices

CRP EASEMENTS

FSA holds CRP easements on acreage in the study area. CRP contracts between the FSA and private landowners typically preclude agricultural activities on land managed under the program. Facility siting on CRP contracted land requires a compatibility review by the FSA to determine a facility's potential impact to the CRP status of the affected property. Haying and grazing of CRP acreage is authorized under limited conditions. CRP land crossed by the alternative route links can be found in Table 4.1-3.

Table 4.1-3 Conservation Reserve Program Land Crossed by the Alternative Route Links - Montana

Link	Milepost Begin	Milepost End	Distance (Miles)
1	0.4	0.8	0.4
2-1	10.3	10.6	0.3
	10.8	10.9	0.1
	11.0	11.8	0.8
	12.4	12.5	0.1
	12.6	12.8	0.2
	13.3	13.6	0.3
	14.0	14.5	0.5
	14.6	15.3	0.7
	25.5	25.8	0.3
2-3	0.0	0.1	0.1
	0.6	1.2	0.6
	2.2	2.8	0.6
	10.9	11.0	0.1
	11.1	11.6	0.5

Source: FSA

4.1.2 IDAHO

Land within the study area in Idaho is either privately owned or publicly owned or managed by the BLM, USFS, USDA Agricultural Research Service (ARS), NPS, DOE, IDFG, ITD, IDL and various

local governments. The land jurisdictions crossed by the assumed centerlines of the alternative route links in Idaho are presented in Appendix B Table 4.1-4. The table indicates beginning and ending mileposts for each jurisdiction crossed, the length of crossing, and the ownership or administrating agency of the lands crossed.

4.1.2.1 Federal

Scattered parcels of public lands administered by the BLM are crossed by the alternative route links in Idaho. These lands are managed by the Upper Snake, Burley, and Shoshone Field Offices. Right-of-way permits for crossing BLM public land are obtained through the BLM Lands and Realty Office.

In Idaho, the USFS has management over the Caribou-Targhee and Salmon-Challis National Forests, which are within the study area. SUPs authorize the occupancy and use of USFS land by private individuals or companies for a wide variety of activities, such as roads, utility corridors, communication sites, dams, and other private or commercial uses, that cannot be accommodated on private land.

Additional federal agencies with land management roles in the Idaho portion of the study area include the ARS (U.S. Sheep Experiment Station), NPS (Craters of the Moon National Monument and Preserve), and DOE (Idaho National Laboratory).

4.1.2.2 State

The State of Idaho has jurisdiction over a number of acres of land within the study area, the majority of which is under the jurisdiction of IDL as state endowment land. IDL's Bureau of Real Estate issues easements authorizing land uses on endowment lands, such as roads, utility lines, reservoirs, ditches, pipelines, corrals and hydroelectric projects. IDFG also manages wildlife management areas and sportsman access sites within the study area.

4.1.2.3 Local

The transmission line alternative route links pass through the counties of Butte, Power, Blaine, Jerome, Lincoln, Minidoka, Clark, Jefferson, Bingham, and Bonneville. Incorporated communities within the study area include Atomic City, Butte City, Dietrich, Hamer, and Richfield. Lands held in private ownership are found throughout the study area in Idaho. Much of these private lands are located at lower elevations in major river valleys, and contain ranches and farms. Originally, most of the privately owned lands were obtained through agricultural entries such as the Homestead Act. Unincorporated communities provide concentrations of small private parcels with a mixture of residential and commercial development. Right-of-way easements on private lands would be acquired through negotiations with landowners.

CONSERVATION EASEMENTS

Some private land in (see Appendix B, Table 4.1-4) is managed under conditions detailed in CEs. These CEs are held by The Nature Conservancy, USFWS and the FSA. The Nature Conservancy CE provides that these lands will not be subdivided and will be managed in such a way that habitat for wildlife is maintained and improved. Deed of Conservation Easements associated with land trusts usually restrict or prohibit major utility corridor right-of-way easements. Approval to locate facilities within areas managed under wetland easement by USFWS is determined by a compatibility review process that takes into account proposed facility location and access relative to wetland avoidance on

the parcel under easement. One Nature Conservancy CE (Lava Lake Land and Livestock Company) is located within the Study Area.

CRP EASEMENTS

The FSA holds CRP easements on acreage in the study area. CRP contracts between the FSA and private landowners typically preclude agricultural activities on land managed under the program. Facility siting on CRP contracted land requires a compatibility review by the FSA to determine a facility’s potential impact to the CRP status of the affected property. Haying and grazing of CRP acreage are authorized under limited conditions. CRP land crossed by the alternative route links can be found in Table 4.1-5.

Table 4.1-5 Conservation Reserve Program Land Crossed by the Alternative Route Links – Idaho

Link Number	Milepost Begin	Milepost End	Distance (Miles)
1	0.4	0.8	0.4
2-1	10.3	10.6	0.3
2-1	10.8	10.9	0.1
2-1	11	11.8	0.8
2-1	12.4	12.5	0.1
2-1	12.6	12.8	0.2
2-1	13.3	13.6	0.3
2-1	14	14.5	0.5
2-1	14.6	15.3	0.7
2-1	25.5	25.8	0.3
2-3	0	0.1	0.1
2-3	0.6	1.2	0.6
2-3	2.2	2.8	0.6
2-3	10.9	11	0.1
2-3	11.1	11.6	0.5
21	59	59.5	0.5
21	59.6	60.4	0.8
21	61.7	61.9	0.2
21	62.6	63.7	1.1
22	6.3	6.5	0.2
22	6.6	6.7	0.1
22	7	7.5	0.5
26-2	7.9	8.9	1
26-2	14.8	15.3	0.5

Source: FSA

4.2 EXISTING AND PLANNED LAND USE

4.2.1 MONTANA

Alternative route links are located in portions of Powell, Deer Lodge, Silver Bow, Jefferson, Broadwater, Gallatin, Madison, and Beaverhead Counties and are generally characterized by broad valleys bounded by rolling foothills, which rise into steep mountain ranges. The rolling hills and benches of the lower valleys are typically utilized for agricultural purposes while the peripheral areas in the mountainous regions consist of vast and rugged forested lands, primarily managed by the USFS.

Existing land uses within the study area are diverse and include residential, commercial, public/quasi-public, industrial, linear facilities, agriculture, military, air facilities, Superfund sites, mineral extraction, and transportation uses. Transportation uses and mineral extraction are further discussed in Sections 4.4 and 4.5, respectively. Growth and development patterns most likely will continue to result in the greatest concentration of growth in the valleys and along highway corridors that provide mobility into and through high-growth areas.

4.2.1.1 Residential

Residences are dispersed throughout the Montana portion of the study area, but are present in greater concentrations along major transportation routes. Table 4.2-1 presents the approximate number of residences within 1,000 feet of the alternative route links. The communities of Butte, Whitehall, and Lima are the only incorporated communities within the study area. Other population centers include unincorporated communities, as well as mobile home parks, large-lot rural residential development, and farmsteads. Farmsteads represent isolated residential structures with structures associated with farming or ranching operations. Most communities contain typical residential development along a grid system of streets. Dwellings are primarily located on 0.25-to-1.0-acre parcels and include a variety of housing types from mobile homes to site-built construction. Housing units consist primarily of single-family dwellings with a few duplex units. Outside the communities, residential development is scattered throughout the study area in an open and rural environment. Some recreational cabin and second home development also exists, primarily in scenic mountainous regions.

With the exception of the most recent housing downturn, subdivision activity in the Montana study area has increased significantly over the past years. This includes platted subdivisions (both minor and major) as well as numerous parcels greater than 20 acres in size. Minor subdivisions are five or fewer lots while major subdivisions are more than five lots. Minor subdivisions have less restrictive development requirements than larger subdivisions. Land divisions occur in three major ways: (1) by filing a certificate of survey to create tracts of 160 acres or greater; (2) through the local subdivision process to create tracts less than 160 acres in size; and (3) by creating tracts less than 160 acres for the purposes of family transfer. A number of certificates of survey were associated with family transfers, agricultural exemptions or boundary relocations. Since many of these parcels have little or no infrastructure, it remains to be seen whether they will be converted to residential use. Platted subdivisions within the study area are found in Table 4.2-2. The table also indicates if the platted subdivision is crossed by an alternative route link. Concentrations of subdivided lands occur throughout the study area and vicinity, but are most heavily concentrated in the valleys in and around Butte, Anaconda, Boulder, Whitehall, and Dillon. The desire for a rural setting for second homes and commuter-based housing could result in more residential subdivision activity near the existing rural communities and in areas near the primary and interstate highway system.

Areas identified by agencies and county growth policies as desirable for residential development, include: Claisoil/Lewis and Clark County line, Winston, Silos Area, Townsend Northwest, Townsend East, Toston, and Junction I-90 and US 287.

Table 4.2-1 Number of Residences within 1,000 feet of the Alternative Route Links – Montana

Link	Milepost(s)	Residences within 1,000 Feet
1	0.2-0.7, 1.0-1.3	2
2-1	5.6-6.1	1
2-3	0.0-0.6, 6.9-7.1, 8.6-9.1, 10.1-10.3	10
3-1	0.8-1.1	1
4-1	2.8-3.4	2
4-2	15.0-15.4, 15.5-15.9, 16.0-16.4, 16.8-17.2, 17.4-17.8, 23.0-23.7, 23.9-24.4, 60.7-61.0, 61.1-61.5, 63.1-63.8	10
7-2	4.6-5.0, 6.1-7.1, 10.0-10.8	9
7-41	2.1-2.5	2
7-42	2.2-3.0	7
7-5	0.0-0.1, 0.2-0.4, 0.6-0.9, 0.9-1.0 (150 feet), 1.0-1.8	69
7-61	0.0-0.1, 2.1-2.8, 3.3-4.2, 4.3-4.4, 4.8-5.0, 5.9-6.4, 6.8-7.1, 11.5-12.8, 12.8-13.0 (150 feet), 13.0-13.5, 13.7-14.1, 15.4-15.8	63
7-72	0.4-0.8	1
7-8	0.0-0.2, 3.0-3.7	6
8	0.4-0.6, 0.7-1.2, 3.8-4.1, 9.6-9.9, 14.5-14.9, 36.7-36.9, 36.9-37.0 (150 feet), 37.0-37.2	9
11-21	2.7-3.2	4
11-22	0.0-0.1, 0.4-0.7, 5.8-6.1, 8.2-8.6,	7
11-23	10.7-10.9, 18.9-19.5	7
11-3	6.0-7.1, 12.4-12.7	6
11-4	1.8-2.2, 6.1-6.6, 7.9-8.2	5
16-1	10.2-10.5, 23.4-23.6	2
16-3	1.3-1.8	2
16-4	5.2-5.6	1
18-1	3.5-4.0, 31.6-31.9, 41.8-42.2	3

Table 4.2-2 Platted Subdivisions Crossed by the Alternative Route Links – Montana

Link	Name	County	Milepost Begin	Milepost End	Distance (Miles)
2-3	Soaring Hills	Broadwater	0.1	0.2	0.1
	Mud Spring Estate, Soaring Hills	Broadwater	0.2	0.3	0.1
	Mud Spring Estate	Broadwater	0.3	0.7	0.4
	George A. Kahrl Tracts	Jefferson	4.8	5.4	0.5
	Sharon L. Buckallew Lots and Tract	Jefferson	8.4	9.0	0.6
3-1	Tebay	Jefferson	29.7	31.0	1.3
4-2	Aspen Valley Ranches	Jefferson	15.0	17.9	2.9
	Opportunity Townsite	Deer Lodge	59.8	62.8	3.0
	Ingleside, Millview Addition, Opportunity Townsite	Deer Lodge	62.8	62.9	0.1
	Ingleside, Millview Addition,	Deer Lodge	62.9	64.0	1.1
7-2	Sunnyslope	Jefferson	4.6	5.0	0.4
	S&C #1, S&C #3	Jefferson	10.7	10.8	0.1
	S&C #3	Jefferson	10.8	11.3	0.5
7-42	Homestate Meadows Phase II	Silver Bow	2.2	3.0	0.8
7-5	Homestate Meadows Phase II	Silver Bow	0.0	0.3	0.3
7-5	Redfern	Silver Bow	0.3	0.8	0.5
	Continental Acres #2, Redfern	Silver Bow	0.8	0.9	0.1
	Continental Acres #2	Silver Bow	0.9	1.1	0.2
	Green Acres (Amend. Lot 7, Block 6)	Silver Bow	1.3	1.4	0.1
7-61	Industrial Park, Butte Industrial Park (Amendment to Lots 6 & 7), Butte Industrial Park (Amendment to Lot 12), Butte Industrial Park (Amendment to Lot 10A)	Silver Bow	1.1	1.4	0.3
	Corder #2	Silver Bow	3.5	3.7	0.2
	Little Basin	Silver Bow	3.9	4.0	0.1
	Vigilante Estates, Butte Ski Club No. 4	Silver Bow	5.6	5.7	0.1
	Vigilante Estates	Silver Bow	5.7	5.9	0.2
	Butte Ski Club No. 4, Vigilante Estates	Silver Bow	5.9	6.0	0.1
	Butte Ski Club No. 4	Silver Bow	6.0	6.1	0.1
	Butte Ski Club No. 4, Rocky Ridge	Silver Bow	6.1	6.2	0.1
	Whisky Gulch	Silver Bow	7.3	7.7	0.4
	Ramsey Townsite	Silver Bow	11.1	11.2	0.1
7-72	Gregson	Silver Bow	1.0	1.4	0.4
7-8	Fleecer View – Phase 2	Silver Bow	10.2	10.8	0.6
8	Anita Weaver	Jefferson	3.7	3.8	0.1
	Anita Weaver, Bradford	Jefferson	3.8	3.9	0.1
	Bradford	Jefferson	3.9	4.1	0.2
11-23	Fleecer View – Phase 2	Silver Bow	0.4	1.0	0.6
11-3	Dutchman Springs Mountain Estates	Beaverhead	15.4	17.0	1.6
16-3	Sunset West	Beaverhead	1.6	1.9	0.3
	Town of Lima	Beaverhead	25.7	26.3	0.6

4.2.1.2 Commercial, Public/Quasi-Public, Industrial

Commercial, public/quasi-public, and industrial development in the Montana portion of the study area is primarily found in or around incorporated and unincorporated communities. Commercial uses also exist near the on/off ramps of I-15 and along state highways. Commercial microwave, cellular and radio towers are generally located in and around communities, along major roadways, and on mountain peaks. There is a BLM single administrative withdrawal for an air navigation site (10 acres) located approximately 12 miles southwest of Dillon (near Pipe Organ Rock). Communication sites authorized by BLM include Wickes/Boulder Hill (T7N R4E S28, Lot 10). Schools within the study area are listed in Table 4.2-3.

Table 4.2-3 Schools within the Study Area – Montana

Name/Type/Grades	Location
Cardwell School/Public/PK-8	Whitehall/Jefferson
Divide School/Public/PK-8	Divide/Silver Bow
Margaret Leary School/Public/K-6	Butte/Silver Bow
Melrose School/Public/PK-8	Melrose/Silver Bow
Ramsay School/Public/PK-6	Ramsay/Silver Bow
Reichle School/Public/PK8	Glen/Beaverhead
Lima 7-8/Public/7-8	Lima/Beaverhead
Lima Elementary School/Public/PK-6	Lima/Beaverhead
Whitehall 7-8/Public/7-8	Whitehall/Jefferson
Ramsay 7-8/Public/7-8	Ramsay/Silver Bow
Lima High School/9-12	Lima/Beaverhead
Whitehall School/Public/PK-6	Whitehall/Jefferson
Whitehall High School/Public/9-12	Whitehall/Jefferson
Montana Tech College of the University of Montana/ Public/College	Butte/Silver Bow

PK = pre-kindergarten; K = kindergarten

Currently, there are no plans for future schools in the study area (Montana School Superintendents).

4.2.1.3 Linear Facilities

The alternative route links cross electrical transmission lines owned and operated by NWE, Bonneville Power Administration (BPA), and Idaho Power Company (IPCO); numerous subtransmission and distribution lines (both aerial lines and buried cable); petroleum pipelines; and other utility features. Other utility features include long distance and local telephone aerial wires; buried copper and fiber optic cables; aerial and buried cable television lines; gas lines; and domestic water lines.

4.2.1.4 Agriculture

Agricultural lands (crops and livestock) are present in the study area in Montana. Crops include irrigated and non-irrigated (dryland) field crops. Where conditions are favorable, wheat, barley, hay, potatoes and other crops are grown with lands supporting both irrigated and non-irrigated crop production. Specialty crops, such as waxy barley, canola, and nursery and vegetable crops, are also important products. Irrigated and partially irrigated croplands are located in the valleys. Irrigated pasture exists in river and stream bottoms. Irrigated pastures are lands planted to introduced or native

forage species that receive periodic irrigation and are harvested by livestock. Their use is often integrated with native range, dryland pastures and other sources of roughage. Specific irrigation methods used in the field (sprinkler and flood) also vary depending on soil properties, topography, and cost. Sprinkler methods include center pivot, wheel and hand line, while flood methods include basin or furrow. Most of the new water development in the study area has been for sprinkler irrigation. In addition, many previously flood-irrigated lands are now sprinkler irrigated, since these systems are more efficient than flood irrigation. Aerial spraying (crop dusting) is used to control insects, weeds, and diseases in some agricultural areas. Crop type at any one location is variable and occasionally in fallow. Livestock production also exists in the study area. Table 4.2-4 provides top crop and livestock inventory data at the county level.

Agricultural uses also include agriculture storage and farmstead categories. Storage buildings or structures can range from grain bins to abandoned buildings with no human occupancy. Uses in the farmstead category consist of residential dwellings that have adjacent agricultural operations, including agriculture buildings and/or family livestock operations. Table 4.2-5 provides the number of major farm support buildings (and other similar structures) within 0.5 mile and 150 feet of the alternative route links.

A large quantity of rangeland acreage provides forage for livestock in Montana. Rangeland is generally defined as land on which the historic plant community is principally native grasses, grass-like plants, forbs or shrubs suitable for grazing and browsing. In most cases, range supports native vegetation that is extensively managed through the control of livestock rather than by agronomy practices, such as fertilization, mowing, or irrigation. Rangeland also includes areas that have been seeded to introduce species but are managed with the same methods as native range. Livestock are typically grazed on privately owned grassland and publicly owned grazing allotments. Allotments are primarily managed by the BLM or USFS. Resource allocation within an allotment is based on Animal Unit Months (AUMs) (the amount of forage needed to sustain one animal unit, or its equivalent, for one month). AUMs required for livestock are based on the nutritional needs specific to each livestock class. The domestic livestock permitted to graze on allotments in the project area in Montana include cattle, sheep, horses, and buffalo.

Table 4.2-4 Top Crop and Livestock Inventory Items – Montana

Top Crop Items (acres)	Top Livestock Inventory Items (number)
BEAVERHEAD COUNTY	
Forage (land used for all hay and haylage, grass silage, and greenchop) – 110,782	Cattle and calves – 135,926
All Wheat for grain – 6,307	Sheep and lambs - 15,823
Barley - 2,557	Colonies of bees – (D)
Potatoes – 1,323	Horses and ponies – 2,679
Oats - 391	All Goats - 389
BROADWATER COUNTY	
All Wheat for grain – 37,268	Cattle and calves – 18,555
Forage (land used for all hay and haylage, grass silage, and greenchop) – 34,088	Colonies of bees – (D)
Barley – 5,377	Sheep and lambs – (D)
All Field and grass seed crops – 2,819	Pheasants – 1,626
Dry edible beans, excluding limas -946	Horses and ponies - 826
DEER LODGE COUNTY	
Forage (land used for all hay and haylage, grass silage, and greenchop) – 13,133	Cattle and calves – 8,739
All Wheat for grain – (D)	Sheep and lambs – 1,065
Barley – (D)	Horses and ponies - 378
Potatoes – (D)	Mules, burros, and donkeys - 11
Oats – (D)	Turkeys – (D)
JEFFERSON COUNTY	
Forage (land used for all hay and haylage, grass silage, and greenchop) – 23,090	Cattle and calves – 23,366
All Wheat for grain – (D)	Horses and ponies – 1,786
Barley – 1,444	Hogs and pigs – (D)
Oats – 178	Sheep and lambs - 751
Corn for Silage – (D)	Layers 20 weeks old and older - 530
MADISON COUNTY	
Forage (land used for all hay and haylage, grass silage, and greenchop) – 75,087	Cattle and calves – 70,892
All Wheat for grain – 6,983	Sheep and lambs – 4,803
Barley – 2,814	Bison – 4,654
Oats – 945	Colonies of bees – (D)
Potatoes – 291	Horses and ponies – 2,526
SILVER BOW COUNTY	
Forage (land used for all hay and haylage, grass silage, and greenchop) – 6,281	Cattle and calves – 5,937
Oats – (D)	Horses and ponies – 758
Apples – (D)	Sheep and lambs - 291
-----	Hogs and pigs – (D)
-----	Layers 20 weeks old and older - 68
POWELL COUNTY	
Forage (land used for all hay and haylage, grass	Cattle and calves – 42,635

Table 4.2-4 Top Crop and Livestock Inventory Items – Montana

Top Crop Items (acres)	Top Livestock Inventory Items (number)
silage, and greenchop) – 56,156	
Barley – 1,180	Horses and ponies – 1,477
Oats – 179	Bison – 1,195
Potatoes – (D)	Sheep and lambs - 851
All Wheat for grain – (D)	Colonies of bees – (D)
GALLATIN COUNTY	
Forage (land used for all hay and haylage, grass silage, and greenchop) – 79,199	Cattle and calves – 52,350
All Wheat for grain – 50,645	Sheep and lambs – 5,025
Barley – 37,007	Horses and ponies – 4,396
Potatoes – 5,010	Colonies of bees – 4,043
All Field and grass seed crops – 1,330	Hogs and pigs – (D)

(D) Cannot be disclosed. Source: U.S. Department of Agriculture, Montana Agricultural Statistics Service, 2002 Census of Agriculture, County Profile.

Table 4.2-5 Major Farm Support Buildings (and Other Similar Structures) within 0.5 Mile and 150 Feet of the Alternative Route Links - Montana

Link	Farm Buildings within 0.5 Mile	Farm Buildings within 150 Feet
1	1	---
2-1	8	---
2-3	21	1
4-2	8	---
7-2	4	---
7-41	2	1
7-42	3	---
7-5	13	---
7-61	62	1
7-72	4	---
7-8	45	---
8	14	1
11-21	3	---
11-22	2	---
11-23	11	---
11-4	1	---
18-1	17	---

Grazing preference is defined as the total number of AUMs within a grazing allotment that the agency has allocated for livestock use to be used by qualified operators that own or control land suitable as base property. Grazing use in the allotment is authorized through issuance of grazing permits or leases. The permits, leases and attendant activity plans describe the livestock class, intensity, duration, and timing of grazing as well as fences, water developments, and other range improvements to be installed.

Grazing allotments crossed by the alternative route links are found in Table 4.2-6 in Appendix B.

The MDNRC, Trust Land Management Division, Agriculture and Grazing Management Bureau, is responsible for leasing and managing agreements for crop and rangeland uses on school trust lands. Crops raised on state trust lands are primarily dryland hay and small grains, but also include irrigated grain crops, corn, sugar beets, potatoes, peas, lentils, garbanzo beans, canola, safflower, alfalfa seed, and native grass seed. In addition to receiving rental payments from lessees, the state participates in and receives Farm Program payments from the FSA (e.g., lands enrolled in the CRP). Additional agreements include grazing use of trust lands.

Agricultural lands crossed by the alternative route links are found in Table 4.2-7 in Appendix B.

The Montana Department of Agriculture manages an apiary program. According to the department, Montana typically ranks in the top 10 states for honey production in the U.S. Apiaries are also used for pollination. The department registers all apiary sites in the state. There are four types of apiary registrations:

General (Commercial): An apiary placed by permission on someone’s property and containing more than five hives. All general apiaries must be three miles from the next general site of another registered beekeeper. This is to prevent the spread of diseases and pests from apiary to apiary, and to limit and prevent interference with proper feeding of the honeybees.

Pollination: An apiary established for the pollination of commercial seed, fruit, or other commercial crop dependent on bee pollination. There is no distance limit and these registrations are for a specific time period determined by the department, and registration must be applied for each year.

Landowner: An apiary that is registered to the owner of the land the apiary site is established on. There is no distance limit or limit on the total number of hives that can be registered.

Hobbyist: An apiary placed by permission on someone’s property and limited to not more than five hives. There is no distance limit between apiaries required on this type of registration.

Registered apiaries crossed by the alternative route links are presented in Table 4.2-8.

Table 4.2-8 Registered Apiaries Crossed by the Alternative Route Links – Montana

Link	Milepost Begin	Milepost End	Distance (Miles)	Apiary
2-1	9.1	9.5	0.4	6873
3-1	28.5	29.1	0.6	2517
7-61	12.7	13.1	0.4	3422
7-72	2.4	2.8	0.4	1171
8	3.5	4.1	0.6	550
	37.4	37.6	0.2	566
11-23	15.0	15.6	0.6	572
11-4	5.7	6.2	0.5	497
16-1	10.6	10.9	0.3	526

Source: Montana Department of Agriculture, Apiary Program

Important Farmland (prime farmland, prime farmland if irrigated, farmland of statewide importance, and farmland of local importance) crossed by the alternative route links is listed in Table 4.2-9 in Appendix B.

Some timber in the study area has been classified as suitable for timber management by the BDNF. This classification includes both lands suitable for timber production and lands where timber harvest is allowed. Lands suitable for timber production are deemed suitable for the growth and yield of saw timber, crop trees, pulpwood, and other forest products, including salvage harvest. Lands where timber harvest is allowed are deemed to be where timber harvest can occur by exception (36 CFR 219.26) to protect other resource values. Productivity on the BDNF is considered low to moderate.

4.2.1.5 Military

Military facilities identified in the study area include the Montana Army National Guard (MTARNG) Limestone Hills Training Area (LHTA). The LHTA is about 23 miles south of Helena and about two miles southwest of Townsend on the west side of the Townsend Valley, in Broadwater County. The LHTA is composed of 18,715 acres of federal land that encloses 2,666 additional acres of state and private land for a total of 21,381 acres within the outer withdrawal boundary.

The MTARNG has trained at Limestone Hills since 1959 under an SUP from the BLM and special arrangements with the State of Montana and a few private landholders. The site is used for maneuver and live fire training for infantry, armor, artillery, engineer, aviation, and special operations units. Approximately 6,000 acres are closed to the public due to the potential for unexploded ordnance (UXO). The actual area with UXO is much smaller, but the closure was expanded to include all vehicle access points to the area. The U.S. Department of the Army has proposed that the DOI and Congress transfer administrative responsibility of all federal land within the LHTA to the Army as a land withdrawal for military training use by the MTARNG. A Legislative EIS has been prepared in support of an application by the Army) to withdraw 18,604 acres of federal lands within the LHTA from BLM administration.

MTRs IR 301 and IR 307 are approximately eight miles west of the western edge of the Clark Canyon Reservoir. They run along the same pattern and cannot be flown at the same time. IR 301 has a north heading flight pattern and has a route width ranging from 8 nautical miles to 5 nautical miles (approximately 9 to 6 miles wide from centerline). Operating procedures include avoiding all airports by 1,500 feet vertically, and avoiding all sensitive areas by 1,000 feet vertically, which include the Bannack and Peterson noise sensitive areas (north of Clark Canyon Reservoir). IR 307 has a south heading flight pattern and has a route width ranging from 5 nautical miles to 8 nautical miles (approximately 6 to 9 miles wide from centerline). Operating procedures include avoiding all airports by 1,500 feet vertically and avoiding all sensitive areas by 1,000 feet vertically. Sensitive areas include the Bannack and Peterson noise sensitive areas north of Clark Canyon Reservoir.

4.2.1.6 Air Facilities

Thirty six airports registered with the FAA were identified in the study area and vicinity (Table 4.2-10).

Currently, no backcountry airstrips are located in southwest Montana on USFS lands. The Montana Pilots Association has asked the USFS to consider several sites on the BDNF, one of which is located near Whitetail Reservoir. The proposed airstrip would be about 2,500 feet long by 30 feet wide with a tie down area, totaling two acres. The surface would be native grasses. The airstrip would likely receive light use (estimate 20 planes/year) from private, single-engine airplanes. The airstrip surface

and weather conditions would restrict season of use to approximately early July through September. The association’s stated interest lies in the ability to land on a backcountry airstrip and spend the day or weekend enjoying the setting. This opportunity is currently not available anywhere in southwest Montana.

In addition to established airports and fixed wing traffic, helicopters and other aircraft may be found in the project area and vicinity. An active wildfire season increases spotting and suppression activities by air and heliports may be set up in many locations. Other locations, such as hospitals, have frequent helicopter traffic conducting medical transports. There may also be private rotor wing services and residents that have their own personal aircraft.

Table 4.2-10 Federal Aviation Administration Registered Airports located within the Study Area and Vicinity – Montana

Type	County	City	Facility Name	Use
Airport	Deer Lodge	Anaconda	Bowman Field	Public
Airport	Gallatin	Belgrade	Kreikemeier	Private
Heliport	Gallatin	Belgrade	Krinit Helicopters	Private
Airport	Gallatin	Belgrade	Mckenna	Private
Airport	Gallatin	Belgrade	Thompson Field	Private
Airport	Jefferson	Boulder	Boulder	Public
Heliport	Gallatin	Bozeman	Bozeman Deaconess Hospital	Private
Airport	Gallatin	Bozeman	Briar Creek	Private
Airport	Gallatin	Bozeman	Edsall Field	Private
Airport	Gallatin	Bozeman	Gallatin Field	Public
Airport	Gallatin	Bozeman	Haggerty	Private
Airport	Gallatin	Bozeman	Monger	Private
Airport	Gallatin	Bozeman	Waterfall	Private
Airport	Silver Bow	Butte	Bert Mooney	Public
Heliport	Silver Bow	Butte	Butte Aero	Public
Airport	Silver Bow	Butte	Flying Arrow Ranch	Private
Airport	Silver Bow	Butte	Smith Field	Private
Heliport	Silver Bow	Butte	St. James	Private
Airport	Powell	Deer Lodge	Deer Lodge-City-County	Public
Airport	Powell	Deer Lodge	Larner Field	Private
Airport	Beaverhead	Dell	Dell Flight Strip	Public
Airport	Beaverhead	Dillon	Dillon	Public
Airport	Madison	Ennis	Ennis – Big Sky	Public
Airport	Madison	Ennis	Sportsmans Field	Private
Airport	Beaverhead	Jackson	Fish Ranch	Private
Airport	Beaverhead	Lakeview	Lakeview	Private
Airport	Beaverhead	Lakeview	Metzel Creek	Private
Airport	Madison	Sheridan	Tezak's-Colterville-Spur	Private
Stolport	Gallatin	Three Forks	Hasskamp	Private
Airport	Gallatin	Three Forks	Three Forks	Public
Airport	Madison	Twin Bridges	Twin Bridges	Public
Airport	Jefferson	Whitehall	Jefco Skypark	Private
Airport	Park	Wilsall	Wilsall	Public
Airport	Beaverhead	Wisdom	Wisdom	Public
Airport	Silver Bow	Wise River	Jerry Creek	Private
Airport	Beaverhead	Wise River	Wise River	Public

Note: One unauthorized airstrip is located on BLM-administered lands (Dillon Field Office) within the study area in Montana. The airstrip is located on Erickson Creek in the upper Medicine Lodge drainage, T13S R12W S14, NW1/4NW1/4. It consists of two intersecting runways of about 1,200 feet each. A hanger at the south end has fallen into disrepair. The runways are natural unimproved surfaces, and are suitable only for light aircraft.

4.2.1.7 Superfund Sites

Federal Superfund sites (NPL sites) are situated in the Montana portion of the study area. NPL sites crossed by the alternative route links are found in Table 4.2-11.

Table 4.2-11 Superfund Sites Crossed by the Alternative Route Links – Montana

Link	Milepost Begin	Milepost End	Distance (Miles)	Name/CERCLIS ID	County
4-2	27.7	29.7	2.0	Basin Mining Area/ MTD982572562	Jefferson
	59.8	60.3	0.5		
7-72	0.7	1.0	0.3	Silver Bow Creek/Butte Area/ MTD980502777	Silver Bow, Deer Lodge
	2.9	3.0	0.1		
7-9	2.7	2.8	0.1	Anaconda Co. Smelter/ MTD093291656	Deer Lodge

Source: <http://www.epa.gov/superfund/sites/npl/mt.htm>

BASIN MINING AREA

EPA listed the Basin Mining Area in the Superfund NPL on October 22, 1999, due to mining-waste problems in the watershed and mining waste in the town of Basin. The mining area includes the watersheds of Basin and Cataract Creek and portions of the Boulder River below the confluence with these impacted streams. Mine wastes impact Basin and Cataract creeks and the soils within the town of Basin. Contaminants include arsenic, cadmium, copper, lead and other metals. The site is divided into two Operable Units (OUs): the town of Basin and the Basin Watershed.

SILVER BOW CREEK/BUTTE AREA

The boundary of the Silver Bow Creek/Butte Area site begins above Butte, near the Continental Divide, and extends westward along Silver Bow Creek to and including the Warm Springs Ponds (a treatment area). The site covers about 26 miles of stream and stream side habitat. Silver Bow Creek was used as a conduit for mining, smelting, industrial and municipal wastes for more than a hundred years. Vast mine tailing deposits are found along the creek. These deposits contain elevated levels of metals and have been dispersed over the entire flood plain. The site also includes the communities of Butte and Walkerville, as well as the Berkeley Pit and the interconnected mine workings.

The Silver Bow Creek/Butte Area site is one of four contamination areas, jointly known as the Clark Fork Basin Sites. Others are: Milltown Reservoir Sediments, Anaconda Company Smelter, and Montana Pole and Treating.

ANACONDA COMPANY SMELTER

The site is at the southern end of the Deer Lodge Valley, at and near the location of the former Anaconda Minerals Company (AMC) ore processing facilities. In September 1983, the EPA placed the area surrounding the smelter on the Superfund NPL. Consulting with the State of Montana and coordinating with ARCO, EPA began investigations into the extent of contamination. Since then, removals and cleanup actions have occurred.

The site covers approximately 300 square miles. Major mining-related features at the site include two large tailings ponds (Anaconda Ponds and Opportunity Ponds) and the former Anaconda smelter stack. There are also two communities (Anaconda and Opportunity) within the site footprint. I-90 and the Clark Fork River border the site. The site is divided into OUs (Anaconda Regional Waste Water and Soil; Old Works/East Anaconda Development Area) that are further divided into smaller units.

MONTANA POLE AND TREATING

The Montana Pole and Treating site is a former 40-acre wood treatment facility in Butte. From 1946 to 1983, the facility used pentachlorophenol (PCP) to preserve utility poles, posts and bridge timbers. Hazardous substances from the pole-treating operations were discharged into a ditch next to the plant. The substances then began to run towards Silver Bow Creek. MDEQ was designated as the lead agency for site clean-up through an agreement with the EPA.

Federal Superfund Site Remedial Investigation/Feasibility Study status is found in Table 4.2-12.

Table 4.2-12 Federal Superfund Site Remedial Investigation/Feasibility Study Status – Montana

Federal Superfund Site	Site Assessment (Site-Wide)	Interim Cleanup Actions	Remedial Investigation/ Feasibility Study	Record of Decision	Remedial Design/ Remedial Action	Operation and Maintenance
Anaconda	x					
Mill Creek			x	x	x	x
Flue Dust			x	x	x	on-going
Arbiter Beryllium		x	x		x	on-going
Old Works East		x	x	x	x	on-going
Anaconda Regional Water			x	x	on-going	on-going
Waste Soils						
Smelter Hill			x		on-going	on-going
Community Soils		x	x	x	on-going	
Basin	x					
Basin Town			x	x	x	on-going
Basin Watershed		x	on-going			
Montana Pole (Butte)	x	X(2)	x	x	on-going	on-going
Silver Bow Creek						
Warm Springs Pond		x	x	X(2) interim	x	on-going
Streamside Tailings	x		x	x	on-going	on-going
Rocker Treatment Plant		x	x	x	x	on-going
Mine Flooding		x	x	x	on-going	on-going
Priority Soils		X(8) on-going(2)	x	x	negotiations	
Active Mine Area						
Westside Soils						

Source: www.deq.st.mt.us/fedsuperfund/feds.asp

Notes: An "X" designates a completed activity (e.g. "X" under the Remedial Investigation/Feasibility Study category means a Record of Decision has been issued for this operable unit). A number after an "X" or an "on-going" denotes

the number of completed or on-going activities for that operable unit.

RHODIA MAIDEN ROCK MINE

In addition, one actively (as of January 30, 2008) managed Comprehensive Environmental Cleanup and Responsibility Act (CECRA) site (Rhodia Maiden Rock Mine) was identified in the study area. The Site Response Section of MDEQ utilizes the CECRA and the Environmental Quality Protection Fund (EQPF) to investigate and cleanup hazardous substances at sites not addressed by federal Superfund. Historical waste disposal activities at these sites caused contamination of air, surface water, groundwater, sediments, and/or soils with hazardous or deleterious substances. Under CECRA, sites are ranked based on potential risks to human health and the environment.

4.2.2 IDAHO

The alternative route links in the Idaho portion of the study area traverse diverse topography including forest, desert, lava beds, sagebrush plains, and grasslands. Recreation is a universal component in the region and includes hunting, fishing, winter snow sports, wilderness backpacking and river rafting. The Idaho National Laboratory (INL) is also located in the study area. In operation since 1949, the INL is a science-based, applied engineering national laboratory dedicated to supporting the DOE's missions in nuclear and energy research, science, and national defense. The INL is operated for the DOE by Battelle Energy Alliance (BEA) and partners.

Existing land uses within the study area are diverse (see Existing and Planned Land Use Map, MFSA Application, Volume III), and include residential, commercial, public/quasi-public, industrial, linear facilities, agriculture, military, air facilities, Superfund sites, mineral extraction, and transportation uses. Transportation uses and mineral extraction are further discussed in Sections 4.4 and 4.5, respectively.

4.2.2.1 Residential

Residences are dispersed throughout the study area, but are present in greater concentrations along major transportation routes. Table 4.2-13 presents the approximate number of residences within 1,000 feet of the alternative route links. The communities of Atomic City, Butte City, Dietrich, Hamer and Richfield are the only incorporated communities within the study area. Other population centers include unincorporated communities, as well as large-lot rural residential development and farmsteads. Farmsteads represent isolated residential structures with structures associated with farming or ranching operations. Outside of the communities, residential development is scattered throughout the study area in an open and rural environment. Some recreational cabin and second home development also exists, primarily in the Carey and Picabo areas.

Until recently, subdivision activity in the study area had increased significantly over the past years. Platted subdivisions within the study area are found in Table 4.2-14. The table also indicates if the platted subdivision is crossed by the alternative route links. Concentrations of subdivided lands primarily occur in and around the communities of Carey and Picabo.

Table 4.2-13 Number of Residences within 1,000 feet of the Alternative Route Links – Idaho

Link	Milepost Begin	Milepost End	Distance	Proximity to Residences	Number of Residences within 1000'
18-2	11.7	11.9	0.2	1000'	1
20	6.9	7.1	0.2	1000'	2
20	7.1	7.2	0.1	150'	
20	7.2	7.4	0.2	1000'	
20	7.5	7.8	0.3	1000'	
21	24.0	24.3	0.3	1000'	1
22	13.9	14.3	0.4	1000'	1
23	8.2	8.6	0.4	1000'	1
25-4	27.1	27.3	0.2	1000'	1
26-2	19.2	19.5	0.3	1000'	2
26-2	22.5	22.8	0.3	1000'	

Table 4.2-14 Platted Subdivisions Crossed by the Alternative Route Links – Idaho

Link	Milepost Begin	Milepost End	Distance	Platted Subdivision
25-3	14.6	14.8	0.2	Blaine 14

4.2.2.2 Commercial, Public/Quasi-Public, Industrial

Commercial, public/quasi-public, and industrial development in the study area is primarily found in or around incorporated and unincorporated communities. Commercial uses also exist near the on/off ramps of I-15, state highways and main traffic routes in the communities. Commercial microwave, cellular and radio towers are generally located in and around communities, along major roadways, and on mountain peaks. A communication tower lease site is also located on State of Idaho endowment land (T1N R22E S36). Schools within the study area are found in Table 4.2-15.

Table 4.2-15 Schools within the Study Area – Idaho

Name/Type/Grades	Location City/County
Dietrich Grade School/Public/PK-12	Dietrich/Lincoln
Hamer Elementary School/Public/K-5	Hamer/Jefferson
Richfield School/Public/PK-12	Richfield/Lincoln

PK=pre-kindergarten; K=kindergarten

Industrial use is, for the most part, agriculture- related. Industrial uses also include small manufacturing and processing plants.

4.2.2.3 Linear Facilities

The alternative route links cross electrical transmission lines owned and operated by PacifiCorp, BPA, and IPCO; numerous subtransmission and distribution lines (both aerial lines and buried cable); petroleum pipelines; and other utility features. Other utility features include long distance and local

telephone aerial wires; buried copper and fiber optic cables; aerial and buried cable television lines; gas lines; and domestic water lines. Electrical substations, minor substations, and a number of water pumping stations were also inventoried within the study area. One major canal, Reclamation’s Milner-Gooding Canal, is also located in the study area. The canal, a component of the Minidoka Project, irrigates Lincoln, Jerome, Twin Falls, and Gooding Counties.

4.2.2.4 Agriculture

Agricultural lands (crops and livestock) are present in the study area. Crops include irrigated and non-irrigated (dryland) field crops. Where conditions are favorable, wheat, sugar beets, barley, hay, potatoes and other crops are grown. Irrigation water from the Snake River and wells allow production of potatoes, sugar beets, and wheat. There is also dryland farming of winter wheat. Specific irrigation methods used in the field (sprinkler and flood) also vary depending on soil properties, topography, and cost. Sprinkler methods include center pivot, wheel and hand line while flood methods include basin or furrow. Most of the new water development in the study area has been sprinkler irrigation. Aerial spraying (crop dusting) is used to control insects, weeds, and diseases in some agricultural areas. Crop type at any one location is variable and occasionally in fallow. Livestock production also exists in the study area. Cow-calf and ewe-lamb operations are the major types of ranching. Table 4.2-16 provides top crop and livestock inventory data at the county level.

Table 4.2-16 Top Crop and Livestock Inventory Items – Idaho

Top Crop Items (acres)	Top Livestock Inventory Items (number)
BINGHAM COUNTY	
All Wheat for grain – 113,117	Cattle and calves – 84,096
Forage (land used for all hay and haylage, grass silage, and greenchop) – 72,969	Sheep and lambs - 10,329
Potatoes - 68,767	Colonies of bees – 6,675
Sugarbeets for sugar – 25,574	Horses and ponies – 4,975
Barley – 22,531	Pheasants – (D)
BLAINE COUNTY	
Forage (land used for all hay and haylage, grass silage, and greenchop) – 21,933	Sheep and lambs – 31,898
Barley – 9,783	Cattle and calves – 20,031
All Wheat for grain – (D)	Horses and ponies – 1,291
Oats - 298	Layers 20 weeks old and older - 301
Corn for silage – (D)	Hogs and pigs – (D)
BONNEVILLE COUNTY	
All Wheat for grain – 83,296	Cattle and calves – 50,847
Barley – 62,636	Colonies of bees – (D)
Forage (land used for all hay and haylage, grass silage, and greenchop) – 36,510	Horses and ponies – 3,328
Potatoes – 29,436	Sheep and lambs – 3,272
Corn for silage – 2,387	Layers 20 weeks old and older - 448
BUTTE COUNTY	
Forage (land used for all hay and haylage, grass silage, and greenchop) – 35,237	Cattle and calves – 15,676
	Sheep and lambs – 6,581
	Horses and ponies – 799

Table 4.2-16 Top Crop and Livestock Inventory Items – Idaho

Top Crop Items (acres)	Top Livestock Inventory Items (number)
Oats – 311	Bison – (D) All Goats - 51
CLARK COUNTY	
Forage (land used for all hay and haylage, grass silage, and greenchop) – 16,696	Cattle and calves – 8,745
All Wheat for grain – 7,288	Sheep and lambs – (D)
Potatoes – (D)	Bison – (D)
Barley – 1,840	Horses and ponies – 484
Oats – (D)	-----
JEFFERSON COUNTY	
Forage (land used for all hay and haylage, grass silage, and greenchop) – 97,958	Cattle and calves – 65,844
Barley – 37,656	Sheep and lambs – 14,531
Potatoes – 27,788	Horses and ponies – 3,326
All Wheat for grain – 24,298	Layers 20 weeks old and older - 494
Corn for silage – 3,047	Pheasants – (D)
JEROME COUNTY	
Forage (land used for all hay and haylage, grass silage, and greenchop) – 40,939	Cattle and calves – 150,501
Barley – 23,127	Layers 20 weeks old and older – 1,769
Corn for silage – 18,325	Horses and ponies – 1,408
Sugarbeets for sugar – 12,990	Bison – (D)
Potatoes – 12,199	All Goats - 599
LINCOLN COUNTY	
Forage (land used for all hay and haylage, grass silage, and greenchop) – 28,302	Cattle and calves – 43,376
All Wheat for grain – 7,078	Horses and ponies – 1,304
Sugarbeets for sugar – 5,244	Sheep and lambs - 537
Corn for Silage – 3,893	Layers 20 weeks old and older - 191
Barley – 2,352	All Goats – (D)
MINIDOKA COUNTY	
Sugarbeets for sugar – 47,804	Layers 20 weeks old and older - 68
Potatoes – 35,842	Cattle and calves – 4,803
Barley – 35,673	Sheep and lambs – 4,654
All Wheat for grain – 35,062	Mink – (D)
Forage (land used for all hay and haylage, grass silage, and greenchop) – 29,895	Horses and ponies – 2,526
POWER COUNTY	
All Wheat for grain – 89,981	Cattle and calves – 26,045
Potatoes – 26,881	Colonies of bees – (D)
Sugarbeets for sugar – 13,025	Horses and ponies - 895
Forage (land used for all hay and haylage, grass silage, and greenchop) – 11,749	Hogs and pigs – (D)
Barley – 5,336	Layers 20 weeks old and older - 148

(D) Cannot be disclosed. Source: U.S. Department of Agriculture, Idaho Agricultural Statistics Service, 2002 Census of Agriculture, County Profile

A large amount of range acreage (rangeland/native vegetation) provides forage for livestock. Livestock grazing occurs in most cover types including low-elevation shrub and mid-elevation shrub, invasive annual grass, perennial grass, salt desert shrub, mountain shrub, juniper, aspen/conifer, dry conifer, wet/cold conifer, and riparian. Livestock is typically grazed on privately owned land and publicly owned grazing allotments. Allotments are primarily managed by the BLM or USFS. Resource allocation within an allotment is based on AUMs. The domestic livestock permitted to graze on allotments in the project area include cattle, sheep, horses, goats, and buffalo.

Grazing preference is defined as the total number of AUMs within a grazing allotment that the agency has allocated for livestock use, to be used by qualified operators that own or control land suitable as base property. Grazing use in the allotment is authorized through issuance of grazing permits or leases. The permits and leases and attendant activity plans describe the livestock class, intensity, duration, and timing of grazing as well as fences, water developments, and other range improvements to be installed. Livestock use is licensed from seasonal to year-long use. The majority of allotments in the project area are grazed in spring/summer/fall, spring, and spring/fall.

Grazing allotments crossed by the alternative route links in Idaho are found in Table 4.2-17 in Appendix B.

The IDL is responsible for the management of agricultural leasing activities, including cropland and grazing leases, on Idaho state endowment lands.

Agricultural lands crossed by the alternative route links in Idaho are listed in Table 4.2-18 in Appendix B.

Important Farmland (prime farmland, prime farmland if irrigated, farmland of statewide importance, and farmland of local importance) in Idaho designated by the NRCS and crossed by the alternative route links is presented in Table 4.2-19 in Appendix B.

U.S. SHEEP EXPERIMENT STATION

The USDA ARS, U.S. Sheep Experiment Station, located in the study area in Idaho, is situated in the upper Snake River Plain at the foothills of the Centennial Mountains, approximately six miles north of Dubois. The mission of the U.S. Sheep Experiment Station is to develop integrated methods for increasing production efficiency of sheep and to simultaneously improve the sustainability of rangeland ecosystems. Lands are used for grazing and rangeland research.

4.2.2.5 Military

No current military withdrawals, MOAs or MTRs were identified within the Idaho portion of the study area.

4.2.2.6 Air Facilities

Twenty five airports registered with the FAA were identified in the Idaho portion of the project area and vicinity (see Table 4.2-20).

Table 4.2-20 Federal Aviation Administration Registered Airports Located in the Study Area and Vicinity – Idaho

Type	County	City	Facility Name	Use
Airport	Bingham	Aberdeen	Aberdeen Muni	Public
Airport	Power	American Falls	American Falls	Public
Airport	Butte	Arco	Arco-Butte County	Public
Airport	Butte	Atomic City	Big Southern Butte	Public
Airport	Blaine	Atomic City	Coxs Well	Public
Airport	Bingham	Atomic City	Midway	Public
Airport	Blaine	Bellevue	Sluder Airstrip	Private
Airport	Blaine	Carey	Carey	Public
Airport	Clark	Dubois	Dubois Muni	Public
Airport	Blaine	Hailey	Friedman Memorial	Public
Airport	Camas	Hailey	Magic Reservoir	Public
Airport	Bonneville	Idaho Falls	Idaho Falls Rgnl	Public
Airport	Jefferson	Idaho Falls	Q.B. One	Private
Airport	Lincoln	Kimama	Laidlaw Corrals	Public
Airport	Fremont	Lake/Island Park/	Henry's Lake	Public
Airport	Lemhi	Leadore	Leadore	Public
Airport	Blaine	Martin	Hollow Top	Public
Airport	Blaine	Minidoka	Bear Trap	Public
Airport	Jefferson	Mud Lake	Mud Lake/West Jefferson County/	Public
Airport	Blaine	Muldoon	Flat Top Airstrip	Private
Airport	Blaine	Picabo	Picabo	Private
Airport	Bingham	Riverside	Russell W Anderson Strip	Private
Airport	Bingham	Rockford	Rockford Muni	Public
Airport	Bingham	Rockford	Rockford Muni	Public
Airport	Lincoln	Shoshone	Black Butte Ranch	Private
Heliport	Lincoln	Shoshone	Shoshone BLM	Private

4.2.2.7 Superfund Sites

One federal Superfund (NPL) Site, Idaho National Engineering Laboratory, is situated in the Idaho portion of the study area

IDAHO NATIONAL LABORATORY

The U.S. Atomic Energy Commission (now DOE) founded the INL in 1949. At that time, it was known as the National Reactor Testing Station and was established to build, test, and operate nuclear reactors, fuel reprocessing plants, and support facilities with maximum safety and isolation. In 1974, the area was designated Idaho National Engineering Laboratory (INEL) to reflect the broad scope of engineering activities conducted there. The name was changed to the Idaho National Engineering and Environmental Laboratory (INEEL) in 1997 to reflect a redirected mission, which included environmental research. In 2005, the name was change to INL.

INL consists of a number of major facilities, including these three: Test Reactor Area (TRA), Central Facilities Area (CFA), and Idaho Chemical Processing Plant (CPP). All three facilities contribute contaminants to the Snake River Plain Aquifer and draw water from the aquifer. Approximately

17,300 tons of hazardous materials were deposited at TRA via a 560-foot injection well extending 100 feet into the Snake River Plain Aquifer and also into numerous unlined ponds and an earthen ditch. The materials included chromium-contaminated cooling tower blowdown water, waste solvents, sulfuric acid, radionuclides, and laboratory wastes.

In July 1987, EPA and INEL signed a consent Order and Compliance Agreement under Section 3008(h) of the Resource Conservation and Recovery Act (RCRA) calling for investigation and cleanup.

In accordance with the Federal Facility Agreement and Consent Order (FFA/CO) (DOE-ID 1991a), the INL Site was divided into 10 waste area groups (WAGs) to facilitate remedial design/remedial action (RD/RA). WAGs 1 through 9 correspond to the primary facility areas at the INL Site. WAG 10 corresponds to the portion of the Snake River Aquifer beneath the INL Site and to surface and subsurface areas not included with Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) sites identified in facility-specific Records of Decision (RODs). The FFA/CO also established OUs for specific remedial activities within the WAGs (WAG 8 was not included).

According to the DOE, Idaho Operations Office 2007 Report “Five-Year Review of CERCLA Response Actions at the Idaho National Laboratory, Idaho Cleanup Project”, remedial actions have been completed at WAGs 2, 4, 5, 6, and 9 and remediation is ongoing at WAGs 3, 7, and 10. WAG 8 was not included in the report, because it does not fall under the jurisdiction of the DOE Idaho Operations Office. Remedial investigations are yet to be completed for OUs 3-14, 7-13/14, and 10-08.

4.3 PARKS, RECREATION, AND PRESERVATION AREAS

4.3.1 MONTANA

Outdoor recreation and tourism are major components of the economy in southwestern Montana, which is nationally known for its high quality fishing, hunting, camping, hiking, river floating, skiing, snowmobiling, wildlife viewing and sightseeing opportunities. Many of these outdoor activities are made possible by public ownership of large tracts of mountainous habitat and access provided by many private landowners. According to the Montana SCORP 2008 to 2012, Montana households with higher incomes and Montana households with children are more likely to be active in recreation activities. Overall, the SCORP stated that the most popular outdoor recreation activities are walking, wildlife watching, attending sporting events, hiking, biking, attending festivals, swimming, picnicking, nature photography, fishing, motorcycling, hunting, camping, golfing, horseback riding and boating. Many nonresident visitors come to Montana to enjoy natural resource-based outdoor recreation, such as hunting, fishing and motorized recreation (boating, snowmobiling, four-wheeling).

The study area and region contain a number of recreational opportunities that vary with season, as well as other areas with special management designations (see Parks, Recreation, and Preservation Areas map, MFSA Application, Volume III). Spring and summer provide opportunities for fishing, hiking, photography, horseback riding, wildlife viewing, spring hunting, water sports (powered and non-powered), OHV activities, camping, picnicking, and touring (vehicle and bicycle). Winter brings skiing, snowshoeing, snowboarding, and snowmobiling. The BDNF, located in the study area, offers a wide variety of recreation activities. Day hikes in non-motorized settings, picnicking, and OHV trails are available to regional population centers including Butte, Anaconda, Deer Lodge, Philipsburg, Boulder, Ennis, Whitehall, Helena, and Dillon. Hunting includes a mix of walk-in and OHV activities. In the winter, people participate in downhill and cross-country skiing as well as

snowmobiling. There are opportunities for backpacking and stock use in Wilderness and other primitive areas. Backcountry travel routes in other areas provide OHV and bicycle riding opportunities. The high country offers a number of mountain lakes in a variety of settings. The Homestake Picnic Area (day use) is located in the study area approximately 6 miles east of Butte.

Thompson Park is also located in the study area. Thompson Park is a 3,500-acre congressionally designated Municipal Recreation Area that is co-managed as a non-motorized city park by the City-County of Butte-Silver Bow and the USFS. Thompson Park is located approximately 10 miles south of Butte on the east and west sides of Montana Highway 2 and extends from the junction of Continental Drive to Pipestone Pass. The park was designated by Congress in 1922 and consists of public lands owned by the USFS and Butte-Silver Bow County. The Continental Divide National Scenic Trail (CDNST) passes through the south end of the park. Recreational opportunities include picnicking, fishing, hiking, biking, horseback riding, and frisbee golf at several developed recreation sites and non-motorized trails. The Milwaukee Railroad, an abandoned railroad right-of-way within the park, is popular with hikers, horsemen, and mountain bikers. The railroad extends from the north end of Thompson Park to the Continental Divide at Pipestone Pass. The USFS is proposing to reestablish historic recreation activities that include day use and trail opportunities in and adjacent to Thompson Park to provide natural resource based recreation opportunities. The project proposes to relocate roads to access recreation sites, to complete required safety and stabilization work on the abandoned Milwaukee Railroad, and to provide trail opportunities to connect existing and new trails.

Recreation opportunities within the BDNF are also available through private business operations, including skiing and snowmobiling, recreation resorts, outfitters and guides. Partnerships and agreements with local recreation groups provide groomed cross-country skiing and snowmobile trails. Recreation opportunities across the forest are also enhanced by roads, trails, picnic and campgrounds, trailheads, and interpretive sites.

The BLM also has land holdings in the study area. The majority of this land is not contiguous; it is fragmented and many times isolated by private holdings. Although BLM manages relatively isolated tracts of public lands along the rivers, fishing and floating are major recreational activities, particularly along the Big Hole and Beaverhead rivers. An undeveloped BLM boat ramp (Dillon Field Office) is available on the Big Hole River. The ramp, located at the Maiden Rock Recreation Site, is a single width ramp of native material surface suitable for white water boats, small boats and inflatable rafts. A number of motels, rental cabins, private/public campgrounds, restaurants, and outfitter and guide businesses are located along the river. A larger number of motels, sporting good stores, and outfitter and guide businesses, located in the surrounding communities of Butte, Anaconda, and Dillon, benefit directly from the Big Hole River as well. BLM land along the Big Hole, Madison, Jefferson, and Missouri rivers offers some of the most outstanding sport fishing opportunities in the U.S. The State of Montana classifies many reaches of these streams as Class I or "blue ribbon" fisheries.

Other recreation activities include: hiking, big game hunting, upland bird and waterfowl hunting, camping, backpacking, horsepacking, swimming, picnicking, archery, organic materials gathering, organized festivals, snowshoeing, snowmobiling, mountain and road biking, rock climbing, viewing wildlife and landscapes, rock collecting, and OHV use. The 30,000-acre Pipestone Travel Management Area is located approximately 15 miles east of Butte and just north of I-90. It is a popular area for motorcycle and ATV riding. Mountain bikers also use the trails. There are about 75 miles of developed riding trails. The most intensive recreational use area-wide occurs during the big game hunting season. Commercial outfitters are also authorized under Special Recreation Use Permits to conduct big game hunting in the study area. Most hunting/outfitter guides pursue mule deer, elk,

upland birds, bear, and mountain lions. BLM Outfitter Permit Areas (OPAs) have been designated to help manage outfitted big game hunting. Special Recreation Use Permits are also issued for rock climbing, folfing, horseback riding, OHV group riding events, mountain biking events, and other social gatherings.

Reclamation-administered Clark Canyon Reservoir is located in the study area south of Dillon. This reservoir, with 4,935 surface acres and 17 miles of shoreline, offers fishing, boating, picnicking, camping, and swimming. The site of Lewis and Clark's "Camp Fortunate" is now underwater, but an overlook, picnic site, and campground have been developed above the shoreline along I-15.

State-owned lands checkerboard the study area. Much of this land is surrounded by private or federal land. Recreational opportunities include hunting, fishing, wildlife viewing, hiking, snowmobiling, and skiing. State parks offer outdoor activities such as Native American history, geological sites, wildlife preserves, water sports, photography, hiking, camping, and fishing. State Wildlife Management Areas (WMAs) and Fishing Access Sites (FASs), managed by MFWP, provide additional recreational opportunities.

Some communities offer museums, parks, baseball fields, rodeo grounds/fairgrounds, walking/hiking/bicycle trails, water sports, outdoor sports activities at schools, and other opportunities. The Lima Town Park, as well as undeveloped parks and a proposed trail system associated with Butte-Silver Bow County, are located in the study area. Butte-Silver Bow Parks and Recreation, and Planning Departments are currently working to complete a countywide comprehensive master park plan.

Recreational opportunities also exist on privately owned lands, including private campgrounds, RV Parks, resorts, and dude ranches. Activities such as hunting and backcountry trips may be permitted on privately owned land with landowner consent. Hunting opportunities also arise on private and publicly owned lands as a result of MFWP actions, such as through the block management program and conservation easements. A block management area is either a privately or publicly owned land area that is managed by the MFWP, private landowners, or public land management agencies to provide free public hunting access.

4.3.1.1 Special Management Area Designations

These designations are intended to enhance or protect specific qualities over time, and to feature recreation opportunities, ecosystem protection, or historic preservation. Some special designations are made only by Congress. Other designations are made by agencies. Once a designation is in place it does not usually change. Allocations are more temporary in nature.

WILDERNESS AREAS

No wilderness areas are located in the study area.

Two wilderness areas (Anaconda Pintler Wilderness and Red Rock Lakes National Wildlife Wilderness) are located approximately seventeen miles to the west, and approximately eighteen miles to the east of the study area, respectively.

Created by an act of Congress in 1964, the Anaconda Pintler Wilderness Area straddles the Continental Divide in the Anaconda mountain range and is managed by the BDNF. The Red Rock Lakes National Wildlife Refuge Wilderness is managed by the USFWS.

WILDERNESS STUDY AREAS

The following BLM WSAs (Table 4.3-1) were identified in the Montana portion of the MSTI study area: Dillon Field Office (Bell/Limekiln Canyon WSA, Henneberry Ridge WSA and Hidden Pasture Creek WSA); Butte Field Office (Humbug Spires WSA, Black Sage WSA, and Elkhorn Tack-on WSA).

Table 4.3-1 BLM Wilderness Study Areas – Montana

Name	Number	Total Acres	Acres Recommended for Wilderness
Bell/Limekiln Canyon	MT-076-026	9,650	0
Henneberry Ridge	MT-076-028	9,806	0
Hidden Pasture Creek	MT-076-022	15,509	0
Humbug Spires*	MT-ISA-003	11,320	9,648
Black Sage	MT-075-115	5,917	5,917
Elkhorn Tack-on	MT-075-114	3,575	3,575

*Also designated a BLM Primitive Area in 1972.

RECOMMENDED WILDERNESS

Two areas in Montana (Italian Peak and Garfield Mountain) have been recommended for wilderness designation within the study area. Both of these areas are located in the BDNF. These areas provide semi-primitive non-motorized settings and offer opportunities for foot, stock, ski, snowshoe travel, dispersed camping, and other activities. USFS policy, FSM 1923.03 (2) states any area recommended for Wilderness is not available for any use or activity that may reduce the area’s wilderness potential. This national policy allows each forest to determine, through the land management planning process, the uses best suited to protect an area’s wilderness potential.

NATIONAL HISTORIC TRAILS

The Lewis and Clark National Historic Trail (LCNHT) is in the study area. The LCNHT stretches 1,700 miles from Wood River, Illinois to the mouth of the Columbia River in Oregon, following the outbound and inbound routes of the Lewis and Clark expedition of 1804-1806. The LCNHT and its related sites are managed according to the 1979 LCNHT Comprehensive Plan. The LCNHT has begun the process to update and revise its Plan.

NATIONAL SCENIC TRAILS

The Continental Divide National Scenic Trail (CDNST) was identified in the study area. The CDNST is described as a 3,100 mile trail, traveling from Canada to Mexico, through five western states- Montana, Idaho, Wyoming, Colorado and New Mexico.

The CDNST is managed according to the National Trails Act and CDNST Comprehensive Plan for the purpose of providing:

- “A continuous, appealing trail route, designed for the hiker and horseman, but compatible with other land uses.”
- Hikers and riders an entrée to the diverse country along the Continental Divide in a manner which will assure a high quality recreation experience while maintaining a constant respect

for the natural environment.

- Exception for motorized use is outlined in the National Trails Act.

The CDNST Comprehensive Plan was approved in 1985 by the Chief of the USFS. The Comprehensive Plan provided for general guidance for the Trail, but defers providing for specific management direction to unit by unit land management planning to meet the Comprehensive Plan content requirements as described in Section 5(f) of the National Trails System Act (NTSA). In 1997, the Deputy Chief of the USFS supplemented the Comprehensive Plan to direct that the intent of the Trail was to be for non-motorized recreation. Other management direction for the CDNST is provided through the 1989 Montana CDNST EA.

Recreational activities associated with the CDNST include hiking, horseback riding, camping, hunting, and photography.

NATIONAL WILD AND SCENIC RIVERS

There are currently no Wild and Scenic Rivers or congressionally designated study rivers within the Montana portion of the MSTI study area. Under Preferred Alternative B of the Butte BLM Field Office RMP revision, Muskrat Creek (2.6 miles) has been recommended as suitable for inclusion into the NWSRS. According to the BLM, the creek contains outstanding remarkable values of recreational and scenic with a tentative classification of scenic. Protective management under the Wild and Scenic Rivers Act will be applied to Muskrat Creek by the BLM until the creek is either designated by Congress or released to multiple use. Protective management objectives include:

- Free-flow characteristics would not be modified by stream impoundments, diversions, channelization, or riprapping.
- Each segment would be managed to protect identified outstandingly remarkable values, and to the extent practicable such values would be enhanced.
- Development of the river and its corridor, would not be modified to the extent that the eligibility or tentative classification would be affected.

In addition, a segment of Deadman Creek within the study area has been classified by the BDNF as an eligible Wild and Scenic River. The stream contains the following outstanding remarkable values:

- Recreation
- Wildlife
- Historic Register Site

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Existing BLM ACECs within the study area in Montana are listed in Table 4.3-2 and described below.

Table 4.3-2 Existing BLM ACECs within the Study Area – Montana

Field Office	ACEC Name	Designation Date	Size (Acres)	Reason for Designation	Land Use Plan(s)
Dillon	Muddy Creek/Big Sheep Creek	2/7/06	22,829	Scenic and cultural resource values including pictograph and rock sites	Dillon RMP
Dillon	Block Mountain	2/7/06	8,661	Exceptional fold and thrust belt structures for teaching geological field mapping	Dillon RMP

*Does not allow new rights of way

MUDDY CREEK/BIG SHEEP CREEK ACEC

Muddy Creek/Big Sheep Creek ACEC lies four miles southwest of Dell, including portions of the Muddy Creek drainage and continuing upstream along the Big Sheep Creek drainage to its confluence with Deadman Creek. The area contains public land with relevant and important scenic values along Big Sheep Creek and cultural resource values throughout. Portions of the ACEC fall within the Hidden Pasture WSA.

The following special management measures exist within the ACEC boundary to protect the scenic values along Big Sheep Creek and the cultural values throughout the area:

- a. Require Plans of Operation for locatable mineral proposals.
- b. Apply special provisions as necessary to protect cultural resources during any project activities (including but not limited to locatable mineral proposals).
- c. Apply special provisions if necessary to protect scenic values during any project activities (including but not limited to locatable mineral proposals).

Under standard management, portions of the ACEC are not available for mineral material authorizations. Standard management also provides procedures for dealing with properties and districts eligible to the National Register of Historic Places (NRHP). No Surface Occupancy stipulations would be applied to any oil and gas leases under standard management, except for those portions within the Hidden Pasture WSA, which would not be available for lease. Any lands in the ACEC that fall within the Hidden Pasture WSA boundary are subject to the Interim Management Policy for Lands Under Wilderness Review, unless more restrictive provisions are outlined under other standard or special management.

BLOCK MOUNTAIN ACEC

Block Mountain ACEC is located 15 miles northeast of Dillon. There are approximately 8,661 acres of public land in this area. These lands lie in portions of Sections 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, and 35 of Township 4 South, Range 8 West, and portions of Sections 2, 3, 4, 9, 10, and 11 in Township 5 South, Range 8 West. This area exhibits low topographic relief that allows easy access. The area contains exceptional fold and thrust belt structure that is easily visible.

The following special management measures exist in the ACEC boundary to protect the exceptional

fold and thrust belt structure and to ensure continued access to the area:

- a. Evaluate the density and placement of any facilities or land use authorizations proposed in the area and require measures to protect the integrity of the geologic features.
- b. Require permits for educational uses within the area.
- c. Develop educational materials describing access to the area and the features within and appropriate use protocols.
- d. Evaluate all mineral use proposals within the area and identify and mitigate impacts to important features in the area.

POTENTIAL ACECS

Also located in the study area are three potential ACECs (Elkhorn Mountains, Humbug Spires and Ringing Rocks). These potential ACECs are being proposed in Preferred Alternative B of the Butte BLM Field Office Draft RMP. A Memorandum of Understanding (MOU) between MFWP, BLM Butte Field Office, and BDNF, signed in 1992 and updated in 2000, facilitates management of the Elkhorn Mountains Cooperative WMA as an ecological unit across political boundaries for the purpose of sustaining ecological systems, potential biological diversity, and ecosystem processes. The Elkhorn Mountains ACEC would include priority wildlife and primitive recreation lands as a subset of the area described in the interagency MOU as the Elkhorn Mountains Cooperative Wildlife Management Area (WMA) Unit boundary. Therefore the Elkhorn Mountains ACEC boundary in Alternative B does not match the area described as the cooperative management unit in the interagency MOU. Table 4.3-3 provides information on the relevant and important values for each of the potential ACECs.

Table 4.3-3 Potential ACECs (BLM Butte Field Office) – Montana

Potential ACEC	Relevant and Important Values
Elkhorn Mountains	Outstanding scenic qualities; diverse upland and aquatic habitat for wildlife and fish; outstanding primitive and unconfined recreation opportunities
Ringing Rocks	Rare and unique geological rock feature
Humbug Spires	Outstanding scenic qualities; diverse upland and aquatic habitat for plants, animals, and fish; outstanding primitive and unconfined recreation opportunities (especially rock climbing)

Source: BLM (Butte Field Office) Draft RMP/EIS

INVENTORIED ROADLESS AREAS

The following IRAs, all located in the BDNF, were identified in the study area:

- No. 1-010 Cattle Gulch (18,865 acres)
- No. 1-609 Electric Peak (21,686 acres)

- No. 1-011 Fleecer (35,825 acres)
- No. 1-961 Garfield Mountain (48,935 acres)
- No. 1-945 Italian Peak (91,260 acres)
- No. 1-016 McKenzie Canyon (34,063 acres)
- No. 1-017 Sourdough Mountain (16,883 acres)
- No. 1-108 Timber Butte (5,278 acres)

Each of these IRAs is discussed in more detail in Appendix C.

RESEARCH NATURAL AREAS

One USFS-managed RNA, Bernice Experimental Forest, was identified in the Montana portion of the study area. The Northern Region Status and Needs Assessment for Research Natural Areas of October 1996 has assigned communities and or habitat types to each National Forest in Region 1 so the entire range of vegetative types in the Northern region is represented by one or more RNAs. The Bernice Experimental Forest meets one or more of the assigned communities, habitat types, or other features assigned to the BDNF (Table 4.3-4).

Table 4.3-4 Research Natural Area Descriptions – Montana

Research Natural Area	Acres	District	Designated	Primary Features
Bernice Experimental Forest	451	Jefferson	1996	Douglas-fir/subalpine forest, Douglas-fir, twinflower, and grasslands

SCENIC BACKCOUNTRY BYWAYS

One BLM Backcountry Byway (Big Sheep Creek Backcountry Byway) was identified in the study area in Montana. The Byway, approximately 50 miles long, is located near Dell, 24 miles north of the Idaho state line. The road is mostly two-lane gravel with a few side roads that lead to the foot of the Rocky Mountains and provide many opportunities for solitude and exploration. Recreational activities associated with the Byway include sightseeing, wildlife viewing, camping, fishing, and pleasure-driving.

RECREATION MANAGEMENT AREAS

Five existing BLM SRMAs (Dillon Field Office: Lower Big Hole SRMA, South Pioneers; Butte Field Office: Lewis and Clark Trail SRMA, Upper Big Hole River SRMA, Humbug Spires SRMA) are present in the Montana portion of the study area. Within the Dillon Field Office, the Rocky Hills area, including lands within the Henneberry Ridge WSA, would be designated as a SRMA also, if the WSA were in the future to be released from further consideration as wilderness. Recreational opportunities provided by the five existing SRMAs are specified in Table 4.3-5. Remaining public lands in the study area are managed as an ERMA.

Table 4.3-5 Recreational Opportunities at Existing Special Recreation Management Areas – Montana

SRMA	Recreational Opportunity
Lower Big Hole	River recreation, day use, and semi-primitive camping
South Pioneers	Motorized recreation, mountain biking, day use
Lewis and Clark Trail	Camping, power boating, river floating, fishing, swimming, horseback riding, hiking, hunting, and viewing wildlife/scenic landscapes
Upper Big Hole River	Fishing, camping, picnicking, river floating, hunting, hiking, driving for pleasure and nature observation which are all focused within the river corridor
Humbug Spires	Hiking, tent camping, backpacking, stream fishing, horseback riding, rock climbing, fall hunting, wildlife viewing, nature photography, and snowshoeing

Source: BLM Butte Field Office Draft RMP/EIS

Preferred Alternative B of the Draft Butte Field Office RMP would also establish one new SRMA in the study area (Pipestone); and replace the Lewis and Clark Trail SRMA with two priority areas (Hauser Lake/Lower Missouri River SRMA, Toston Reservoir/Missouri River SRMA. Table 4.3-6 indicates the primary recreational management strategy (primary recreation tourism market, needed recreation management zones, recreation opportunity spectrum (ROS), and primary recreation opportunities) for these areas. Portions of the Lewis and Clark Trail would not be designated as a SRMA, but would be managed within the Butte ERMA.

Table 4.3-6 Management of Special Recreation Management Areas – Montana.

SRMA	Recreation Tourism Market	Recreation Management Zones	Recreation Opportunity Spectrum (ROS)	Primary Recreation Opportunities
Toston Reservoir/ Missouri River <i>(formerly Lewis and Clark Trail SRMA)</i>	Community	One	Rural	Developed camping and day-use activities, lake access for motorized boating, fishing, swimming, picnicking, and group gatherings.
Pipestone <i>(proposed)</i>	Community	One	Roaded Natural	OHV riding, driving for pleasure, semi-developed camping, hunting, horseback riding, hiking and mountain biking.
Upper Big Hole River	Destination	One	Primarily Roaded Natural	Semi-developed camping, limited motorized pleasure driving, river access for floating and fishing, fall hunting, hiking and natural viewing.
Humbug Spires	Destination	One	Semi-primitive, Non-motorized	Hiking, backpacking, rock climbing, primitive camping, fishing, and hunting.

Source: BLM Butte Field Office Draft RMP/EIS

OTHER BLM RECREATION SITES

Developed recreation sites are relatively small, distinctly defined areas where facilities are provided for concentrated public use (i.e., campgrounds, picnic areas). Developed BLM Recreation sites within the study area in Montana include:

- Ney Ranch Recreation Site (crossed by Link 16-1 from MP 18.2 – MP 20.1)
- Radersburg OHV Site and Trailhead
- Toston Dam Recreation Site
- Lower Toston Recreation Site
- Lombard Recreation Site
- Sheep Camp Recreation Site
- Ringing Rocks Recreation Site
- Four Corners OHV Trailhead
- Pipestone OHV Trailhead
- Whiskey Gulch OHV Trailhead
- Bridge Campground
- Moose Creek Trailhead
- Divide Bridge Campground
- Divide Bridge Day Use Area
- Sawmill Gulch Trailhead

The Toston Dam and Lower Toston Recreation Sites are water-oriented recreation sites, one located just above Toston Dam on the Missouri River Reservoir and the other just below the dam on the free-flowing river. This reach of the river is a popular fishery for rainbow and brown trout. Wildlife frequent the area, and waterfowl, eagles, hawks, cormorants, and pelicans are common sites. Motor boats can be used above the dam on the small reservoir. Camping, picnicking, and floating are other recreational pursuits.

Ringing Rock Recreation Site is a unique geological formation located approximately 18 miles east of Butte and north of I-90. The rocks in this geologic area chime when tapped with a hammer.

STATE PARKS

One Montana state park (Lewis and Clark Caverns State Park) was identified in the study area. The park, consisting of 2,929 acres, is Montana's first state park and contains one of the most highly decorated limestone caverns in the Northwest. The park also provides activities which include fishing (limited river access, foot traffic only), camping, picnicking, bicycling, group use, hiking, wildlife viewing, interpretive programs, tours, and photography.

STATE WILDLIFE MANAGEMENT AREAS

WMAs provide vital habitat for elk, deer, ducks, geese, pheasants, grouse, and an array of other

wildlife. Many of these areas also provide opportunities for hiking, hunting, fishing, bird watching, and other recreational pursuits. Two WMAs (Mount Haggin and Fleecer Mountain) are located in the Montana portion of the study area. Mount Haggin provides year-round habitat for wildlife, emphasizing elk, moose, and mule deer, and provides public outdoor recreational opportunities. Recreational activities include fishing, camping, picnicking, bicycling, snowshoeing, hiking, horseback riding, wildlife viewing, nordic skiing, hunting, and photography. Fleecer Mountain provides year-round habitat for wildlife, emphasizing winter range for elk and mule deer and also provides public outdoor recreational opportunities. Recreational activities include fishing, camping, bicycling, hiking, horseback riding, wildlife viewing, hunting, and photography.

STATE FISHING ACCESS SITES

State FASs located in the study area in Montana, along with their acreages and associated activities, are presented in Table 4.3-7.

Table 4.3-7 State Fishing Access Sites within the Study Area – Montana

Name	Acres	Activities
Brownes Bridge	10	Boating, Fishing, Camping
Cardwell Bridge	6	Boating, Fishing
Drouillard	41	Boating, Fishing
Fairweather	853	Boating, Fishing, Camping, Wildlife Viewing
Grasshopper	1	Fishing
Henneberry	603	Boating, Fishing, Wildlife Viewing
Kalsta Bridge	6	Fishing (Walk in fishing only)
Maiden Rock	390	Boating, Fishing, Camping
Mayflower Bridge	21	Boating, Fishing
Pipe Organ	6	Fishing
Salmon Fly	12	Boating, Fishing, Camping
Silver Star	24	Boating, Fishing
Toston	41	Boating, Fishing
Yorks Islands	22	Boating, Fishing, Camping

STATE ROADSIDE REST AREAS

Two existing rest areas were identified in the study area in Montana. The Divide rest area is located along I-15 (northbound at milepost 108.5; southbound at milepost 108.6) and is open year-round. The other rest area is also located along I-15 and is situated approximately three miles southeast of Red Rock. Another rest area in the study area along I-90 (Anaconda) is currently under construction. Completion of the Anaconda Rest Area is anticipated in Spring 2008. A road pullout area is also located in the study area along I-15 just south of Barretts.

The Statewide and Urban Planning section oversees MDT’s Rest Area Plan, which was adopted by the Montana Transportation Commission in December 1999 and amended in May 2004. The plan establishes policy recommendations to help MDT develop future rest area priorities, and set goals for improving Montana's rest areas over the next twenty years.

According to the Rest Area Plan, a new rest area (Lima) is planned along I-15 near Lima (MP 10).

LAND AND WATER CONSERVATION FUND SITES

Table 4.3-8 lists LWCF sites within the Montana study area.

**Table 4.3-8 Land and Water Conservation Fund Sites within the Study Area –
Montana**

County	Project		Sponsor			Amount
	Number	Site Name	Sponsor	Type	Project Type	
Beaverhead	30-00049	Maiden Rock FAS	MFWP	State	Acquisition	\$15,081.77
	30-00055	Maiden Rock FAS	MFWP	State	Development	\$11,761.67
	30-00125	Clark Canyon Reservoir	MFWP	State	Development	\$178.27
	30-00448	Maiden Rock FAS	MFWP	State	Development	\$5,951.47
	30-00607	Salmon Fly FAS	MFWP	State	Development	\$3,000.00
	30-0048	Henneberry FAS	MFWP	State	Acquisition	\$111,048.47
	30-00551	Henneberry FAS	MFWP	State	Development	\$9,285.83
Broadwater	30-00056	Deepdale FAS (York Islands FAS)	MFWP	State	Development	\$3,293.54
Gallatin	30-00027	Fairweather FAS	MFWP	State	Development	\$8,830.00
	30-00056	Cardwell FAS	MFWP	State	Development	\$3,293.53
	30-00181	Fairweather FAS	MFWP	State	Acquisition	\$30,744.66
	30-00299	Drouillard FAS	MFWP	State	Acquisition	\$3,970.35
	30-00380	Drouillard FAS	MFWP	State	Acquisition	\$6,688.99
	30-00424	Fairweather FAS	MFWP	State	Development	\$8,831.53
	30-00471	Drouillard FAS	MFWP	State	Development	\$17,551.03
Jefferson	30-00002	Lewis & Clark Caverns SP	MFWP	State	Combination	
	30-00070	Lewis & Clark Caverns SP	MFWP	State	Development	\$2,728.92
	30-00125	Lewis & Clark Caverns SP	MFWP	State	Combination	
	30-00166	Lewis & Clark Caverns SP	MFWP	State	Development	\$1,680.68
	30-00301	Lewis & Clark Caverns SP	MFWP	State	Development	\$52,726.50
	30-00554	Lewis & Clark Caverns SP Vista Point	MFWP	State	Development	\$8,578.87
	30-00613	Mayflower Bridge FAS	MFWP	State	Development	\$7,304.00
	30-00624	Lewis & Clark Caverns SP	MFWP	State	Development	\$97,305.00
	30-00654	Lewis & Clark Caverns SP	MFWP	State	Development	\$23,331.00
Madison	30-00607	Silver Star FAS	MFWP	State	Development	\$12,500.00

Source: MFWP, LWCF Sites by County, 06/27/2007

PRIVATE

The Nature Conservancy is a conservation organization working to protect the most ecologically important lands and waters around the world. The mission of The Nature Conservancy is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

One Nature Conservancy Macrosite (Sixteenmile) is in the Montana portion of the study area.

Fairmont Hot Springs Resort was identified in the study area. The resort has the largest hot springs pools in Montana (open 365 days a year). Recreation includes a pool and waterslide, an 18 hole golf course, tennis courts, playground, zoo, lawn games, volleyball, and basketball.

RV Parks, primarily located in communities or along major roadways, are also situated in the study area. These facilities typically consist of full service sites with electric, water and sewage. They also usually provide picnic tables, bathrooms, showers and a laundry.

SPECIAL MANAGEMENT AREAS AND ALTERNATIVE ROUTE LINKS

Special Management Areas crossed by the alternative route links are found in Table 4.3-9.

Table 4.3-9 Special Management Areas Crossed by the Alternative Route Links – Montana

Link	Milepost Begin	Milepost End	Distance (Miles)	Special Management Area
1	1.4	2.4	1.0	Toston Reservoir/Missouri River Proposed SRMA
2-1	7.8	8.4	0.6	Toston Reservoir/Missouri River Proposed SRMA
3-1	5.4	5.9	0.5	Elkhorn Mountains Proposed ACEC
	7.9	8.4	0.5	Elkhorn Mountains Proposed ACEC
4-1	3.3	3.6	0.3	Elkhorn Mountains Proposed ACEC
4-1	5.2	5.4	0.2	Elkhorn Mountains Proposed ACEC
4-1	5.5	5.6	0.1	Elkhorn Mountains Proposed ACEC
4-1	6.1	7.3	1.2	Elkhorn Mountains Proposed ACEC
4-1	8.4	10.8	2.4	Elkhorn Mountains Proposed ACEC
4-1	12.5	13.1	0.6	Elkhorn Mountains Proposed ACEC
4-2	0.9	2.6	1.7	Elkhorn Mountains Proposed ACEC
4-2	2.7	3.6	0.9	Elkhorn Mountains Proposed ACEC
4-2	3.8	7.1	3.3	Elkhorn Mountains Proposed ACEC
4-2	13.5	14.1	0.6	Elkhorn Mountains Proposed ACEC
7-2	11.2	11.8	0.6	Pipestone Proposed ACEC
7-41	0.3	0.7	0.4	Pipestone Proposed ACEC
7-41	1.1	2.3	1.2	Pipestone Proposed ACEC
7-41	2.4	5.4	3.0	Pipestone Proposed ACEC
7-72	3.3	3.5	0.2	Mount Hagen Wildlife Management Area
8	34.3	34.6	0.3	Lower Big Hole River SRMA
8	35.3	36.4	1.1	Lower Big Hole River SRMA
11-21	0.1	1.1	1.0	Mount Hagen Wildlife Management Area
11-22	1.2	1.6	0.4	Mount Hagen Wildlife Management Area
11-23	18.0	18.3	0.3	Maiden Rock Fishing Access Site*
11-23	18.3	18.4	0.1	Lower Big Hole River SRMA, Maiden Rock Fishing Access Site
11-23	18.4	19.0	0.6	Lower Big Hole River SRMA
11-23	19.4	19.5	0.1	Lower Big Hole River SRMA
11-23	20.6	21.1	0.5	Lower Big Hole River SRMA
11-4	20.2	22.8	0.6	South Pioneers SRMA
13	4.0	4.9	0.9	South Pioneers SRMA
16-1	2.7	4.2	1.5	South Pioneers SRMA
16-1	5.5	6.3	0.8	South Pioneers SRMA

Link	Milepost Begin	Milepost End	Distance (Miles)	Special Management Area
16-1	6.5	7.6	1.1	South Pioneers SRMA
18-1	0.0	0.8	0.8	South Pioneers SRMA
18-1	1.2	2.3	1.1	South Pioneers SRMA
18-1	2.6	3.7	1.1	South Pioneers SRMA
18-1	13.9	15.2	1.3	Rocky Hills SRMA
18-1	15.5	20.1	4.6	Rocky Hills SRMA
18-1	62.7	64.2	1.5	Italian Peak Roadless Area

*Land and Water Conservation Fund Site

4.3.2 IDAHO

The Idaho portion of the study area and region contains a number of recreational opportunities that vary with seasonal changes as well as other areas with special management designations (see Parks, Recreation, and Preservation Areas map, MFSA Application, Volume III). Open spaces offer a number of recreational activities, including hunting, fishing, hiking, and wildlife observation. The Snake River is a local natural and recreational resource, and serves as a major source of tourism. Recreational activities include camping, picnicking, touring (vehicle and bicycle) hiking, fishing and OHVs in the summer; hunting in the fall; and snowmobile and cross-country skiing in the winter.

Craters of the Moon National Monument and Preserve is a major resource in the study area.

There are two National Forests in the study area: Caribou-Targhee and Salmon-Challis. Both forests provide a variety of yearlong, outdoor recreation. Activities on USFS land includes camping, picnicking, hunting, fishing, float boating, hiking, horseback riding, cross-country skiing, snowmobiling, and sightseeing. Idaho outfitters and guides also provide recreational opportunities on USFS lands such as sightseeing, hunting, fishing, and rafting. Many of these activities are authorized by SUPs.

The BLM also has land holdings in the study area. The majority of this land is in large blocks and is managed for multiple uses. Recreational opportunities include both dispersed and developed activities, such as hunting, fishing, sightseeing, wildlife viewing, mountain biking, hang gliding, OHV and snowmobile use, cross country and alpine skiing, snowshoeing, hiking, camping, caving, river running and boating, horseback riding, and picnicking.

Baker Caves, which represents a prehistoric resource, is also located in the study area. The site, administered by the BLM, consists of a lava tube located in the lava fields of southern Idaho. The cave was occupied for a short time about 1,000 years ago by occupants who apparently trapped a small bison herd consisting of at least 17 animals.

State endowment lands in the study area are generally available for mineral and agricultural leasing, and public recreation. A conservation easement on this land was identified southeast of Fish Creek Reservoir (T9N, R33E, S16). Much of this land is surrounded by private or federal land. Recreational opportunities on these lands include hunting, fishing, wildlife viewing, hiking, and snowmobiling.

Some municipalities offer museums, parks, baseball fields, rodeo grounds/fairgrounds, walking/hiking/bicycle trails, water sports, outdoor sports activities at schools, and other opportunities. Dietrich Park, located within the city of Dietrich, is located within the study area.

In addition to public lands, recreational opportunities exist on privately owned lands, including

private campgrounds and resorts. Activities such as hunting and backcountry trips also may be permitted on privately owned land with landowner consent.

4.3.2.1 Special Management Area Designations

NATIONAL PARK

No National Parks are located in the study area. The closest designated National Parks are Yellowstone and Grand Teton, located approximately 40 miles east of the study area.

NATIONAL RECREATION AREA

No National Recreation Area is located in the study area. The closest designated National Recreation Area is the Sawtooth National Recreation Area, located in Blaine County, Idaho.

WILDERNESS AREAS

No wilderness areas are located in Idaho in the study area. The closest designated wilderness area is the Craters of the Moon wilderness area located approximately four miles away. The Craters of the Moon Wilderness, designated on October 23, 1970, is located south of US 93 entirely within the boundaries of the original Craters of the Moon National Monument.

WILDERNESS STUDY AREAS

The following five WSAs are located in the study area: Hell's Half Acre WSA, Great Rift WSA, Cedar Butte WSA, Lava WSA, and Shale Butte WSA. One of these WSAs (Great Rift WSA) has been designated within the boundaries of the Craters of the Moon National Monument.

RECOMMENDED WILDERNESS

One area (Italian Peak) within the Idaho portion of the study area has been recommended for wilderness designation. The Italian Peak area is located in the Caribou-Targhee National Forest.

NATIONAL MONUMENTS

Craters of the Moon National Monument and Preserve is located within the study area. The Monument encompasses approximately 738,000 acres of BLM- and NPS-administered federal land, 8,000 acres of state land, and 7,000 acres of private land.

On November 9, 2000, Presidential Proclamation 7373 expanded Craters of the Moon National Monument from roughly 54,000 acres to approximately 753,000 acres, including the 738,000 acres of federal land. The President signed this proclamation to ensure protection of the Great Rift volcanic rift zone and its associated features. The Proclamation also placed the lands under the administration of both the NPS and the BLM, with each agency having primary management authority over separate portions. In addition, on August 21, 2002, PL 107-213, 116 Statute [Stat.] 1052 designated the NPS portion of the expanded Monument as a National Preserve.

This Monument Management Plan documents the overall management strategy, developed by the NPS and BLM, for Craters of the Moon National Monument and Preserve. The Plan applies only to the federal land within the Monument boundary. The Record of Decision was approved by both agencies in September 2006.

NATIONAL PRESERVES

The Craters of the Moon National Monument and Preserve is located within the study area. See National Monuments section above.

NATIONAL WILDLIFE REFUGES

One National Wildlife Refuge (NWR) is located in the Idaho portion of the study area. The Minidoka NWR extends 25 miles along both shores of the Snake River, upstream from the Minidoka Dam in south-central Idaho. Over half of the refuge is open water, with small patches of marsh that attract birds. The refuge is an important stopover area in the Pacific Flyway; concentrations of up to 100,000 ducks and geese occur during spring and fall migrations and close to 500 tundra swans can be seen as they migrate through in the spring. Colonial nesting birds, river otters, and mink feed upon the large populations of cold and warm water fish that flourish in shallow beds of submerged vegetation.

While the refuge must protect wildlife first, it does provide recreational opportunities. With minor exceptions, the entire refuge is open to public access and bank fishing, but vehicles are restricted to established roads. Waterfowl and small game hunting are allowed in designated areas. Boating and water sports, except swimming, are allowed April through September. Boat access is through Walcott State Park. Over 230 different species of birds have been seen on the Refuge, providing good opportunities for bird watchers.

NATIONAL HISTORIC TRAILS

Oregon Trail (Goodale's Cutoff): A portion of the Oregon Trail (Goodale's Cutoff) is located in the study area. The trail, one of the main overland migration routes on the North American continent, was used by pioneers in wagons in order to settle new parts of the U.S. during the nineteenth century. Goodale's cutoff was an alternate route of the Oregon Trail that skirted the northern edge of the Craters of the Moon lava field.

Nez Perce National Historic Trail/Park: A portion of the Nez Perce National Historic Trail is situated in the study area. The Nez Perce National Trail follows the same journey undertaken by a band of the Nez Perce Indian tribe in 1877 during their attempt to flee the U.S. Cavalry. The 1,170 (1,883 km) trail was created in 1986 as part of the National Trails System Act and is managed by the USFS. The trail traverses through portions of Oregon, Idaho, Wyoming and Montana and connects 38 separate sites across these four states that commemorate significant events which occurred to the Nez Perce during their attempt to escape capture by the U.S. Cavalry who were under orders to move the Indians onto a reservation.

The Forest Service is the lead agency for management of the Nez Perce National Historic trail. The Nez Perce National Historic Trail Compliance Management Plan was published in 1990, and guides management of the trail.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

No ACECs were identified in the Idaho portion of the study area.

INVENTORIED ROADLESS AREAS

The following IRAs, by National Forest, were identified in the study area in Idaho:

- Challis National Forest
 - #06-028 Wood Canyon Roadless Area.
- Caribou-Targhee National Forest
 - #961 Garfield Mountain Roadless Area
 - #945 Italian Peak Roadless Area

Each of these is discussed in more detail in Appendix C.

NATIONAL NATURAL LANDMARKS

Two NNLs, Great Rift System and Hell's Half Acre Lava Field, were identified in the study area. Craters of the Moon National Monument encompasses most of the Great Rift System NNL, which was designated by the Secretary of the Interior in April 1968 for its geological significance and enlarged in 1980 in recognition of its biological significance. Hell's Half Acre Lava Field NNL, designated in January 1976, is a complete, young, unweathered, fully exposed pahoehoe lava flow and is an outstanding example of pioneer vegetation establishing itself on a lava flow. The center of the NNL is 20 miles west of Idaho Falls.

The Twenty Mile Trail is located in the Hell's Half-Acre Lava Field NNL. The trail consists of undeveloped trails, a short 0.5 mile loop trail and a 4.5 mile trail to the main vent of the Hell's Half-Acre flow. Trails are primitive and marked with poles across lava. A fire ring and other amenities are located at the trailhead. The trail is located near mile marker 287 of US 20.

RESEARCH NATURAL AREAS

One NPS-managed RNA, Sand Kipuka, is located in the Idaho portion of the study area. This kipuka is one of the best remaining examples of native sagebrush steppe for the Snake River Plain. It is an example of a range condition in the absence of domestic livestock, and offers an opportunity to observe climax vegetation, as well as successional processes associated with natural disturbances such as fire. The site was designated for its long-term value as a reference area.

SCENIC BYWAYS

Idaho has had officially recognized scenic routes since June of 1977. In 1991 the USFS, BLM, and the State of Idaho determined to combine the scenic routes and backcountry byways of each agency. The ITD was designated by the Governor as the lead agency responsible for administering the Idaho Scenic Byways Program to meet the requirements of the Surface Transportation Efficiency Act of 1991.

Two state scenic byways (Sacajawea Historic Byway and Lost Gold Trails Loop) are located in the study area.

The Sacajawea Historic Byway (132 miles) begins at the intersection of I-15 and Idaho 33 at Exit 143, follows Idaho 33 approximately 12 miles west to its junction with Idaho 28, and follows 28 northwest for 120 miles to Salmon, Idaho. Idaho 28 parallels the Continental Divide for almost 100 miles. Other attractions include Mud Lake WMA, Prehistoric Man, Charcoal Kilns, Meadow Lake, Leadore Ranger Station/Visitor Center, Sacajawea Interpretive Center, and Lemhi County Historical Museum.

The Lost Gold Trails Loop (47.8 miles) begins on County Road A-2 at the “Y” Junction, west of Dubois, routing to Old Highway 91 north of Dubois, to Spencer, and then trailing east on Spencer/Idmon Road connecting to County Road A-2 and the Fort Henry Historic Byway. Special attractions include the Heritage Hall, Civil Defense Cave, Historic Dubois Hotel, U.S. Sheep Experiment Station, Medicine Lodge travertine mines, Wood Livestock Rock House, Beaver Canyon, Nez Perce Trail, and Spencer opal shops and mines.

RECREATION MANAGEMENT AREAS

One existing BLM (Shoshone Field Office) SRMA is present in the study area. Recreational opportunities provided by the SRMA include fishing.

STATE ACCESS AREAS

In Idaho, access areas consist of real property which is owned or controlled by the IDFG to provide public access to public lands and waters. Three access areas (Bear Tracks Williams Sportsman Access, Preacher Bridge Sportsman Access, and Snake River Vista) were identified in the study area in Idaho.

STATE ROADSIDE REST AREAS

One existing rest area (Dubois) was identified in the Idaho portion of the study area. The rest area is located along I-15 at milepost 167 and is closed during the winter.

LAND AND WATER CONSERVATION FUND SITE

No LWCF sites were identified in the Idaho portion of the study area:

PRIVATE

Lava Lake Land and Livestock Company lands are located within the study area in Idaho. The company, comprised of ranchers and environmentalists, was formed in 1999. The mission of Lava Lake is to conserve and restore native ecosystems at a landscape scale and to build an economically-viable and environmentally-sound business. The company has holdings of private land and public grazing leases totaling near 1,000,000 acres. In 2001, 7,500 acres of private land was permanently protected by putting it under a conservation easement held by The Nature Conservancy. The easement prevents the lands from being subdivided and is managed to maintain and improve habitat for wildlife.

4.4 TRANSPORTATION AND ACCESS

4.4.1 MONTANA

4.4.1.1 Existing Roadway Network

Roadways in the Montana study area include National Highway System - Interstate (I-15, I-90); National Highway System – Non-Interstate (US 287); Montana Primary Routes (MT 1, MT 2, MT 41, MT 43 and MT 69); Montana Secondary Routes (MT 278 and MT 324); county roads; roads maintained by federal land-holding agencies; and other roads.

I-15 is the fourth-longest north-south transcontinental interstate highway in the U.S., traveling

through the states of California, Nevada, Arizona, Utah, Idaho, and Montana. Since its inception I-15 has served as a long-haul route for North American commerce. I-15 runs north from the Idaho state line to Butte.

I-90 is the longest interstate highway in the U.S. at nearly 3,100 miles. It is the northernmost east-to-west, coast-to-coast interstate highway. In the project area I-90 runs from Opportunity east to Three Forks.

US 287 is a north-south U.S. Highway which runs north (generally between Three Forks and Townsend).

Montana Primary Route descriptions are as follows:

- MT 1 (Opportunity to Drummond)
- MT 2 (Three Forks to Butte)
- MT 41 (Vendome Station to Dillon)
- MT 43 (Divide to Lost Trail Pass)
- MT 69 (Boulder to Whitehall)

Montana Secondary Route descriptions are as follows:

- MT 278 (Wisdom to Dillon)
- MT 324 (Clark Canyon Dam to Idaho border at Bannock Pass)

There is an extensive network of local roads that are under the jurisdiction of the county. Improved county roads are primarily gravel roadways that serve rural residents. Unimproved roadways are two-track roads that generally provide access to and within owned or leased land.

In addition to local roads that are maintained by the county, there are also roads that are the responsibility of the BLM, USFS, and Reclamation. These roads provide public access to and across lands managed by the federal agencies and serve the needs of recreation and commerce. These roads are primarily accessed from the county system and are typically kept open on a seasonal basis.

Other roads in the study area and vicinity range from asphalt surfaced urban sections with curb and gutter to gravel surfaced rural sections with borrow ditches. Maintenance of these roads may be performed through a county, Rural Improvement Districts (administered through the county), private homeowner associations, or in some cases, private individuals. Most of these routes in the study area are not paved and most are unimproved in nature; they are of native surface (i.e., dirt, gravel, or sand).

4.4.1.2 Planned Transportation Improvement Projects

TranPlan 21 – Montana’s long-range transportation policy plan, is part of an ongoing process that regularly identifies transportation issues, evaluates public and stakeholder needs and priorities, and establishes and implements policy goals and actions. This process guides MDT in the development and management of a multimodal transportation system that connects Montana residents and communities to each other and the world. The Statewide and Urban Planning section coordinates *TranPlan 21* implementation and evaluation.

In addition to *TranPlan 21*, Butte-Silver Bow has a transportation plan (2005 Butte-Silver Bow

Transportation Plan Update).

Montana's 2007-2009 State Transportation Improvement Program (STIP) is a federally required publication that shows funding obligations over a three-year period. This program identifies highway, rail, aeronautic, and transit improvements to preserve and improve Montana's transportation system. Although the projects and dates in the STIP are MDT objectives, the execution of this program is contingent on a number of factors, including federal and state funding availability, right-of-way acquisition, utility relocations, environmental review, surveying, and design. Complications with one or more of these factors may delay a project.

The Transportation Improvement Programs (TIPs) for the Billings, Great Falls and Missoula metropolitan areas are incorporated into the STIP by reference. TIPs contain information about current and future transportation projects and are developed by Metropolitan Planning Organizations (MPO) in cooperation with area transit providers and state and local governments as part of a continuing, cooperative, and comprehensive transportation planning process.

Major highway projects including reconstruction or rehabilitation efforts in the study area included Butte District 2 Project 1420, Townsend-South, US 287 reconstruction (Fiscal Year 2009).

4.4.1.3 Railroad Facilities

Four Montana railroads (Burlington Northern and Santa Fe Railway (BNSF), Union Pacific Railroad (UPRR), Montana Rail Link, and Rarus Railway) are located within the study area and vicinity. There are several railroad lines that pass through the Butte-Silver Bow area. The BNSF serves as a freight carrier on track between the UPRR in Butte-Silver Bow and Garrison. Rarus Railway, a local railroad, operates a short line operation between Butte and Anaconda. This line is also capable of hauling freight and provides connections to the UPRR and BNSF.

The UPRR has a rail line that runs from the Port of Montana at Silver Bow (near Butte) to the Idaho border (along I-15) and on to Salt Lake City via Idaho Falls and Pocatello. This is part of UPRR's Montana Subdivision. The Port of Montana at Silver Bow was formed to increase shipping competition and move more Montana products out of state. This is the only place in Montana served by two Class 1 Transcontinental Rail Carriers (UPRR and BNSF).

One of the BNSF lines is out of service, or abandoned, between Butte and Spire Rock. Montana Rail Link, a regional Class II railroad, currently operates freight service on the old Northern Pacific Line near Whitehall. The Montana Rail Link also has a main railroad generally situated between Trident and Townsend. The Montana Rail Link leases railroad track from BNSF.

4.4.2 IDAHO

4.4.2.1 Existing Roadway Network

In general, the transportation system in eastern Idaho connects communities, while facilitating access to farms, ranches, and businesses. These routes also carry residents and travelers to the region's natural attractions such as Craters of the Moon National Monument near Arco, the Salmon River, Land of the Yankee Fork near Challis, and the Sacajawea Center near Salmon.

Surface transportation in the study area and vicinity is provided by a network of federal, state, county, and other roads.

Roadways in Idaho include Interstates (I-15, I-86); Principal Arterials (US 20, US 26, US 30 and US 93); Minor Arterials (Idaho 28, Idaho 39, Idaho 75 and Idaho 87); Major Collectors (Idaho 22, Idaho 24, Idaho 29 and Idaho 46); USFS and BLM roads; as well as local roads. USFS and BLM roads provide public access to and across lands managed by the federal agencies and serve the needs of recreation and commerce.

- I-15 is the fourth-longest north-south transcontinental interstate highway in the U.S., traveling through the states of California, Nevada, Arizona, Utah, Idaho, and Montana. Since its inception I-15 has served as a long-haul route for North American commerce. I-15 runs south from the Montana state line through Idaho for nearly 200 miles. The highway passes through Pocatello, Blackfoot, and Idaho Falls.
- I-86 is located entirely within Idaho. It runs 63 miles from an intersection with I-84 to an intersection with I-15 at Pocatello. I-86 connects the major eastern Idaho cities of Pocatello and Idaho Falls with the State's Magic Valley region.
- US 20 is an east-west U.S. Highway that runs from the Montana state line at Targhee pass to the Oregon State line northwest of Parma.
- US 26 is an east-west U.S. Highway that runs from the Wyoming state line east of Irwin to the Oregon state line west of Parma.
- US 30 is an east-west U.S. Highway that runs from the Wyoming state line south of Montpelier to the Oregon State line west of Fruitland.
- US 93 is a north-south U.S. Highway that runs from the Montana state line at Lost Trail Pass to the Nevada state line south of Hamilton.

Idaho Principal Arterial descriptions are as follows:

- Idaho 39 (Blackfoot to American Falls)
- Idaho 75 (Shoshone to Challis)
- Idaho 87 (US 20 to Montana State Line)

Idaho Major Collector descriptions are as follows:

- Idaho 22 (Dubois to Butte County)
- Idaho 24 (Burley to Shoshone)
- Idaho 28 (Salmon to I-15)
- Idaho 29 (Leadore to Montana State Line)
- Idaho 46 (Camas County to Wendell)

4.4.2.2 Planned Transportation Improvement Projects

State and local transportation improvement plans/programs address the issues of proposed road and street system improvements and development.

The Idaho Transportation Plan, *Idaho's Transportation Future: Getting there Together – Vision 2034* (2004), was developed in cooperation with Idaho's Metropolitan Planning Organizations (MPOs) and through consultation with non-metropolitan area and Indian Tribal Areas. The outcome is a transportation vision that looks at what Idaho's transportation system should move towards over the

next 30 years. It is a crucial component of the ITD long-range planning process. As a policy document, it contains the principles and priorities that will shape and guide the transportation decisions of ITD and other transportation stakeholders throughout Idaho.

Idaho’s FY2008-2012 (2007) Statewide Transportation Improvement Program (STIP) provides for a fiscally sound, five year capital improvement plan for the State’s surface transportation program. It is developed and published annually. The STIP contains the State’s multi-modal transportation preservation and improvement programs, listing transportation projects for periods from FY2008-2012.

The STIP also contains projects of regional significance (transportation projects with high public interest or impacts) and projects serving national parks, National Forests, and Indian reservations.

No regionally significant locally funded projects were identified in the study area. Projects which serve regional transportation needs are considered a regionally significant project.

4.4.2.3 Railroad Facilities

Idaho is served by two major long-haul railroads, the UPRR and BNSF Railway, which provide connections to points in the U.S., Canada and Mexico. The State also has one regional railroad, as well as six short line railroads that act as feeders to the major railroads. Farm products are the top commodity originated. Other top commodities originated by Idaho railroads are lumber and wood products, food products, chemicals and non-metallic minerals.

The UPRR’s main line between the Pacific Northwest and the Midwest generally follows the Snake River in southern Idaho, where there is also a network of feeder lines. Another main line runs from Silver Bow, Montana to Ogden, Utah via Pocatello.

4.5 MINERALS AND ENERGY

4.5.1 MONTANA

4.5.1.1 Leasable Fluid Minerals

OIL AND GAS

There are no producing oil and gas wells in the Montana portion of the study area. Portions of the federal mineral estate and subsurface state trust land within the study area have been leased for oil and gas. Federal authorized oil and gas leases crossed by the alternative route links are presented in Table 4.5-1. Fueled by a jump in oil prices and new technology, the oil and gas industry has generated a renewed interest in oil and gas leases on moderate potential areas in southwest Montana.

Table 4.5-1 Federal Authorized Oil and Gas Leases Crossed by the Alternative Route Links – Montana

Link	Milepost Begin	Milepost End	Distance	Fluid Mineral
16-1	21.8	23.2	1.4	Oil and Gas
16-2	27.5	28.6	1.1	Oil and Gas
16-3	28.3	29.9	1.6	Oil and Gas

Coal Bed Natural Gas

There are very few significant coal deposits within the Montana portion of the study area and therefore little potential for exploration or development of coal bed natural gas resources.

GEOHERMAL RESOURCES

Southwest Montana is an active geothermal region and numerous hot springs and warm springs are found throughout its valleys. No high temperature geothermal resources have been identified in Montana. Although there are many known geothermal springs in the study area and vicinity, only a small number of them have been developed commercially (for example, Boulder Hot Springs, Fairmont Hot Springs, Pipestone Hot Springs, Silver Star, and Biltmore), and none of those are on public land. There is one Known Geothermal Resource Area (KGRA) on public land within the vicinity of the project area: Boulder Hot Springs KGRA. There has been no recent interest in leasing this area.

- **Boulder Hot Springs** consist of about 26 hot springs located adjacent to the Boulder Hot Springs Resort. Discharge from several of the springs are gathered and piped to the hotel for space heating, indoor baths, and an outdoor pool.
- **Fairmont Hot Springs** is perhaps the most intensely developed spa and resort in Montana. There are two Olympic-sized swimming pools, two hot pools and room heating for a resort hotel.
- **Pipestone Hot Springs** was a popular resort site around the beginning of the 20th century. Today, the springs and buildings are closed and abandoned.
- **Barkell's Hot Springs** is located in the small community of Silver Star. The surface water temperature is the second highest recorded in the state.
- Hot springs rise from river gravels about 300 yards from the Big Hole River. The hot water was previously used to fill a swimming pool and hot plunges at the former Biltmore resort. The immediate area surrounding the spring is privately owned.

4.5.1.2 Leasable Solid Minerals

COAL

Sporadic undeveloped and sub-economic deposits of coal and lignite occur in the Montana portion of the study area.

PHOSPHATE

Extensive deposits of the Permian Phosphoria Formation have been historically mined from the Maiden Rock area south of Butte. Mining for phosphate at this locale probably peaked in the early 1950s when the phosphate was used to supply an elemental phosphate plant at Silver Bow, west of Butte. These mines were underground mines and resulted in significant underground development. Activity ceased in the 1970s. There are phosphate resources remaining both at the Maiden Rock area and to the south and east, north of the Humbug Spires, but the development of the phosphate fields in Idaho, where mines could be developed as open cut pits, has rendered the resources in Montana as uneconomic to mine.

4.5.1.3 Locatable Minerals

METALS

Mineral deposits of gold, silver, copper, lead, zinc, and molybdenum are present within the study area in Montana. A number of predominantly small, abandoned mines also exist in the study area.

Active metal mines in the study area include the Golden Sunlight Mine (Link 7-2, from MP 0.3 to MP 2.1) and Apex Abrasives Mine (Link 11-4 from MP 7.6 to MP 7.8). The Golden Sunlight Mine, an open pit gold mine northeast of Whitehall, opened in 1981. The mine has operated continuously since then and has recently extended the operations of the facility into the second quarter of 2015. The operating permit for Apex Abrasives allows for the reprocessing of the Glen tungsten mill tailings for the recovery of garnets. The site is located between Kambich Springs and Sassman Gulch, about 0.75 mile west of I-15 and two miles north of the village of Glen. The operational life of the mine is approximately 10 to 15 years.

LIMESTONE

Two active limestone mines are located within the study area and vicinity in Montana. These mines process high-calcium limestone for chemical and industrial uses.

The Indian Creek Mine is on public land adjacent to and within the MTARNG LHTA, west of Townsend in Broadwater County. The Trident Mine, another limestone mine, is located north of Three Forks in Gallatin County.

MARBLE AND SLATE

A small marble quarry has operated intermittently at the south end of the Limestone Hills area west of Townsend. Marble from this quarry has been shipped internationally for use as pedestal and column bases.

Two slate building stone quarries are located in the vicinity of the study area. One is in the Soap Gulch area near Melrose (south of Butte) and the other, Gates Stone Quarry, is located in Towhead Gulch. Another series of small open-cut mines or quarries in the Gardiner area have mined travertine for decorative building or ornamental uses. Operation of these quarries has been intermittent and they often reopen to meet a specific demand.

AGGREGATE

The Pipestone ballast quarry, located in the study area, provides aggregates (crushed and broken stone) for railroad ballast materials. The quarry, part Conda Mining Operations, is located in the project area near Butte, Montana (T2N R5W S17SE, S20NE, S21NW). The site includes mining, crushing and loading ballast for railroad tracks and yards and provides materials for Montana Rail Link and the BNSF.

MINING CLAIMS

Numerous active mining claims (recorded to the nearest quarter section) are located in the study area. Active mining claims crossed by the alternative route links are listed in Table 4.5-2 in Appendix B.

4.5.1.4 Saleable Minerals

The study area in Montana has potential for saleable minerals such as gravel, decorative stone, etc. There are numerous locations where mineral materials have been removed. Most of these sites are relatively small. The study area and vicinity currently have six BLM salable material operations on public land. Two sand and gravel pits are located in the Limestone Hills west of Townsend. One of the pits is inactive and the other pit is used by the Army National Guard for road surfacing material. Other mineral material sites include those found in Table 4.5-3. Combined sales from these sites tend to be relatively low; however, the operations provide a public service by providing mineral material within close proximity to where they are needed.

Table 4.5-3 BLM Mineral Material Sites within the Study Area – Montana

Name/Material Location	Available Material	Acres
Lima Pit T13S R8W, S20NESW	Sand and Gravel	40
Rochester Pit T3S R7W S24 Lot 2	Rip Rap	34
Camp Creek T2S R6W S27NWNWSE	Decorative Stone	208
Silver Star T2S R6W S14SWNE	Rip Rap	12

Note: there is also an inactive open pit chlorite mine at this location

Note: "Acres" represents acres within the project boundary or collection area and does not represent acres disturbed. Actual acres disturbed is usually much less.

Link 8 crosses BLM's Silver Star Mineral Material Site from MP 17.3 to MP 17.7 and BLM's Rochester Pit Mineral Material Site from MP 26.1 to MP 26.5.

Recently, a Notice of Intent was filed by Green River Energy Resources, Inc. with the BDNF, BLM Dillon Field Office, and MDNRC to conduct a geophysical project on public, state and private lands within Beaverhead County. The proposed project would be located in multiple Sections within Townships T13S R9W, T14S R10W, T14S R9W, T14S R8W and T15S R10W, directly west of the town of Lima,. The project area would include about 36 miles of seismic line with shot holes drilled along the line approximately 220 feet apart. Work will likely occur in the summer of 2008. The activity is temporary.

4.5.1.5 Hard Rock Mines

Permitted hard rock mines identified in the study area are shown in Table 4.5-4 in Appendix B.

4.5.1.6 Opencut Mines

MDEQ permitted or pending Opencut mineral operations were identified within the study area are shown in Table 4.5-4 in Appendix B.

4.5.1.7 Coal and Uranium

No MDEQ permitted coal (strip or underground mining operations) and uranium mines were identified in the study area (Yde, MDEQ 2008).

4.5.1.8 Renewable Energy

In cooperation with the National Renewable Energy Laboratory (NREL), BLM assessed renewable

energy resources on public lands in the western U.S. The assessment reviewed the potential for concentrated solar power, photovoltaics, wind, biomass and geothermal on BLM, BIA and USFS lands in the west.

The BLM/NREL study identified the Dillon Field Office Planning Area as one of the top 25 BLM planning units having the highest potential for wind energy development. The study takes into consideration certain screening factors such as wind velocity, proximity to roads and electric transmission facilities, the degree to which state and local policies support wind energy development, and environmental compatibility criteria in the rating of these planning areas.

The BLM/NREL study also identified the Butte and Dillon Field Offices as two of the top 25 BLM planning units having high potential for biomass resources. However, to date, utilization of small diameter forest material has been sporadic at best to non-existent. This is due to long haul distances to pulp facilities and low return pulp markets. Utilization of this material for biomass related energy production has not been a factor. No such facility exists in this region.

Proposals for renewable energy development in the project area would be considered on a case-by-case basis. No proposals for alternative energy development, other than wind power are anticipated to occur in the foreseeable future. One area near Whitehall (Golden Sunlight Mine) has in the recent past been investigated for its potential for wind energy development.

The Minerals and Energy map (MFS Application, Volume III) depicts selected locations of these resources within the study area.

4.5.2 IDAHO

The Idaho portion of the study area has varied geology favorable for the occurrence of several mineral resources. Major mineral resources of interest include the non-energy leasable mineral phosphate; locatable minerals, such as gold, limestone, and zeolites; salable minerals, including sand, stone, gravel, and pumice; and fluid leasable minerals such as oil and gas and geothermal resources.

4.5.2.1 Leasable Fluid Minerals

OIL AND GAS

There are no producing oil or gas fields in Idaho. Oil and gas discoveries in Wyoming and Utah during the 1970s indicate the potential for oil and gas within the Idaho-Wyoming Thrust Belt, but there are no oil fields in Idaho. Portions of the federal mineral estate and subsurface state trust land have been leased for oil and gas.

COAL BED METHANE

The potential for coal gas is very low in the study area.

GEOHERMAL RESOURCES

Geothermal resources occur most often in areas where there is anomalously high heat flow caused by volcanism or near-surface magma or some other exceptionally hot subsurface body. They often occur along fault or fracture zones where fracturing allows groundwater to circulate to depths such that it can be warmed significantly before it circulates back toward the surface.

The study area and vicinity have abundant geothermal resources, including both thermal springs, where warm or hot water comes to the surface naturally, and thermal wells, which must be drilled, developed, and sometimes pumped. These developed uses are “direct” uses, where the hot water is used for space heating, or for the hot water itself, and not primarily to generate electricity.

4.5.2.2 Leasable Solid Minerals

COAL

There are no federal coal leases within the study area and vicinity or in Idaho, but there is some Cretaceous-aged coal in the Fall Creek area of the Caribou Range. A four-foot interval of the Bear River Formation contains interbedded coal, clay, and limestone. Coal beds also form an outcrop to a minor extent at some other Idaho localities.

OIL SHALE

High grade oil shale does not exist within the study area in Idaho.

SODIUM AND NITRATE

There are no federal sodium or nitrate leases in the Idaho portion of the study area and vicinity. Based on current conditions, none are expected. However, there are small occurrences of both sodium and nitrate within the area.

PHOSPHATE

Idaho’s phosphate industry has three large open pit mines operating in 2007 in Caribou County. They mine phosphate rock from the Phosphoria Formation for use in fertilizers, chemicals and consumer products. Three processing plants are located in Pocatello and Soda Springs (Idaho Geological Survey). Significant phosphate deposits exist in the Centennial Mountains on the Idaho-Montana state line. Much of this area is under the jurisdiction of the USDA Agricultural Research Service, though BLM administers the federal mineral estate.

4.5.2.3 Locatable Minerals

MINING CLAIMS

Numerous active mining claims (recorded to the nearest quarter section) are located in the study area. Active mining claims crossed by the alternative route links are listed in Table 4.5-2 in Appendix B.

4.5.2.4 Saleable Minerals

The study area in Idaho has potential for saleable minerals such as gravel, decorative stone, etc. There are numerous locations where mineral materials have been removed. Most of these sites are relatively small. The study area and vicinity currently have BLM saleable material operations on public land. Other mineral material sites include those found in Table 4.5-5. Combined sales from these sites tend to be relatively low; however, the operations provide a public service by providing mineral material within close proximity to where they are needed.

Table 4.5-5 BLM Mineral Material Sites within the Study Area – Idaho

Material Location	Owner	Expiration Date
T8N R31E, S14	Mud Lake Water Users	04/14/2010
T8N R31E, S9	Birch Creek Power	01/14/2008
T9N R33E, S3	Mud Lake Water Users	09/21/2012
T9N R29E, S5, Lot 1	Community Pit	--

Note: "Acres" represents acres within the project boundary or collection area and does not represent acres disturbed. Actual acres disturbed is usually much less.

Link 23 crosses Mud Lake Water Users Site from MP 12.4 to MP 13.6.

4.6 ANCILLARY FACILITIES

Ancillary facilities include substations and microwave communications systems. The substations component consists of: (1) a siting area for a new 500kV substation (Townsend) in Broadwater County, Montana, and (2) the upgrading and modification of the existing Midpoint Substation in Jerome County, Idaho. The location of the siting area was determined by the electrical and interconnection needs of the transmission line and somewhat by the locations of routing alternatives.

The results of the substation inventories for land are described below by state.

4.6.1 MONTANA

4.6.1.1 New Townsend Substation

The new Townsend 500kV Substation would be located five miles south of Townsend, east of US 287 in Broadwater County. The site is currently in pasture. A portion of the site also contains agricultural outbuildings and a residence, located 1,030 feet southwest of the substation site. Adjacent land use is a mixture of center-pivot irrigation and pasture. The total size of the Townsend substation site would be approximately 50 acres. The substation would not require additional access road construction.

4.6.1.2 Mill Creek Substation

The Mill Creek Substation site is dominated by grassland. No residences are located within 1,000 feet.

4.6.2 IDAHO

4.6.2.1 Midpoint Substation Additions

Idaho Power Company's existing Midpoint Substation, located 10 miles north of I-84 in Jerome County, Idaho, would be modified to accommodate the new MSTI 500kV transmission line. The proposed additions to the substation cannot be completed in the existing fenced area; expansion of the substation yard would be required. Engineering studies will be completed to determine the ultimate modifications required at the Midpoint Substation.

5.0 IMPACT METHODS

The impact assessment/mitigation planning process involves assessing impacts by comparing the Project alternative route links with the pre-Project environment, determining mitigation that would reduce or eliminate impacts, and identifying impacts remaining after application of specifically recommended mitigation measures (residual impacts).

5.1 IMPACT TYPES

Physical impacts to land uses were assessed along the centerline of each of the alternative route links for the inventoried land use categories. The impact types identified for land uses along the centerlines of alternative route links are characteristically direct and long-term, and include any impact that:

- Displaces, alters, or otherwise physically affects any existing, developing or planned residential, commercial, industrial, governmental, or institutional use or activity.
- Displaces, alters, or otherwise physically affects any existing agricultural use or activity.
- Displaces, alters, or otherwise physically affects any existing or planned air facility or air travel-related activity.
- Displaces, alters, or otherwise physically affects any area designated as suitable for timber production.
- Alters or otherwise physically affects any established, designated or planned park, recreation, preservation, or educational use area or activity.
- Affects applicable comprehensive and regional plans and/or approved, adopted, or officially stated policies, goals, or operations of communities or governmental agencies.

The effects of the Project to land jurisdiction involve primarily land policies, land management plans, and permitting requirements of federal, state, and local agencies. The land jurisdictions mapped in the inventory were used to identify the potentially affected land agencies and to quantify the land area potentially affected by the alternative route links. In addition, these data were used to assess the socioeconomic impacts (refer to Volume II, Socioeconomic Technical Report).

The crossing or paralleling of existing utilities is a matter of technical coordination and realty agreements with the affected utilities. Impacts were not assessed for these situations.

5.2 IMPACT MODEL

A land use impact assessment model combined resource sensitivity, resource quantity, and resource quality to predict potential impacts. The combination of the three assessment variables determined the level of impact (high, moderate, low, or no identifiable impact) assigned to each land use category. The results of the impact assessment and mitigation planning process are presented, in detail, in the Data Tables.

Once initial impact levels were established along the alternative route links, specifically recommended measures for mitigating or reducing predicted high or moderate impact levels were

applied. The “residual” impact represents the impacts remaining after applying the mitigation measures.

The following section describes the three impact assessment variables.

5.2.1 RESOURCE SENSITIVITY

Resource sensitivity, or the functional, social and economic aspects of various land use categories, was considered in determining how susceptible to change land uses would be to the introduction of the Project transmission line. The level of road access required was used to modify the assigned sensitivity level.

Sensitivity is a measure of the probable adverse responses that a land use would have to the direct and indirect impacts associated with the construction and operation of the proposed transmission line. The adverse effects depend on three major criteria:

- Susceptibility of the land use to the potential changes caused by construction and operation activities.
- Significance of the potential changes to the land use.
- Local or regional importance of the land use.

Once established, these sensitivity criteria were systematically applied to each land use. The degree or level to which each land use is sensitive to the introduction of the Project transmission line is dependent upon the relationship between the above criteria. The results of the resource sensitivity evaluation were used to determine potential impacts to land uses.

Determination of Potential Change – Potential change describes the physical/social changes that could potentially occur to a land use. Changes are brought about by:

- acquisition of land or property rights to accommodate the facilities
- installing the facilities
- the physical presence and operation of the facilities
- managing the right-of-way and maintaining the facilities

The potential for change from introducing transmission line facilities differs from one land use category to another with respect to what might be altered and to what extent. This potential for change is predicted evaluating the environmental conditions, the Project description, and implementation specifications.

Significance of the Changes – The effect of potential changes on the human use of the land is described in levels of significance. The significance of any physical, economic or psychological change relates to the immediate and long-term effects that the change may have, either directly or indirectly, on the quality of life of the people inhabiting or utilizing the area. With these considerations in mind, a value of high, moderate, or low were assigned to land uses to represent the potential level of significance.

Importance of the Land Use – Individual land use categories inherently possess differing values within the context of the environment as a whole. For instance, within any given region, there are land uses that are functionally, socially, or economically more valuable than others. Importance

indicates a measure of the attitudes of the users of the affected lands. The local, state, or regional value or importance of each land use was rated on a scale of high, moderate, or low.

5.2.1 RESOURCE QUANTITY

The areal extent and number of occurrences of an environmental change are intrinsic components in any assessment of environmental impact. The totals of impact levels increase as a function of the number of individual occurrences, miles, or acres of a given impact type. However, the relative impacts for each alternative are not necessarily directly proportionate to the resource quantity. Impacts were not assessed based on resource quantity because of the inherent difficulty in establishing what quantities represent high, moderate, or low impacts. Consequently, resource quantity is considered in route selection as part of the route link comparison and evaluation process. Resource quantity is determined by calculating the amount of ground disturbance caused by upgrading existing access roads, construction of new access roads, marshalling yards, and towers/poles.

5.2.2 RESOURCE QUALITY

The resource quality variable considers the condition of the existing land uses and the environmental setting (e.g., the presence or absence of an existing linear feature). Where the proposed 500kV transmission line would parallel an existing linear feature, land disturbance would usually be minimized, potentially resulting in fewer impacts to existing and future land uses. However, if the proposed transmission line were to be sited where there is no existing linear feature (e.g., transmission line), construction generally would disturb more land. This situation would result in potential impacts to existing land uses and alternation of future land uses that may not have otherwise occurred.

5.3 IMPACT LEVELS

Resource sensitivity was the primary element in determining initial impact levels for land uses. The presence or absence of existing parallel transmission lines modified the sensitivity level, while access and ground disturbance levels quantified the area of impact. In addition, site specific circumstances were considered, and in some cases modified the impact level. Agency, utility, or public concerns helped determine site-specific factors.

The impact levels are defined as follows:

HIGH IMPACT - Assigned to those land use categories where the officially stated or approved land use restriction, plan, or policy would be violated, or where land use sensitivity was major and/or where the sensitivity was moderate but modified by moderate to high quantity levels. Land use impacts would be considered high if the Project would substantially preclude the primary existing or planned use of the land, result in a major change in overall land use patterns, create considerable conflict with permitted land uses, substantially alter existing recreational activities, or create extensive new recreational opportunities in the area.

MODERATE IMPACT – Assigned to those land use categories whose sensitivity is moderate or where sensitivity is minimum, and quantity is high. Land use impacts would be considered moderate if the Project would create a modest change in the primary existing or planned use of the land, overall land use patterns, recreational opportunities, or slightly conflict with permitted land uses.

LOW IMPACT – Assigned to those land use categories where sensitivity is minimum (excluding the above). Land use impacts would be considered low if the Project would not noticeably change the primary existing or planned use of the land, would cause only, at most, a minor change in overall land use patterns or recreational opportunities, and would not conflict with permitted land uses.

NO-IDENTIFIABLE IMPACT – Assigned to those land use categories where no measurable impact would occur to the specific resource under investigation. Small changes and stresses to the resource are not always adverse, some are neutral and therefore not identifiable impacts.

For purposes of this analysis, a construction-related (temporary) land use impact would occur if access to a land use would temporarily be disrupted or if the nature, condition, or operation of a land use would temporarily be altered during construction of the Project or alternative. An operational (permanent) land use impact would occur if access to a use would permanently be disrupted or if the nature, condition, or operation of a use would permanently be altered as a result of the Project operation.

5.4 ENVIRONMENTAL PROTECTION MEASURES SPECIFICALLY RECOMMENDED MITIGATION MEASURES

Environmental Protection Measures and Specifically Recommended Mitigation Measures were applied, where appropriate, to minimize the potential initial high and moderate impact levels identified through the impact assessment model (also refer to the Project Description). Impact assessment assumes that all Environmental Protection Measures would be implemented as a part of the Project.

The Environmental Protection Measures described in this report are preliminary measures that are part of the project description, but are not finalized or committed to until further discussions with the MDEQ are conducted. Likewise, the Specifically Recommended Mitigation Measures are preliminary, and not committed to by NWE, until discussions are held on this subject with the MDEQ.

Table 5.4-1 lists the preliminary Environmental Protection Measures that are relevant to land use. Specific mitigation measures are recommended when it is determined that preliminary Environmental Protection Measures do not fully mitigate an impact (Table 5.4-2). These Specifically Recommended Mitigation Measures were applied to land use, on a case-by-case basis where appropriate.

Table 5.4-1 Preliminary Environmental Protection Measures – Land Use

Environmental Protection Measure #	Description
2.1	Existing improvements would be repaired or replaced if they are damaged or destroyed by construction activities to their condition prior to disturbance as agreed to by the parties involved.
2.2	Fences and gates would be installed, or repaired and replaced to their original condition prior to Project disturbance as required by the landowner or the land management agency if they are damaged or destroyed by construction activities. Temporary gates would be installed only with the permission of the landowner or the land management agency and would be restored to original condition prior to Project disturbance following construction. Gates would be closed and locked, depending on agreement with the land management agency and private landowners.
2.3	All existing roads would be left in a condition equal to, or better than, their condition prior to the construction of the transmission line.
2.4	To the extent feasible, project facilities, including structures and access roads would be installed along property boundaries. Consultation with the landowner or land management/remediation agency would be conducted to identify facility locations that create the least potential for impact to property and its uses.
2.5	Construction staging areas and pulling sites would be located adjacent to existing roads where practical. Coordination with landowners would be conducted to establish construction areas (such as conductor pulling and splicing areas and construction yards).
2.6	During project construction, it may be necessary to remove livestock from areas where heavy equipment operations are taking place. Arrangements would be made with landowners and livestock owners to keep livestock out of these areas during those periods.
2.7	Prior to construction of the transmission line, coordination with beekeepers would occur to minimize potential environmental impacts, as appropriate, to mitigate general disruption caused by the construction activities.
2.8	To limit new or improved accessibility into the area by OHVs and other motorized vehicles, road access will be controlled in accordance with management directives of the Agencies. Physically close appropriate roads using boulders, tank traps, and gates. Plan will be developed in the Plan of Development (POD) and approved by the Agencies.
2.9	Provide advance notice to residents, property owners, and tenants within

Table 5.4-1 Preliminary Environmental Protection Measures – Land Use

Environmental Protection Measure #	Description
2.10	300 feet of construction activities. Alternative access will be provided, if feasible.
2.11	Necessary and/or appropriate ministerial land use permits will be obtained.
2.12	Construction would be timed, whenever practical, to minimize disruption of normal seasonal activities for cropland (planting and harvesting) and non-irrigated rangeland as well as avoiding peak use periods (i.e., weekends and holidays) at parks, recreation, and preservation areas. Construction activities will be coordinated with relevant agencies and/or landowners prior to construction.
2.13	Advanced notice of construction activities would be given to landowners and residents potentially affected by construction activities. Adequate access to existing land uses would be provided during periods of construction and landowners notified of alternative access. Nighttime construction near noise-sensitive land uses (e.g., residences and campers at recreation areas) would be avoided.
2.14	Construction operations would avoid, to the extent feasible, the disturbance of agricultural soil during the wet season. The use of heavy equipment on agricultural land would be minimized to avoid soil compaction. Construction crews can reduce the amount of soil compaction by working when the ground is frozen, using equipment with more tires and wider tires to distribute the weight of the vehicle, and tilling the severely compacted areas after construction is completed. Obtain encroachment permits or similar legal agreements from state authorities for each affected federal, state, and local roadways. Such permits are needed for roads that would be crossed by the transmission line, as well as for the parallel roads where transmission line construction activities would require the use of the public right-of-way (e.g., temporary lane closures).
2.15	Coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. Local agencies would then notify respective police, fire, ambulance and paramedic services. Notify local agencies of the proposed locations, nature timing, and duration of any construction activities and advise of any access restrictions that could impact their effectiveness.
2.16	Determine which aerial applicators operate in the project area. Provide written notification to all aerial applicators stating when and where the new transmission lines and tower/pole structures will be erected in order to educate pilots to significant dangers that would exist as a result of development of the Project. Provide all aerial applicators with aerial photographs or topographic maps clearly showing the transmission lines and tower/pole structures in relation to agricultural lands. However, even with implementation of this mitigation measure, hazards to aerial spraying

Table 5.4-1 Preliminary Environmental Protection Measures – Land Use

Environmental Protection Measure #	Description
	would continue to pose safety hazards to aerial applicators, or could preclude spraying activities in certain areas.
2.17	Project design and construction would comply with applicable regulations associated with railroads/railways in the project area. Required permits for entering railroad right-of-way would be obtained from railroads/railways.

Table 5.4-2 Specifically Recommended Mitigation Measures – Land Use

Specifically Recommended Mitigation Measure No.	Description
2	In areas of sensitive features to avoid disturbance, access roads will not be constructed. Rather, construction and maintenance traffic will use existing roads or cross-country access routes (including the right-of-way). To minimize ground disturbance, construction traffic routes must be clearly marked with temporary markers such as easily visible flagging. An authorized officer must approve the construction routes or other means of avoidance in advance of use.
3	To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads or cross-country route will follow the landform contours in designated areas where practicable, providing that such alignment does not impact resource values additionally.
4	To limit new or improved accessibility into the area, all new access undesired or not required for maintenance will be closed using the most effective and least environmentally damaging methods appropriate to that area with concurrence of the landowner or land manager.
5	To minimize ground disturbance, operational conflicts and/or visual contrast, the tower design will be modified or an alternative tower type will be used.
6	To minimize sensitive feature disturbance and/or reduce visual contrast in designated areas, structures will be placed so as to avoid sensitive features such as, but not limited to, riparian areas, water courses and cultural sites and/or to allow conductors to clearly span the features, within limits of standard tower design.
7	To reduce visual contrast and/or potential operational conflicts, standard tower design will be modified to correspond with spacing of existing transmission line structures where feasible and within limits of standard tower design. The normal span will be modified to correspond with existing towers, but not necessarily at every location.
8	To reduce visual impacts, potential impacts on recreation values and safety, at highway, canyon and trail crossings, towers are to be placed at the maximum feasible distance from the crossing within limits of standard tower design.

6.0 RESULTS

Initial impact levels identified along the alternative route links were determined according to the land use impact assessment model developed for this study. For a particular land use feature or area of affected resource, only the impact within the assumed centerline of the alternative route links was assessed. Residual impact levels were determined according to the potential effect of appropriate mitigation.

The Impact Data Table displays the results of the impact assessment and mitigation planning process. The Data Table shows, by link, the milepost location of potential impacts, access and ground disturbance level, the land use feature, initial impact levels, Environmental Protection Measures, Specifically Recommended Mitigation Measures, and residual impact levels

6.1 CONSTRUCTION IMPACTS

6.1.1 CONSTRUCTION WOULD TEMPORARILY DISTURB/DISRUPT LAND USES AT OR NEAR THE ALIGNMENT

Land uses in the area at or near the alternative route link alignment would be temporarily disrupted by construction activities such as noise, dust, and traffic. Construction of the Project would temporarily disturb these areas as a result of heavy construction equipment on temporary and permanent access roads, moving building materials to sites and returning to construction staging areas.

Construction of the route would involve installation of new transmission structures. Installation of the new transmission structures would temporarily disturb land use/cover at each tower/pole location. Established land uses at the proposed tower/pole locations would be temporarily displaced during construction.

Short-term land disturbances would result in an initial moderate impact in areas where developed land uses occur within or adjacent to the proposed right-of-way (includes residences within 1,000 feet of an alternative route link). Mitigation measures to reduce noise and air quality impacts are presented in the MSTI MFSA Application/Environmental Report, Volume I, Sections 4.12, Noise, and 4.13, Air Quality. Incorporation of Environmental Protection Measures 1.1, 1.2, 1.8, 2.9, and 212 would help minimize land use impacts relating to construction activities by ensuring that: (1) limits of construction determined prior to the start of construction activities would be adhered to; (2) owners and tenants of properties within 300 feet of proposed construction activities would be notified; and (3) landowners and residents of properties potentially obstructed by construction activities would be notified and access facilitated by providing alternative access where feasible. With incorporation of Environmental Protection Measures 1.1, 1.2, 1.8, 2.9, and 2.12, construction-related residual land use impacts would be low.

6.1.2 CONSTRUCTION ACTIVITIES WOULD TEMPORARILY INTERFERE WITH ACTIVE AGRICULTURAL OPERATIONS

Active agricultural operations would be temporarily impacted by construction activities associated with the construction and/or expansion of access roads, both temporary and permanent; pulling sites and construction equipment/vehicle staging areas; and the installation of tower/pole structures and wires. These construction activities could temporarily interfere with active agricultural operations by

damaging or removing crops, impeding access to certain fields or plots of land, obstructing farm vehicles and equipment, disrupting drainage and irrigation systems (including self-propelled irrigation rigs), and disrupting grazing activities, all of which could result in the temporary reduction of agricultural productivity.

The Project would incorporate Environmental Protection Measures to minimize direct impacts to active agricultural operations. Environmental Protection Measure 2.9 requires that notification be provided to all residents, property owners, and tenants within 300 feet of proposed construction activities, and Environmental Protection Measure 2.11 would require that construction activities would avoid agricultural areas during certain seasons. Environmental Protection Measure 2.12 requires that notification be provided to all properties that would be obstructed by construction activities. In addition, Environmental Protection Measures 1.1 and 1.2 require that construction activities remain within predetermined limits, which would serve to minimize disruption to agricultural lands and operations outside of the limits of construction to the greatest extent feasible.

Incorporation of these Environmental Protection Measures would reduce impacts relating to the damage and loss of crops and obstruction of access to properties to moderate and low residual levels. Impacts relating to the disruption of grazing activities would also exist. Implementation of Environmental Protection Measure 2.6 (coordinate with grazing operators) would reduce impacts to a low residual level.

Agricultural Soils. Depending upon the extent of construction required for certain aspects of the proposed Project, soils, including those designated as Important Farmland, would be compacted as a result of construction activities, (i.e. the use of heavy construction equipment). This would create a temporary disturbance to agricultural soils that would impact active agricultural operations, such as the planting of crops. Environmental Protection Measure 2.13 (restore compacted soil) would require that compacted soils within agricultural land would be restored after construction activities are complete. Implementation of Environmental Protection Measure 2.13 would reduce impacts to soils, as a result of compacted soils due to construction activities, to a low residual level.

6.1.3 CONSTRUCTION ACTIVITIES WOULD TEMPORARILY REDUCE ACCESS AND VISITATION TO SPECIAL MANAGEMENT AREAS

Project construction activities would create a number of temporary impacts that would diminish the value of Special Management Areas. Noise, dust and heavy equipment traffic generated during construction activities could negatively affect a visitor's enjoyment of these areas. Visitors may be less likely to visit these resources during project construction. Mitigation measures to reduce noise and air quality impacts are presented in the MSTI MFSA Application/Environmental Report, Volume I, Sections 4.12, Noise, and 4.13, Air Quality. The location of construction equipment may also temporarily preclude access to Special Management Areas. Temporary closure of some facilities may occur in order to ensure the safety of visitors during construction. Temporary closure would cause a temporary reduction of access and visitation.

Construction-related impacts to Special Management Areas would be mitigated to a moderate to low residual level through implementation of Environmental Protection Measures 1.5 (POD including specific plans addressing mitigation requirements in consultation with Agencies), 2.11 (timing to avoid peak use periods in coordination with relevant agencies), and 2.12 (advanced notice of construction and access provisions).

6.1.4 CONSTRUCTION WOULD CAUSE TEMPORARY ROAD AND LANE CLOSURES THAT WOULD TEMPORARILY DISRUPT TRAFFIC FLOW

Construction of the Project could result in roadway closures at locations where the construction activities, especially transmission line stringing, would be located within right-of-ways of public streets and highways. These transportation impacts, characterized as moderate, could be reduced by implementation of Environmental Protection Measure 2.14 (Obtain an encroachment permit or similar authorization). Encroachment permit requirements would be specified by the agency having jurisdiction. The encroachment permit issued by local jurisdictions may include the following:

- Identify all roadway locations where special construction techniques (e.g., night construction) would be used to minimize impacts to traffic flow.
- Develop circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
- Schedule truck trips outside of peak morning and evening commute hours.
- Limit lane closures during peak hours to the extent possible.
- Use haul routes minimizing truck traffic on local roadways to the extent possible.
- Include detours for bicycles and pedestrians in areas potentially affected by project construction.
- Install traffic control devices if specified by agencies.
- Store construction materials only in designated areas.
- Coordinate with local transit agencies for temporary relocation of routes or bus stops in works zones, if necessary.

Enforcement of the terms of an encroachment permit would reduce impacts associated with short-term road closures. Upon implementation of this mitigation measure, residual impacts would be classified as low.

6.1.5 CONSTRUCTION WOULD TEMPORARILY DISRUPT THE OPERATION OF EMERGENCY SERVICE PROVIDERS

Overhead construction activities could interfere with emergency response by ambulance, fire, paramedic, and police vehicles. Potential roadway segments that would be most impacted would be two-lane roadways, which provide one lane of travel per direction. On roadways with multiple lanes, the loss of a lane and the resulting increase in congestion could lengthen the response time for emergency vehicles to pass through the construction zone. Additionally, there is a possibility that emergency services would be needed at a location where access is temporarily blocked by the construction zone.

These impacts, associated with temporary disruption of the operation of emergency service providers, are characterized as moderate and would be reduced by implementation of Environmental Protection

Measure 2.15. Upon implementation of this mitigation measure, residual impacts would be classified as low because emergency service providers would be aware of any potential delays, lane closures, and/or roadway closures and would identify alternative route links as necessary to maintain emergency service coverage and response times.

6.1.6 CONSTRUCTION VEHICLES AND EQUIPMENT WOULD CAUSE PHYSICAL DAMAGE TO ROADS

There is potential for unexpected damage to roads by vehicles and equipment (overhead line trucks, crew trucks, concrete trucks, etc.) that would be entering and leaving roads within the project area. Environmental Protection Measure 2.3 would ensure that damaged roadways in the project area are restored to previous conditions and/or improved conditions. Roads disturbed by construction activities or construction vehicles shall be properly restored to ensure long-term protection of road surfaces.

6.1.7 CONSTRUCTION ACTIVITIES COULD CAUSE A TEMPORARY DISRUPTION TO RAIL TRAFFIC OR OPERATIONS

Overhead construction activities could interfere with rail traffic because construction of overhead transmission lines could require temporary use or closure of a railroad right-of-way. It would be necessary to halt through-rail traffic during stringing operations over railroads. In addition, delivery of large equipment and materials via truck would also require temporary closures. Temporary closures, although likely to occur only for up to a few minutes at a time, could cause back ups with freight trains and constrain circulation in the area. These transportation impacts, characterized as moderate, would be reduced by implementation of Environmental Protection Measure 2.17. Upon implementation of this mitigation measure, residual impacts would be classified as low.

6.1.8 CONSTRUCTION COULD CONFLICT WITH PLANNED TRANSPORTATION PROJECTS

Construction of the proposed transmission line would cross the right-of-way of numerous roadways/transportation corridors. The construction activities could potentially impact planned widening and pathway projects. The public agencies that have jurisdiction over the roadways would be notified of the project, and an encroachment permit or other such agreement obtained for each location where the project would interface with a roadway or other transportation facility. Complying with permits and agreements would ensure appropriate coordination between NWE and the affected agencies so that conflicts would be avoided or minimized. No mitigation measures would be required because coordination with appropriate agencies would require plans and schedules to be submitted for approval prior to construction, thereby reducing any potential impacts.

6.1.9 CONSTRUCTION WOULD GENERATE ADDITIONAL TRAFFIC ON THE REGIONAL AND LOCAL ROADWAYS

Construction of the Project would temporarily increase traffic (Project trip generation) on the regional and local roadways through construction worker commute trips, Project equipment deliveries, and hauling materials such as support structures and poles, concrete, fill, and excavation spoils. Depending on location, construction personnel would likely access worksites using primary and secondary roadways in the project area. From these roadways, construction traffic would use either

existing roads or overland access for construction areas. Impacts associated with the transmission lines would be short-term and related to the movement of personnel and equipment during construction. Because of the limited traffic volumes on all roadways and the low number of construction-related trips that would be necessary each day, traffic associated with construction would not be substantial. Personnel trips and equipment movement necessary for operation of the transmission line would be minimal and transmission line monitoring would be limited to one or two vehicles at any one time. It should be noted that specific roadways used and the number of construction vehicle trips would likely vary for the Project. These transportation impacts, characterized as moderate, would be reduced by implementation of Environmental Protection Measure 2.14 (obtain an encroachment permit or similar authorization). Encroachment permit requirements would be specified by the agency having jurisdiction. The encroachment permit issued by local jurisdictions may include the following:

- Identify all roadway locations where special construction techniques (e.g., night construction) would be used to minimize impacts to traffic flow.
- Develop circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
- Schedule truck trips outside of peak morning and evening commute hours.
- Limit lane closures during peak hours to the extent possible.
- Use haul routes minimizing truck traffic on local roadways to the extent possible.
- Include detours for bicycles and pedestrians in areas potentially affected by project construction.
- Install traffic control devices if specified by agencies.
- Store construction materials only in designated areas.
- Coordinate with local transit agencies for temporary relocation of routes or bus stops in works zones, if necessary.

Enforcement of the terms of an encroachment permit would reduce impacts associated with short-term road closures. Upon implementation of this mitigation measure, residual impacts would be classified as low.

6.2 OPERATIONAL IMPACTS

6.2.1 PRESENCE OF A PROJECT COMPONENT WOULD DISRUPT LAND USES AT OR NEAR THE ALIGNMENT

Direct or high impacts on existing residences could result from the incompatibility with or removal of occupied dwellings and related structures from the Project right-of-way. The location of the Project right-of-way within platted subdivisions, mineral extractive areas, and Superfund remediation sites could result in initial high to moderate impacts where operation and maintenance would preclude or impair future development/remediation activities. Environmental protection measure 2.4 would

reduce these initial impacts (with the exception of the removal of occupied dwellings) to moderate/low through a reduction or avoidance of land use conflicts.

6.2.2 OPERATION WOULD PERMANENTLY CONVERT AGRICULTURAL LAND TO NON-AGRICULTURAL USE

Impacts to agricultural land would occur where the location of Project facilities, such as access roads and tower/pole structures, would permanently convert the land upon which they are situated to non-agricultural use. This also includes soils designated as Important Farmland.

Loss of agricultural land would result in initial high and moderate impacts while grazing impacts would be low. Areas disturbed by construction would be minimal. Following rehabilitation, areas removed from use for the life of the Project would include the small areas at the tower footings and/or guy anchors, as well as specific new access roads.

Once construction is complete and the tower/pole structures are in place, agricultural uses (i.e., crops, grazing) may be re-established/continued within the transmission line right-of-way. The loss of productive farmland will result in financial impacts to farmers. The amount of financial loss will depend on the type of crop since crop values fluctuate from year to year.

CRP lands will be crossed by the approved transmission line would need a FSA assessment of the adverse effects on the participants CRP acreage. If the FSA determines that the use will have an adverse effect on CRP acreage, the affected acreage will be terminated and refunds assessed.

6.2.3 OPERATION WOULD PERMANENTLY INTERFERE WITH ACTIVE AGRICULTURAL OPERATIONS

In addition to the permanent loss of land under active agricultural operations, the Project would result in other adverse agricultural impacts in the vicinity of the Project. These include (1) disrupting farming facilities or operations; (2) disrupting or altering aerial spraying practices; and (3) introducing electric field effects on apiaries and precision farming equipment.

6.2.3.1 Disruption of Farming Facilities or Operations

The presence of new Project components would permanently disrupt active farming operations in nearby areas, by dividing or fragmenting agricultural fields, obstructing access, impeding the delivery and use of water for livestock and irrigation, reducing the efficacy of windbreaks, and/or disrupting the operation of farm equipment.

Effects from transmission line structure components range from land leveling and preparation to crop harvesting. Maneuvering harvesting equipment around tower/pole structures may be difficult. The level of difficulty would depend on the type of crop. Row crops that are perpendicular or diagonal to the transmission lines, rather than parallel, would be more difficult for equipment maneuvering. Potential secondary effects include damage to farm equipment as a result of collisions with tower/pole structures, restrictions on nighttime operations (due to the potential for accidents), restrictions on normal crop rotations because of operational considerations, and increased difficulty in leasing fields with transmission line structures. Structures would also increase the need for weed and pest control activities around tower/pole structure foundations. Agricultural lands that utilize certain types of irrigation systems may also be impacted by the placement of tower/pole structures on cropland.

Incorporation of Environmental Protection Measure 2.4 requires that facilities are installed along the edges of private property (where feasible and appropriate). If facilities cannot be located along property or field boundaries, Environmental Protection Measure 2.4 would ensure that NWE would consult with affected property owners to identify facility locations that would create the least potential for impact. Incorporation of this Environmental Protection Measure would minimize impacts to farming operations through avoidance of areas to the greatest extent feasible. Implementation of Selectively Recommended Mitigation Measures 5 (modify tower design or use of alternative tower type), 6 (minimize disturbance), and 7 (modification of tower design to correspond with spacing of existing transmission structures, where feasible) would further reduce impacts relating to the disruption of active agricultural operations.

6.2.3.2 Aerial Spraying Applications

Aerial spraying (i.e., crop dusting) is used to control insects, weeds, and diseases that may affect crops in the project area. Aerial spraying occurs in those areas actively cultivated with field crops. Transmission lines and tower/pole structures present a substantial obstacle to be avoided, and require additional attention from the pilots. Transmission lines can be hazardous when:

- Lines are oriented diagonally relative to field boundaries.
- Multiple lines exist side-by-side.
- Lines change direction (especially at a 90-degree angle) along the corridor.
- New transmission lines and towers are installed.
- Towers and lines are not clearly visible.

Thus, the presence of transmission lines and towers would result in interference with active agricultural operations. Implementation of Environmental Protection Measure 3.6 requires that aerial applicators be notified of the project location and components in order to educate pilots to significant dangers that would exist as a result of development of the proposed Project. However, even with implementation of Environmental Protection Measure 2.16, hazards to aerial spraying would continue to pose safety hazards to aerial applicators, or could preclude spraying activities in certain areas.

6.2.3.3 Electric Field Effects on Apiaries and Precision Farming Equipment

Electrical fields from transmission lines may affect apiaries, and the operation of electronic monitoring machinery used in farm fields, including irrigation controls. Transmission line electric fields have been shown to cause bees to leave their hives. Environmental protection measure 2.7 would require NWE to identify apiaries within 1,000 feet of the approved transmission line and notify owners prior to construction and energizing of the transmission line so the apiaries, which are mobile, could be relocated as necessary.

GPS systems are a recent technology. It is a space-based triangulation system that uses satellites and computers to identify locations anywhere on earth. Using implement-mounted computer equipment, the satellite signal, and an earth-based beacon, farmers can locate their position in a field. Over time, the farmer will develop field records that become more and more detailed. These records can also incorporate soil type, fertility, moisture level, and productive capacity of small areas within their fields. With this information, farmers can vary pesticide and fertilizer applications and identify problem areas in a field where yield is relatively low. The goal of the GPS is to maximize profit by tailoring chemical application rates to the soil characteristics. The use of GPS systems by farmers is

currently limited. However, it is likely to become more widely used as its cost declines. Potential interference could occur to certain types of GPS systems installed in farm equipment. The effect of transmission lines on this technology, however, needs further study. If problems occur in GPS systems because of the transmission line, NWE will work with farmers to resolve these issues similar to when transmission lines interfere with radio and television reception (Environmental Protection Measure 8.10).

6.2.4 PRESENCE OF A TRANSMISSION LINE WOULD PERMANENTLY PRECLUDE OR DEGRADE SPECIAL MANAGEMENT AREAS

If transmission support structures were sited on or immediately adjacent to Special Management Areas, visitors would be precluded from these locations. Exact locations of transmission support structures have not been determined. Although preliminary locations have been proposed, these may be modified based on site-specific environmental conditions (i.e., slope stability, presence of sensitive biological or cultural resources). Impacts to existing Special Management Areas that resulted from locating new structures on or immediately adjacent to these areas would be high. Preclusion of the use of recreational resources would be mitigated to moderate/low through implementation of Environmental Protection Measure 2.4 and Selectively Recommended Mitigation Measure 8.

The Project could also result in the potential degradation of the aesthetic value of the Special Management Area. The physical presence of the transmission line may prevent the user from experiencing a completely natural environment that is unaltered by man-made structures. Mitigation measures to reduce visual impacts are presented in the MSTI MFSA Application/Environmental Report, Volume I, Section 4.7, Visual Resources. Environmental protection measure 2.8 and Selectively Recommended Mitigation Measures 2 and 3 would also be implemented to limit new or improved accessibility into an area by OHVs and other motorized vehicles. Road access would be controlled in accordance with management directives of the agencies.

In addition, increased vehicle access could increase with new roads and indirectly result in increased littering, illegal hunting, and other unauthorized activities on areas not classified as Special Management Areas (other private and public lands). Specifically recommended mitigation measure 4 would be applied to close road access and minimize the potential impacts of increased access.

The Project could require the granting of a right-of-way across a Special Management Area which has received LWCF grant funding. This conversion of land would constitute a conflict with the LWCF. Implementation of either providing replacement property, under-grounding or avoidance would prevent the transmission line route's non-compliance with the LWCF, resulting in a low impact.

6.2.5 OPERATION COULD INTERFERE WITH AVIATION SAFETY

The transmission line could affect aviation activities by modifying aircraft operations and air navigation. With regard to aviation safety, Subpart B, Section 77.13 of the guidelines of the FAA indicate that construction of a project could potentially have a significant impact on aviation activities if a structure or any equipment is positioned such that it would be more than 200 feet above the ground or if an object would penetrate the imaginary surface extending outward and upward at a ratio of 100 to 1 from a public or military airport runway out to a horizontal distance of 20,000 feet (approximately 3.78 miles). If either of these conditions is met, an applicant is required to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area for review and approval of the project.

The Project will comply with all appropriate regulations of the FAA, and Form 7460-1 would be required of NWE pursuant to FAA Regulations, Part 77. Final locations, structures, and structure heights, including transmission lines, and construction related equipment or facilities that might impact air navigation, would be submitted to the FAA for the Project. State Aeronautics Divisions will also be contacted.

The transmission line could intersect or occur near MTRs where low-altitude military aircraft flights may regularly occur. Two MTRs IR 301 and IR 307 are approximately eight miles west from the western edge of the Clark Canyon Reservoir. They run along the same pattern and cannot be flown at the same time. IR 301 has a north heading flight pattern and has a route width ranging from 8 nautical miles to 5 nautical miles (approximately 9 to 6 miles wide from centerline). IR 307 has a south heading flight pattern and has a route width ranging from 5 nautical miles to 8 nautical miles (approximately 6 to 9 miles wide from centerline). Coordination/consultation with the DOD will be conducted regarding the location and potential effects/conflicts of the Project upon operations or training activities in military airspace. The owner/operator of private airports and airstrips potentially affected by the Project will also be contacted.

6.3 MAINTENANCE IMPACTS

6.3.1 TRANSMISSION

Operation or maintenance personnel would require access to the right-of-way for routine maintenance and inspection activities or during emergency situations. Safe and reliable operation of the new transmission line will be maintained through regular inspection of the poles, conductors, insulators, access areas, and vegetation in the right-of-way. The inspections will consist of annual foot patrols and aerial patrols (six times annually). Special patrols will be conducted following storm conditions. Transmission lines normally require minimal maintenance; however, NWE will inspect the line on a regular basis to look for problems caused by weather, vandalism, vegetation regrowth, etc. NWE will manage vegetation on the right-of-way by a variety of methods, including trimming, mowing, and the use of approved herbicides, targeting species that are incompatible with the safe operation, maintenance, and access to the transmission system. Use of herbicides for vegetation control will be selective.

Measures to reduce the effects of these activities include the following:

- Application of herbicides will meet federal, state, and local regulations. Due to the selective nature of vegetation cutting, the limited use of herbicides, and the infrequent occurrence of maintenance activities, the potential effects on wildlife and water quality will be minimal.
- Required access for maintenance would have a temporary impact on those farmlands that are crossed by the transmission line. Effects to farmlands from temporary inspection and maintenance of the transmission line would be less than significant. NWE will coordinate construction schedules with landowners to ensure that maintenance does not interfere with farming operations.
- During maintenance, potential noise sources include the use of vegetation clearing equipment (aerial lift and chainsaws), erosion management equipment, and/or aircraft. Minor intermittent noise may be generated by vegetation and erosion management activities, and any associated minor earthworks. With the exception of emergency maintenance, the

potential for noise nuisance will be minimized by restricting the hours of maintenance activities where possible, to those defined by work management practices.

Maintenance and emergency crews will be instructed to protect crops, plants, wildlife, and other environmental resources similar to those prescribed for normal construction activities.

6.3.2 SUBSTATIONS

6.3.2.1 Montana

NEW TOWNSEND SUBSTATION

Construction of a facility within the siting area could result in potentially high initial impacts to a residence, agricultural outbuildings, and agriculture land (pasture). Mitigation to reduce these potentially high impacts involves siting the facility to avoid sensitive land uses, or to restore or replace those land uses that are affected.

MILL CREEK SUBSTATION ADDITION

The proposed additions to the substation cannot be completed in the existing fenced area; expansion of the substation yard would be required. Engineering studies will be completed to determine the ultimate modifications required at the Mill Creek Substation.

Possible mitigation includes: (1) selective placement of facilities to avoid sensitive environmental features; (2) preconstruction geotechnical and ecological field review; (3) site landscaping; (4) land acquisition (buffer zone); and (5) large steel structures painted to blend with the surrounding landscape.

6.3.2.2 Idaho

MIDPOINT SUBSTATION ADDITIONS

Idaho Power Company's existing Midpoint Substation, located 10 miles north of I-84 in Jerome County, Idaho, would be modified to accommodate the new MSTI 500kV transmission line. The proposed additions to the substation cannot be completed in the existing fenced area; expansion of the substation yard would be required. Engineering studies will be completed to determine the ultimate modifications required at the Midpoint Substation.

Possible mitigation includes: (1) selective placement of facilities to avoid sensitive environmental features; (2) preconstruction geotechnical and ecological field review; (3) site landscaping; (4) land acquisition (buffer zone); and (5) large steel structures painted to blend with the surrounding landscape.

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Bingham County, Idaho

Halstead, Melodie. Personal communication from Melodie Halstead, Bingham County Planning and Zoning, to Jeff Maffucio of POWER. January 2008.

Bonneville County, Idaho

Serr, Steve. Personal communication from Steve Serr, Bonneville County Planning and Zoning, to Jeff Maffucio of POWER. January 2008.

Stoddard, Suzanne. Personal communication from Suzanne Stoddard, Bonneville County, Idaho, Planning, Zoning and Building Department, to Jeff Maffucio of POWER.

Bureau of Land Management (BLM)

Armstrong, Lori. Personal communication from Lori Armstrong, BLM – Shoshone Field Office, to Jeff Maffucio of POWER.

Barker, Scott. Personal communication from Scott Barker, BLM – Burley Field Office, to Jeff Maffucio of POWER.

Bassler, Barbera. Personal communication from Barbera Bassler, BLM Shoshone Field Office, to Jeff Maffucio of POWER.

Braun, Christa. Personal communication from Christa Braun, BLM State Office-Idaho, Boise, to Jeff Maffucio of POWER.

Crenshaw, Bethany. Personal communication from Bethany Crenshaw, Upper Snake Field Office, to Jeff Maffucio of POWER.

Damon, Phil. Personal communication from Phil Damon, BLM – Pocatello Field Office, to Jeff Maffucio of POWER.

Kovar, Debbie. Personal communication from Debbie Kovar of Bureau of Land Management, Shoshone Field Office, to Mark Schaffer of POWER. May 1, 2008.

Apel, John. Personal communication from John Apel, National Park Service, Craters of the Moon National Monument and Preserve, to Jeff Maffucio of POWER. January/February 2008.

McDonald, Cindy Lou. Personal communication from Cindy Lou McDonald, BLM State Office-Idaho, Boise, to Jeff Maffucio of POWER.

Miller, Ken. Personal communication from Ken Miller, BLM – Burley Field Office, to Jeff Maffucio of POWER

Parmenter, Jan. Personal communication from Jan Parmenter, Bureau of Land Management, Idaho Falls District, to Jeff Maffucio of POWER. January/February 2008.

Reynolds, Wendy. Personal communication from Wendy Reynolds, Bureau of Land Management, Upper Snake Field Office, to Jeff Maffucio of POWER

Rice, Karen. Personal communication from Karen Rice, Bureau of Land Management, Idaho Falls District, to Jeff Maffucio of POWER. January/February 2008.

Butte County, Idaho

Lutschg, Lucy. Personal communication from Lucy Lutschg of Butte County, Idaho, Planning and Zoning, to Jeff Maffucio of POWER. January 2008.

Fremont County, Idaho

Patlovich, Jeff. Personal communication from Jeff Patlovich, Fremont County, Idaho - Planning and Building Department, to Mark Schaffer of POWER. August 15, 2006.

Idaho Department of Parks and Recreation

Ricks, David M. Personal communication from David M. Ricks, Idaho Department of Parks and Recreation, to Mark Schaffer of POWER. December 14, 2007.

Idaho Department of Water Resources

Poulson-Ashley, Genna. Personal communication from Genna Ashley-Poulson, Idaho Department of Water Resources, to Jeff Maffucio of POWER. March 2008.

Idaho National Laboratory

Lee, Randy. Personal communication from Randy Lee, Idaho National Laboratory, to Jeff Maffucio of POWER. February/March/April 2008.

Moriarity, Tom. Personal communication from Tom Moriarity, Idaho National Laboratory, to Jeff Maffucio of POWER.

Idaho Office of Energy Resources

Fleischman, Gerald. Personal communication from Gerald Fleischman, Idaho Office of Energy Resources, to Jeff Maffucio of POWER. March 2008.

Idaho State Department of Agriculture

Cooper, Michael. Personal communication from Michael Cooper, Idaho State Department of Agriculture, Plant Industries Division, to Jeff Maffucio of POWER. March 2008.

Jefferson County, Idaho

Foster, Naysha. Personal communication from Naysha Foster, Jefferson County Planning and Zoning, to Jeff Maffucio of POWER. January 2008.

Jose, Daniell. Personal communication from Daniell Jose, Jefferson County, Idaho - Planning and Zoning, to Mark Schaffer of POWER August 15, 2006.

Purdy, Carl D. Personal communication from Carl D. Purdy, Jefferson County, Montana, Information Technology, to Jeff Maffucio of POWER.

Jerome County, Idaho

Brown, Art. Personal communication from Art Brown, Jerome County Planning and Zoning, to Jeff Maffucio of POWER. January 2008.

Lincoln County, Idaho

Tucker, Reed. Personal communication from Reed Tucker, Lincoln County Planning and Zoning, to Jeff Maffucio of POWER. January 2008.

Minidoka County, Idaho

Reeves, Mary. Personal communication from Mary Reeves, Minidoka County Planning and Zoning, to Jeff Maffucio of POWER. January 2008.

Montana School District

Montana School Superintendents for the following counties: Beaverhead-Dottie Donovan; Broadwater-Rhonda Nelson; Deer Lodge-Michael O'Rourke; Gallatin-Mary Ellen Fitzgerald; Jefferson-Gary Pace; Madison-Judi Osborn; Powell-Jules Waber; and Silver Bow-Edward Heard.

National Park Service

Neighbor, Doug. Personal communication from Doug Neighbor, National Park Service, Craters of the Moon National Monument and Preserve, to Jeff Maffucio of POWER. January/February

2008.

Power County, Idaho

Steinlicht, Robert E. Personal communication from Robert E. Steinlicht, Power County, Idaho - Community Development, Building and Zoning Department, to Jeff Maffucio of POWER. January 2008.

Salmon-Challis National Forest

Foster, Linda. Personal communication from Linda Foster, GIS Salmon-Challis National Forest, to Jeff Maffucio of POWER.

Matejko, George. Personal communication from George Matejko of the Salmon-Challis National Forest, to Jeff Maffucio of POWER.

StAAF, Norma. Personal communication from Norma StAAF, Salmon-Challis National Forest, to Jeff Maffucio of POWER.

Targhee National Forest

Keetch, Curtis. Personal communication from Curtis Keetch, Targhee National Forest, to Jeff Maffucio of POWER.

U.S. Department of Agriculture

Nalder, Jeremy. Personal communication from Jeremy Nalder, U.S. Department of Agriculture Aerial Photography Field Office, to Jeff Maffucio of POWER. April 2008.

U.S. Forest Service

Klinger, Lisa. Personal communication from Lisa Klinger, U.S. Forest Service – Caribou-Targhee National Forest, to Mark Schaffer of POWER. July 26, 2006.

Mousel, Martha. Personal communication from Martha Mousel, U.S. Forest Service – Caribou-Targhee National Forest, to Jeff Maffucio of POWER. July 26, 2006.

Timchak, Larry. Personal communication from Larry Timchak, U.S. Forest Service – Caribou-Targhee National Forest, to Jeff Maffucio of POWER.

Warrick, Judy. Personal communication from Judy Warrick, U.S. Forest Service – Caribou-Targhee National Forest, to Jeff Maffucio of POWER. July 26, 2006.